

AUXIER & ASSOCIATES, INC.

PAP-KAN

**STANDARD LEVEL IV
REPORT OF ANALYSIS**

WORK ORDER #15-10085-OR

November 16, 2015

**Eberline Analytical
Oak Ridge Laboratory
OAK RIDGE, TN**

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**Eberline Services – Oak Ridge Laboratory
LABORATORY DATA SUPPORT CHECKLIST**

MP-001-3

Eberline Services Work Order # 15 - 10085

The checklist items listed below are to be initialed by appropriate staff upon completion/verification.

| Date for Partial | Initials | Date | Initials | Checklist Items |
|------------------|----------|----------|-------------|---|
| | | 10-14-15 | JEB | Sample Log-In |
| | | 11/6/15 | JG | Data Compilation |
| | | 11-10-15 | MLG | First Technical Data Review |
| | | 11/10/15 | MLG | Second Technical Data Review |
| | | 11/10/15 | [Signature] | Data Entry/Electronic Deliverable |
| | | 11/10/15 | [Signature] | Case Narrative |
| | | 11/12/15 | KBD | Electronic Deliverable Proof |
| | | 11/12/15 | MLG | Samples Analyzed within Holding Time Yes? <input checked="" type="checkbox"/> No? <input type="checkbox"/> |
| | | 11/12/15 | MLG | QA/QC Review |
| | | | | Client in Possession of Data Electronic or Hard Copy |
| | | | | Invoiced by Laboratory |

| Technical/Clerical Corrections, Signatures Needed, Problems, Etc | Date/Initials |
|--|---------------|
| | |
| | |
| | |
| | |

Date package approved by: [Signature] [Signature]

Laboratory Manager Date

Copy No. _____

SECTION I
CHAIN OF CUSTODY

Chain of Custody Record

No 7126

Eberline Services
601 Scarboro Road
Oak Ridge, TN 37830
(865) 481-0683 Phone • (865) 483-4621 Fax



| Project Name: PARIHAN | | Project Number: | | Page ___ of ___ | | | |
|--------------------------------|-------------|-----------------------------------|---------------|----------------------|--------------------|--------------------------------------|--|
| Send Report To: Cynthia Greene | | Sampler (Print Name): Ashley Jabu | | REC'D OCT 14 2015 | | | |
| Address: | | Sampler (Print Name): | | 15-10085 | | | |
| 9821 Cordell Industrial | | Shipment Method: FedEx | | Purchase Order #: | | | |
| Hixsville, TN 37832 | | Airbill Number: | | | | | |
| Phone: 865-675-3669 | | Laboratory Receiving: Eberline | | | | | |
| Fax: CGreene@auxier.com | | | | | | | |
| Field Sample ID | Sample Date | Sample Time | Sample Matrix | Number of Containers | Analysis Requested | Comments, Special Instructions, etc. | Lab Sample ID (to be completed by lab) |
| CP5007501-02 | 10/7/15 | 1420 | S | 1 | X | 21 Day Growth | |
| CP5007503-04 | 10/7/15 | 1430 | S | 1 | X | m lab | |
| CP5007506-07 | 10/7/15 | 1440 | S | 1 | X | | |
| CP5007508-09 | 10/7/15 | 1450 | S | 1 | X | | |
| CP5007511-12 | 10/7/15 | 1510 | S | 1 | X | | |
| CP5007513-14 | 10/7/15 | 1520 | S | 1 | X | | |
| CP5007516-17 | 10/7/15 | 1530 | S | 1 | X | | |
| CP5006501-02 | 10/7/15 | 1600 | S | 1 | X | | |
| CP5006503-04 | 10/7/15 | 1610 | S | 1 | X | | |
| CP5006504-05 | 10/7/15 | 1620 | S | 1 | X | | |
| CP5006507-08 | 10/7/15 | 1630 | S | 1 | X | | |
| CP5006509-10 | 10/7/15 | 1640 | S | 1 | X | | |
| CP5006512-13 | 10/7/15 | 1650 | S | 1 | X | | |
| CP5006514-15 | 10/7/15 | 1700 | S | 1 | X | | |
| CP5006517-18 | 10/7/15 | 1710 | S | 1 | X | | |
| CP5006519-20 | 10/7/15 | 1720 | S | 1 | X | | |
| CP5006522-23 | 10/7/15 | 1730 | S | 1 | X | | |

| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
|------------------------------|--------------------------|----------|-------|
| | | 10/12/15 | 1300 |
| Relinquished by: (Signature) | Received by: (Signature) | 10-14-15 | 10:30 |
| Relinquished by: (Signature) | Received by: (Signature) | | |

| QA/QC Level | Turnaround | Sample Custodian Remarks (Completed By Laboratory): | Sample Receipt |
|------------------------------------|----------------------------------|---|------------------------------|
| Level I <input type="checkbox"/> | Routine <input type="checkbox"/> | | Total # Containers Received? |
| Level II <input type="checkbox"/> | 24 Hour <input type="checkbox"/> | | COC Seals Present? |
| Level III <input type="checkbox"/> | 1 Week <input type="checkbox"/> | | COC Seals Intact? |
| Other <input type="checkbox"/> | Other _____ | | Received Containers Intact? |
| | | | Temperature? |



EBERLINE
SERVICES
Oak Ridge Laboratory

Internal Chain of Custody

Work Order #

15-10085

Lab Deadline

11/6/2015

Analysis

UIISO - Level 4

Sample Matrix

Soil/Solid

| Comments | Sample Fraction | HP 210 / 270 Detector Activity | Storage Location |
|----------|-----------------|--------------------------------|------------------|
| | 04 | 39 | K1.2 |
| | 05 | 34 | K1.2 |
| | 06 | 32 | K1.2 |
| | 07 | 33 | K1.2 |
| | 08 | 36 | K1.2 |
| | 09 | 34 | K1.2 |
| | 10 | 34 | K1.2 |
| | 11 | 34 | K1.2 |
| | 12 | 32 | K1.2 |
| | 13 | 38 | K1.2 |
| | 14 | 37 | K1.2 |
| | 15 | 36 | K1.2 |
| | 16 | 36 | K1.2 |
| | 17 | 36 | K1.2 |
| | 18 | 34 | K1.2 |
| | 19 | 33 | K1.2 |
| | 20 | 35 | K1.2 |

| | Location (circle one) | | | | | | Initials | Date |
|-----------------|-----------------------|------------|------|-------------|------------|------|-------------|---------------|
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0930 | Kenny Selig | 10-15-15 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0950 | Kenny Selig | 10-16-15 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0950 | J. Pacheco | 10-16-15 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | J. Pacheco | 10/19/15 0930 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | Ken Selig | 10-19-15 0930 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | Ken Selig | 10/28/15 0853 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | Ken Selig | 10/28/15 0853 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | Ken Selig | 10/28/15 1234 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | | |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | | |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | | |



EBERLINE
SERVICES
Oak Ridge Laboratory

Internal Chain of Custody

Work Order #

15-10085

Lab Deadline

11/6/2015

Analysis

ThISO - Level 4

Sample Matrix

Soil/Solid

| Comments | Sample Fraction | HP 210 / 270 Detector Activity | Storage Location |
|----------|-----------------|--------------------------------|------------------|
| | 04 | 39 | K1.2 |
| | 05 | 34 | K1.2 |
| | 06 | 32 | K1.2 |
| | 07 | 33 | K1.2 |
| | 08 | 36 | K1.2 |
| | 09 | 34 | K1.2 |
| | 10 | 34 | K1.2 |
| | 11 | 34 | K1.2 |
| | 12 | 32 | K1.2 |
| | 13 | 38 | K1.2 |
| | 14 | 37 | K1.2 |
| | 15 | 36 | K1.2 |
| | 16 | 36 | K1.2 |
| | 17 | 36 | K1.2 |
| | 18 | 34 | K1.2 |
| | 19 | 33 | K1.2 |
| | 20 | 35 | K1.2 |

| | Location (circle one) | | | | | Initials | Date |
|-----------------|-----------------------|------------|------|-------------|------------|-----------------|----------|
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0930 King Sees | 10-15-15 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0950 King Sees | 10-16-15 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0950 J. Pacheco | 10-16-15 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0930 J. Pacheco | 10-19-15 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0930 J. Pacheco | 10-19-15 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0926 J. Pacheco | 10-28-15 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0926 J. Pacheco | 10-28-15 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0926 RB | 10/28/15 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |



EBERLINE
SERVICES
Oak Ridge Laboratory

Internal Chain of Custody

Work Order #

15-10085

Lab Deadline

11/6/2015

Analysis

Gamma - Level 4

Sample Matrix


Soil/Solid

| Comments | Sample Fraction | HP 210 / 270 Detector Activity | Storage Location |
|--|-----------------|--------------------------------|------------------|
| 21 day ingrowth: Report Ac228, Bi214, Pb212/214, Ra226 from Bi214, Ra228 from Ac228, Tl208, Th234 & positives. | 04 | 39 | K1.2 |
| | 05 | 34 | K1.2 |
| | 06 | 32 | K1.2 |
| | 07 | 33 | K1.2 |
| | 08 | 36 | K1.2 |
| | 09 | 34 | K1.2 |
| | 10 | 34 | K1.2 |
| | 11 | 34 | K1.2 |
| | 12 | 32 | K1.2 |
| | 13 | 38 | K1.2 |
| | 14 | 37 | K1.2 |
| | 15 | 36 | K1.2 |
| | 16 | 36 | K1.2 |
| | 17 | 36 | K1.2 |
| | 18 | 34 | K1.2 |
| | 19 | 33 | K1.2 |
| | 20 | 35 | K1.2 |

| | Location (circle one) | | | | | Initials | Date |
|-----------------|-----------------------|------------|------|-------------|------------|--------------|----------|
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 0930 Key Sci | 10-15-15 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 1140 Key Sci | 10-16-15 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 10/16/15 | 1172 |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | 1116 | 1173 |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Received by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |
| Relinquished by | Sample Storage | Rough Prep | Prep | Separations | Count Room | | |

SECTION II
SAMPLE ACKNOWLEDGEMENT

| Client Name | | Contract/PO | | Project Type | | Date Received | | Required Turnaround Days | | Eberline Services Work Order | |
|---|--------------|----------------|--------|---------------|-------|---------------|-------|--------------------------|---|------------------------------|---|
| Auxier & Associates, Inc. | | PAP-KAN | | Environmental | | 10/14/2015 | | 28 | | 15-10085 | |
| Project Name | | Client W/O | | Sample Disp. | | Lab Deadline | | Internal Deadline | | Client Deadline | |
| PAP-KAN | | PAP/KAN | | H | | 11/06/2015 | | 11/10/2015 | | 11/11/2015 | |
| Internal ID | Client ID | Sample Date | Matrix | Storage | Gamma | ThiSO | UrisO | | | | |
| 01 | LCS | 10/14/15 | SO | K1.2 | X | X | X | | | | |
| 02 | BLANK | 10/14/15 | SO | K1.2 | X | X | X | | | | |
| 03 | DUP | 10/14/15 | SO | K1.2 | X | X | X | | | | |
| 04 | CP5007S01-02 | 10/07/15 14:20 | SO | K1.2 | X | X | X | | | | |
| 05 | CP5007S03-04 | 10/07/15 14:30 | SO | K1.2 | X | X | X | | | | |
| 06 | CP5007S06-07 | 10/07/15 14:40 | SO | K1.2 | X | X | X | | | | |
| 07 | CP5007S08-09 | 10/07/15 14:50 | SO | K1.2 | X | X | X | | | | |
| 08 | CP5007S11-12 | 10/07/15 15:10 | SO | K1.2 | X | X | X | | | | |
| 09 | CP5007S13-14 | 10/07/15 15:20 | SO | K1.2 | X | X | X | | | | |
| 10 | CP5007S16-17 | 10/07/15 15:30 | SO | K1.2 | X | X | X | | | | |
| 11 | CP5006S01-02 | 10/07/15 16:00 | SO | K1.2 | X | X | X | | | | |
| 12 | CP5006S03-04 | 10/07/15 16:10 | SO | K1.2 | X | X | X | | | | |
| 13 | CP5006S04-05 | 10/07/15 16:20 | SO | K1.2 | X | X | X | | | | |
| 14 | CP5006S07-08 | 10/07/15 16:30 | SO | K1.2 | X | X | X | | | | |
| 15 | CP5006S09-10 | 10/07/15 16:40 | SO | K1.2 | X | X | X | | | | |
| 16 | CP5006S12-13 | 10/07/15 16:50 | SO | K1.2 | X | X | X | | | | |
| 17 | CP5006S14-15 | 10/07/15 17:00 | SO | K1.2 | X | X | X | | | | |
| 18 | CP5006S17-18 | 10/07/15 17:10 | SO | K1.2 | X | X | X | | | | |
| 19 | CP5006S19-20 | 10/07/15 17:20 | SO | K1.2 | X | X | X | | | | |
| 20 | CP5006S22-23 | 10/07/15 17:30 | SO | K1.2 | X | X | X | | | | |
| Totals Per Analysis (non QA samples) | | | | | 17 | 17 | 17 | 0 | 0 | 0 | 0 |



EBERLINE SERVICES

Sample Log In Report

Oak Ridge Laboratory
601 Scarborough Rd.
Oak Ridge, TN 37830

Voice: (865) 481-0683
Fax: (865) 483-4621

Invoice

Accounts Payable
Auxier & Associates, Inc.
9821 Cogdill Drive #1
Knoxville, TN 37932

Voice: 865-675-3669
Fax: 865-675-3677

Report Data

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37830

Voice: 865-675-3669
Fax: 865-675-3677

Contact

Harvey Cohen
301-718-8900
301-718-8909



STANDARD OPERATING PROCEDURE

Sample Receiving

MP-001, Rev. 15
Effective: 2/2/15
Page 13 of 15

Eberline Services – Oak Ridge Laboratory

SAMPLE RECEIPT CHECKLIST MP-001-2

WORK ORDER # 15-10085

SAMPLE MATRIX/MATRICES:

(CIRCLE ONE OR BOTH)

AQUEOUS

NON-AQUEOUS

(CIRCLE EITHER YES, NO, OR N/A)

WERE SAMPLES:

| | | | |
|--------------------------------|------------------------------------|---|--------------------------------------|
| Received in good condition? | <input checked="" type="radio"/> Y | N | |
| If aqueous, properly preserved | Y | N | <input checked="" type="radio"/> N/A |

WERE CHAIN OF CUSTODY SEALS:

| | | |
|---|------------------------------------|---|
| Present on outside of package? | <input checked="" type="radio"/> Y | N |
| Unbroken on outside of package? | <input checked="" type="radio"/> Y | N |
| Present on samples? | <input checked="" type="radio"/> Y | N |
| Unbroken on samples? | <input checked="" type="radio"/> Y | N |
| Was chain of custody present upon sample receipt? | <input checked="" type="radio"/> Y | N |

IF THE RESPONSE TO ANY OF THE ABOVE IS NO, A DISCREPANT SAMPLE RECEIPT REPORT (DSR) HAS BEEN ISSUED.

REMARKS: _____

SIGNATURE: *James E. ...*

DATE: 10-14-15

SECTION III
CASE NARRATIVE



EBERLINE ANALYTICAL CORPORATION
601 SCARBORO ROAD
OAK RIDGE, TENNESSEE 37830
PHONE (865) 481-0683
FAX (865) 483-4621

EBS-OR-39960

November 16, 2015

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road #1
Knoxville, TN 37932

CASE NARRATIVE
Work Order # 15-10085-OR

SAMPLE RECEIPT

This work order contains seventeen soil samples received 10/14/2015. These samples were analyzed for Isotopic Uranium, Isotopic Thorium and by Gamma Spectroscopy.

| <u>CLIENT ID</u> | <u>LAB ID</u> | <u>CLIENT ID</u> | <u>LAB ID</u> |
|------------------|---------------|------------------|---------------|
| CP5007S01-02 | 15-10085-04 | CP5006S04-05 | 15-10085-13 |
| CP5007S03-04 | 15-10085-05 | CP5006S07-08 | 15-10085-14 |
| CP5007S06-07 | 15-10085-06 | CP5006S09-10 | 15-10085-15 |
| CP5007S08-09 | 15-10085-07 | CP5006S12-13 | 15-10085-16 |
| CP5007S11-12 | 15-10085-08 | CP5006S14-15 | 15-10085-17 |
| CP5007S13-14 | 15-10085-09 | CP5006S17-18 | 15-10085-18 |
| CP5007S16-17 | 15-10085-10 | CP5006S19-20 | 15-10085-19 |
| CP5006S01-02 | 15-10085-11 | CP5006S22-23 | 15-10085-20 |
| CP5006S03-04 | 15-10085-12 | | |

ANALYTICAL METHODS

Isotopic Uranium was analyzed using Method EML U-02 Modified. Isotopic Thorium was analyzed using Method EML Th-01 Modified. Gamma Spectroscopy was performed using Method LANL ER-130 Modified.

ANALYTICAL RESULTS

Combined Standard Uncertainty is reported at 2-sigma value.

Minimum Detectable Activity (MDA) values for data represented in this report are sample-specific. MDA measurements are determined based on factors and conditions including instrument settings, aliquot size and matrix type.

ANALYTICAL RESULTS CONTINUED

ISOTOPIC URANIUM

Samples were prepared by removing a representative aliquot followed by mixed acid digestions as appropriate. Uranium was selectively extracted by ion exchange. Uranium was eluted, micro-precipitated and mounted on micro-porous filter media. Sample activities were then determined by alpha spectroscopy using energy specific regions of interest for Uranium-234, Uranium-235 and Uranium-238. Chemical recovery was determined by the use of a Uranium-232 tracer. Activity of the Uranium-232 tracer was determined by alpha spectroscopy using an energy specific region of interest.

Samples demonstrated acceptable results for all Uranium analyses. Chemical recovery was acceptable for all samples. The Uranium-234, Uranium-235 and Uranium-238 method blank demonstrated acceptable results. Results for the Uranium-234 and Uranium-238 duplicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Uranium-235 duplicate demonstrated a high relative percent difference; however, normalized difference is within acceptable limits for the analytical technique. Results for the Uranium-234 and Uranium-238 laboratory control sample demonstrated an acceptable percent recovery.

ISOTOPIC THORIUM

Samples were prepared by removing representative aliquots followed by mixed acid digestions as appropriate. Thorium was selectively extracted by ion exchange. Thorium was eluted, micro-precipitated and mounted on micro-porous filter media. Sample activities were then determined by alpha spectroscopy using energy specific regions of interest for Thorium-228, Thorium-230 and Thorium-232. Chemical recovery was determined by the use of a Thorium-229 tracer. Activity of the Thorium-229 tracer was determined by alpha spectroscopy using an energy specific region of interest.

Samples demonstrated acceptable results for all Thorium analyses. Chemical recovery was acceptable for all samples. The Thorium-228, Thorium-230 and Thorium-232 method blank demonstrated acceptable results. Results for the Thorium-228, Thorium-230 and Thorium-232 duplicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Thorium-228, Thorium-230 and Thorium-232 laboratory control sample demonstrated an acceptable percent recovery.

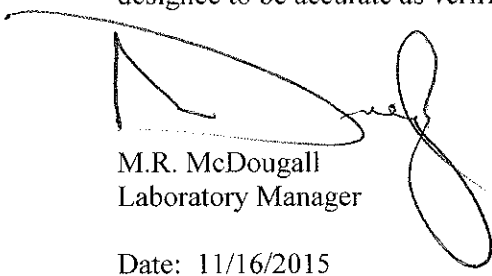
GAMMA SPECTROSCOPY

Samples were dried, homogenized and placed into appropriate gamma spectroscopy geometry containers. Samples were then sealed for 21 days to allow for ingrowth of Radon-222 and progeny. Samples were counted on High Purity Germanium (HPGe) gamma ray detectors. Energy lines from Lead-214 and Bismuth-214 were analyzed for determinations of Radium-226 activity.

Samples demonstrated acceptable results for all gamma-emitting radionuclides as reported. The method blank demonstrated acceptable results for all radionuclides as reported. Results for the Actinium-228, Bismuth-214 and Potassium-40 replicate demonstrated an acceptable relative percent difference and normalized difference. Results for the Cobalt-60 and Cesium-137 laboratory control sample demonstrated an acceptable percent recovery.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.



M.R. McDougall
Laboratory Manager

Date: 11/16/2015

Eberline Analytical wants and encourages your feedback regarding our performance providing radioanalytical services. Please visit <http://www.eberlineservices.com/client.htm> to provide us with feedback on our services.

SECTION IV
ANALYTICAL RESULTS SUMMARY

Eberline Analytical

Final Report of Analysis

Report To:

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932

Work Order Details:

SDG: 15-10085
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|----------------|--------------|---------------|----------|--------------|----------------------|-----------|----------|----------|----------|----------|--------------|
| 15-10085-01 | LCS | KNOWN | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Cobalt-60 | LANL ER-130 Modified | 1.37E+02 | 5.48E+00 | | | | pCi/g |
| 15-10085-01 | LCS | KNOWN | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Cesium-137 | LANL ER-130 Modified | 8.69E+01 | 3.48E+00 | | | | pCi/g |
| 15-10085-01 | LCS | SPIKE | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Cobalt-60 | LANL ER-130 Modified | 1.36E+02 | 7.89E+00 | 1.05E+01 | 9.82E-01 | 9.48E-01 | pCi/g |
| 15-10085-01 | LCS | SPIKE | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Cesium-137 | LANL ER-130 Modified | 8.90E+01 | 7.89E+00 | 9.11E+00 | 1.36E+00 | 6.73E-01 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | -2.36E-02 | 1.38E-01 | 1.38E-01 | 1.87E-01 | 7.55E-02 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 5.04E-02 | 9.49E-02 | 9.49E-02 | 1.66E-01 | 7.56E-02 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 2.18E-01 | 4.00E-01 | 4.00E-01 | 8.46E-01 | 3.51E-01 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 2.28E-02 | 5.56E-02 | 5.56E-02 | 9.31E-02 | 4.34E-02 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 3.44E-02 | 7.56E-02 | 7.56E-02 | 1.31E-01 | 6.02E-02 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 5.04E-02 | 9.49E-02 | 9.49E-02 | 1.66E-01 | 5.33E-01 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | -2.36E-02 | 1.38E-01 | 1.38E-01 | 1.87E-01 | 7.55E-02 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 2.49E-01 | 3.98E-01 | 3.98E-01 | 6.51E-01 | 3.11E-01 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 11/5/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.07E-02 | 1.11E-01 | 1.11E-01 | 1.88E-01 | 8.35E-02 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.28E+00 | 1.95E-01 | 2.06E-01 | 4.28E-01 | 2.06E-01 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 2.30E+00 | 2.10E-01 | 2.41E-01 | 2.23E-01 | 1.08E-01 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 2.02E+01 | 2.23E+00 | 2.46E+00 | 9.98E-01 | 4.69E-01 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.31E+00 | 1.53E-01 | 1.67E-01 | 3.02E-01 | 1.49E-01 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 2.53E+00 | 2.08E-01 | 2.45E-01 | 2.46E-01 | 1.20E-01 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 2.30E+00 | 2.10E-01 | 2.41E-01 | 2.23E-01 | 1.20E+00 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.28E+00 | 1.95E-01 | 2.06E-01 | 4.28E-01 | 2.06E-01 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 1.97E+00 | 1.67E+00 | 1.67E+00 | 2.78E+00 | 1.37E+00 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.13E+00 | 1.61E-01 | 1.71E-01 | 8.07E-02 | 1.55E-01 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.17E+00 | 2.12E-01 | 2.20E-01 | 3.73E-01 | 1.79E-01 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 2.25E+00 | 2.17E-01 | 2.46E-01 | 2.24E-01 | 1.08E-01 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 1.80E+01 | 2.05E+00 | 2.25E+00 | 9.94E-01 | 4.67E-01 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.38E+00 | 1.59E-01 | 1.74E-01 | 2.49E-01 | 1.23E-01 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 2.44E+00 | 2.07E-01 | 2.42E-01 | 2.56E-01 | 1.25E-01 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 2.25E+00 | 2.17E-01 | 2.46E-01 | 2.24E-01 | 1.25E+00 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.17E+00 | 2.12E-01 | 2.20E-01 | 3.73E-01 | 1.79E-01 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 2.14E+00 | 1.93E+00 | 1.93E+00 | 3.21E+00 | 1.59E+00 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 9.67E-01 | 1.49E-01 | 1.57E-01 | 8.07E-02 | 1.46E-01 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932

SDG: 15-10085
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|----------------|--------------|---------------|----------|--------------|----------------------|----------|----------|----------|----------|----------|--------------|
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.42E+00 | 1.99E-01 | 2.12E-01 | 2.79E-01 | 1.30E-01 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 1.26E+00 | 1.47E-01 | 1.61E-01 | 3.21E-01 | 1.94E-01 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 1.81E+01 | 2.32E+00 | 2.50E+00 | 1.34E+00 | 6.36E-01 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.52E+00 | 1.82E-01 | 1.98E-01 | 2.16E-01 | 1.06E-01 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 1.40E+00 | 1.57E-01 | 1.73E-01 | 2.11E-01 | 1.02E-01 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 1.26E+00 | 1.47E-01 | 1.61E-01 | 3.21E-01 | 1.06E+00 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.42E+00 | 1.99E-01 | 2.12E-01 | 2.79E-01 | 1.30E-01 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 2.14E+00 | 9.37E-01 | 9.43E-01 | 1.54E+00 | 7.49E-01 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.14E+00 | 1.64E-01 | 1.74E-01 | 1.63E-01 | 1.55E-01 | pCi/g |
| 15-10085-06 | TRG | CP5007S08-07 | 10/07/15 14:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.32E+00 | 3.06E-01 | 3.14E-01 | 5.84E-01 | 2.79E-01 | pCi/g |
| 15-10085-06 | TRG | CP5007S08-07 | 10/07/15 14:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 1.38E+00 | 1.96E-01 | 2.08E-01 | 2.46E-01 | 1.17E-01 | pCi/g |
| 15-10085-06 | TRG | CP5007S08-07 | 10/07/15 14:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 2.01E+01 | 2.68E+00 | 2.87E+00 | 2.18E+00 | 1.04E+00 | pCi/g |
| 15-10085-06 | TRG | CP5007S08-07 | 10/07/15 14:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.53E+00 | 1.77E-01 | 1.93E-01 | 2.90E-01 | 1.42E-01 | pCi/g |
| 15-10085-06 | TRG | CP5007S08-07 | 10/07/15 14:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 1.41E+00 | 1.87E-01 | 2.00E-01 | 2.59E-01 | 1.25E-01 | pCi/g |
| 15-10085-06 | TRG | CP5007S08-07 | 10/07/15 14:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 1.38E+00 | 1.96E-01 | 2.08E-01 | 2.46E-01 | 1.42E+00 | pCi/g |
| 15-10085-06 | TRG | CP5007S08-07 | 10/07/15 14:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.32E+00 | 3.06E-01 | 3.14E-01 | 5.84E-01 | 2.79E-01 | pCi/g |
| 15-10085-06 | TRG | CP5007S08-07 | 10/07/15 14:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 1.86E+00 | 1.61E+00 | 1.61E+00 | 2.16E+00 | 1.06E+00 | pCi/g |
| 15-10085-06 | TRG | CP5007S08-07 | 10/07/15 14:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.16E+00 | 2.00E-01 | 2.09E-01 | 2.03E-01 | 1.62E-01 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.70E+00 | 5.94E-01 | 6.01E-01 | 1.04E+00 | 4.98E-01 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 1.35E+00 | 3.06E-01 | 3.14E-01 | 4.96E-01 | 2.38E-01 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 1.84E+01 | 3.18E+00 | 3.32E+00 | 1.70E+00 | 7.52E-01 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.77E+00 | 3.33E-01 | 3.45E-01 | 4.09E-01 | 2.00E-01 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 1.43E+00 | 2.97E-01 | 3.06E-01 | 4.34E-01 | 2.10E-01 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 1.35E+00 | 3.06E-01 | 3.14E-01 | 4.96E-01 | 2.38E+00 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.70E+00 | 5.94E-01 | 6.01E-01 | 1.04E+00 | 4.98E-01 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 2.79E+00 | 1.39E+00 | 1.40E+00 | 2.22E+00 | 1.09E+00 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.63E+00 | 3.46E-01 | 3.56E-01 | 2.24E-01 | 3.10E-01 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932

SDG: 15-10085
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|----------------|--------------|---------------|----------|--------------|----------------------|----------|----------|----------|----------|----------|--------------|
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL_ER-130 Modified | 1.43E+00 | 2.07E-01 | 2.20E-01 | 5.73E-01 | 2.77E-01 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL_ER-130 Modified | 1.25E+00 | 1.78E-01 | 1.90E-01 | 2.29E-01 | 1.10E-01 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL_ER-130 Modified | 1.95E+01 | 2.51E+00 | 2.70E+00 | 1.03E+00 | 4.79E-01 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL_ER-130 Modified | 1.94E-01 | 1.42E-01 | 1.43E-01 | 2.29E-01 | 1.12E-01 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL_ER-130 Modified | 1.47E+00 | 1.72E-01 | 1.88E-01 | 2.40E-01 | 1.16E-01 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL_ER-130 Modified | 1.25E+00 | 1.78E-01 | 1.90E-01 | 2.29E-01 | 1.18E+00 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL_ER-130 Modified | 1.43E+00 | 2.07E-01 | 2.20E-01 | 5.73E-01 | 2.77E-01 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL_ER-130 Modified | 2.13E+00 | 1.60E+00 | 1.60E+00 | 2.64E+00 | 1.30E+00 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL_ER-130 Modified | 1.13E+00 | 1.77E-01 | 1.87E-01 | 1.91E-01 | 1.68E-01 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL_ER-130 Modified | 1.54E+00 | 2.72E-01 | 2.84E-01 | 5.05E-01 | 2.38E-01 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL_ER-130 Modified | 1.40E+00 | 2.14E-01 | 2.26E-01 | 2.97E-01 | 1.43E-01 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL_ER-130 Modified | 2.25E+01 | 2.73E+00 | 2.97E+00 | 1.34E+00 | 6.13E-01 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL_ER-130 Modified | 1.68E+00 | 2.01E-01 | 2.19E-01 | 3.19E-01 | 1.57E-01 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL_ER-130 Modified | 1.50E+00 | 1.81E-01 | 1.97E-01 | 4.34E-01 | 2.12E-01 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL_ER-130 Modified | 1.40E+00 | 2.14E-01 | 2.26E-01 | 2.97E-01 | 1.44E+00 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL_ER-130 Modified | 1.54E+00 | 2.72E-01 | 2.84E-01 | 5.05E-01 | 2.38E-01 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL_ER-130 Modified | 2.15E+00 | 1.70E+00 | 1.70E+00 | 2.30E+00 | 1.13E+00 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL_ER-130 Modified | 1.32E+00 | 2.45E-01 | 2.54E-01 | 3.11E-01 | 2.29E-01 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL_ER-130 Modified | 1.26E+00 | 4.82E-01 | 4.87E-01 | 9.54E-01 | 4.51E-01 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL_ER-130 Modified | 1.47E+00 | 3.01E-01 | 3.10E-01 | 3.78E-01 | 1.78E-01 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL_ER-130 Modified | 1.78E+01 | 3.41E+00 | 3.53E+00 | 2.84E+00 | 1.32E+00 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL_ER-130 Modified | 1.86E+00 | 3.69E-01 | 3.81E-01 | 4.72E-01 | 2.32E-01 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL_ER-130 Modified | 1.57E+00 | 2.96E-01 | 3.07E-01 | 3.90E-01 | 1.87E-01 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL_ER-130 Modified | 1.47E+00 | 3.01E-01 | 3.10E-01 | 3.78E-01 | 2.13E+00 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL_ER-130 Modified | 1.26E+00 | 4.82E-01 | 4.87E-01 | 9.54E-01 | 4.51E-01 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL_ER-130 Modified | 1.28E+00 | 1.47E+00 | 1.47E+00 | 2.28E+00 | 1.12E+00 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL_ER-130 Modified | 1.04E+00 | 3.04E-01 | 3.09E-01 | 2.39E-01 | 3.45E-01 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
 9821 Cogdill Road, Suite 1
 Knoxville, TN 37932

SDG: 15-10085
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Work Order Details:

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|----------------|--------------|---------------|----------|--------------|----------------------|----------|----------|----------|----------|----------|--------------|
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 9.22E-01 | 2.05E-01 | 2.11E-01 | 2.77E-01 | 1.28E-01 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 1.60E+00 | 1.80E-01 | 1.98E-01 | 1.62E-01 | 7.65E-02 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 1.43E+01 | 1.77E+00 | 1.92E+00 | 7.17E-01 | 3.21E-01 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 9.56E-01 | 1.30E-01 | 1.39E-01 | 2.42E-01 | 1.19E-01 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 1.93E+00 | 1.89E-01 | 2.14E-01 | 2.56E-01 | 1.24E-01 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 1.60E+00 | 1.80E-01 | 1.98E-01 | 1.62E-01 | 1.25E+00 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 9.22E-01 | 2.05E-01 | 2.11E-01 | 2.77E-01 | 1.28E-01 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 2.07E+00 | 1.40E+00 | 1.41E+00 | 2.31E+00 | 1.13E+00 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 7.53E-01 | 1.38E-01 | 1.43E-01 | 9.96E-02 | 1.31E-01 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.21E+00 | 2.13E-01 | 2.22E-01 | 4.81E-01 | 2.31E-01 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 2.29E+00 | 2.21E-01 | 2.51E-01 | 2.34E-01 | 1.13E-01 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 1.79E+01 | 2.31E+00 | 2.48E+00 | 8.80E-01 | 4.04E-01 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.07E+00 | 1.46E-01 | 1.56E-01 | 2.51E-01 | 1.23E-01 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 2.56E+00 | 2.34E-01 | 2.68E-01 | 2.56E-01 | 1.25E-01 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 2.29E+00 | 2.21E-01 | 2.51E-01 | 2.34E-01 | 1.03E+00 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.21E+00 | 2.13E-01 | 2.22E-01 | 4.81E-01 | 2.31E-01 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 1.31E+00 | 1.55E+00 | 1.55E+00 | 2.59E+00 | 1.27E+00 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 9.23E-01 | 1.54E-01 | 1.61E-01 | 1.81E-01 | 1.58E-01 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.78E+00 | 2.98E-01 | 3.12E-01 | 5.44E-01 | 2.56E-01 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 1.42E+00 | 2.25E-01 | 2.37E-01 | 3.01E-01 | 1.44E-01 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 2.12E+01 | 2.67E+00 | 2.89E+00 | 1.25E+00 | 5.65E-01 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.77E+00 | 2.11E-01 | 2.30E-01 | 3.28E-01 | 1.61E-01 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 1.78E+00 | 1.90E-01 | 2.11E-01 | 3.45E-01 | 1.67E-01 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 1.42E+00 | 2.25E-01 | 2.37E-01 | 3.01E-01 | 1.98E+00 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.78E+00 | 2.98E-01 | 3.12E-01 | 5.44E-01 | 2.56E-01 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 4.59E+00 | 2.65E+00 | 2.66E+00 | 9.17E+00 | 4.59E+00 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.40E+00 | 2.30E-01 | 2.41E-01 | 5.26E-02 | 1.65E-01 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
 9821 Cogdill Road, Suite 1
 Knoxville, TN 37932

SDG: 15-10085
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|----------------|--------------|---------------|----------|--------------|----------------------|----------|----------|----------|----------|----------|--------------|
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.56E+00 | 5.77E-01 | 5.82E-01 | 1.13E+00 | 5.34E-01 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 1.37E+00 | 3.19E-01 | 3.27E-01 | 3.12E-01 | 2.40E-01 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 2.25E+01 | 3.87E+00 | 4.04E+00 | 2.18E+00 | 9.66E-01 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.97E+00 | 3.78E-01 | 3.91E-01 | 4.67E-01 | 2.29E-01 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 1.38E+00 | 3.54E-01 | 3.61E-01 | 6.03E-01 | 2.93E-01 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 1.37E+00 | 3.19E-01 | 3.27E-01 | 3.12E-01 | 3.29E+00 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.56E+00 | 5.77E-01 | 5.82E-01 | 1.13E+00 | 5.34E-01 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 1.65E+00 | 1.83E+00 | 1.89E+00 | 3.07E+00 | 1.51E+00 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.24E+00 | 3.57E-01 | 3.62E-01 | 4.54E-01 | 3.91E-01 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.25E+00 | 2.42E-01 | 2.50E-01 | 4.29E-01 | 2.05E-01 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 1.34E+00 | 1.77E-01 | 1.90E-01 | 2.24E-01 | 1.08E-01 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 2.04E+01 | 2.31E+00 | 2.53E+00 | 9.86E-01 | 4.58E-01 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.58E+00 | 1.78E-01 | 1.96E-01 | 2.89E-01 | 1.42E-01 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 1.53E+00 | 1.86E-01 | 2.02E-01 | 2.45E-01 | 1.19E-01 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 1.34E+00 | 1.77E-01 | 1.90E-01 | 2.24E-01 | 1.20E+00 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.25E+00 | 2.42E-01 | 2.50E-01 | 4.29E-01 | 2.05E-01 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 1.60E+00 | 1.36E+00 | 1.37E+00 | 2.28E+00 | 1.11E+00 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.29E+00 | 1.73E-01 | 1.85E-01 | 9.37E-02 | 1.38E-01 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.55E+00 | 2.44E-01 | 2.57E-01 | 3.89E-01 | 1.84E-01 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 1.37E+00 | 1.79E-01 | 1.93E-01 | 1.92E-01 | 9.16E-02 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 2.32E+01 | 2.90E+00 | 3.19E+00 | 9.62E-01 | 4.42E-01 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.82E+00 | 2.11E-01 | 2.31E-01 | 2.53E-01 | 1.24E-01 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 1.64E+00 | 1.84E-01 | 2.03E-01 | 2.48E-01 | 1.20E-01 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 1.37E+00 | 1.79E-01 | 1.93E-01 | 1.92E-01 | 1.40E+00 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.55E+00 | 2.44E-01 | 2.57E-01 | 3.89E-01 | 1.84E-01 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 1.51E+00 | 1.07E+00 | 1.08E+00 | 1.71E+00 | 8.34E-01 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.26E+00 | 1.95E-01 | 2.06E-01 | 2.35E-01 | 1.93E-01 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932

SDG: 15-10085
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|----------------|--------------|---------------|----------|--------------|----------------------|----------|----------|----------|----------|----------|--------------|
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL_ER-130 Modified | 1.49E+00 | 2.78E-01 | 2.88E-01 | 6.05E-01 | 2.89E-01 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL_ER-130 Modified | 1.35E+00 | 1.97E-01 | 2.09E-01 | 2.15E-01 | 1.06E-01 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL_ER-130 Modified | 2.19E+01 | 2.58E+00 | 2.82E+00 | 8.87E-01 | 3.91E-01 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL_ER-130 Modified | 1.79E+00 | 2.01E-01 | 2.21E-01 | 3.23E-01 | 1.59E-01 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL_ER-130 Modified | 1.54E+00 | 2.00E-01 | 2.15E-01 | 3.52E-01 | 1.72E-01 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL_ER-130 Modified | 1.35E+00 | 1.97E-01 | 2.09E-01 | 2.15E-01 | 1.42E+00 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL_ER-130 Modified | 1.49E+00 | 2.78E-01 | 2.88E-01 | 6.05E-01 | 2.89E-01 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL_ER-130 Modified | 4.73E-01 | 1.79E+00 | 1.79E+00 | 2.31E+00 | 1.13E+00 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL_ER-130 Modified | 1.35E+00 | 2.24E-01 | 2.35E-01 | 4.60E-02 | 1.95E-01 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL_ER-130 Modified | 1.88E+00 | 5.38E-01 | 5.47E-01 | 1.08E+00 | 5.02E-01 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL_ER-130 Modified | 1.30E+00 | 3.13E-01 | 3.20E-01 | 4.63E-01 | 2.21E-01 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL_ER-130 Modified | 2.19E+01 | 3.73E+00 | 3.89E+00 | 2.22E+00 | 1.00E+00 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL_ER-130 Modified | 2.15E+00 | 3.65E-01 | 4.00E-01 | 4.60E-01 | 2.26E-01 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL_ER-130 Modified | 1.50E+00 | 3.31E-01 | 3.39E-01 | 5.48E-01 | 2.67E-01 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL_ER-130 Modified | 1.30E+00 | 3.13E-01 | 3.20E-01 | 4.63E-01 | 2.51E+00 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL_ER-130 Modified | 1.88E+00 | 5.38E-01 | 5.47E-01 | 1.08E+00 | 5.02E-01 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL_ER-130 Modified | 3.00E+00 | 2.16E+00 | 2.16E+00 | 3.57E+00 | 1.77E+00 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL_ER-130 Modified | 1.43E+00 | 3.80E-01 | 3.87E-01 | 5.35E-01 | 3.76E-01 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL_ER-130 Modified | 1.34E+00 | 2.30E-01 | 2.40E-01 | 4.22E-01 | 2.02E-01 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL_ER-130 Modified | 1.10E+00 | 1.63E-01 | 1.72E-01 | 2.16E-01 | 1.04E-01 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL_ER-130 Modified | 2.37E+01 | 2.63E+00 | 2.90E+00 | 1.22E+00 | 5.73E-01 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL_ER-130 Modified | 1.55E+00 | 1.76E-01 | 1.94E-01 | 3.57E-01 | 1.76E-01 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL_ER-130 Modified | 1.32E+00 | 1.56E-01 | 1.70E-01 | 2.35E-01 | 1.14E-01 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL_ER-130 Modified | 1.10E+00 | 1.63E-01 | 1.72E-01 | 2.16E-01 | 1.04E+00 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL_ER-130 Modified | 1.34E+00 | 2.30E-01 | 2.40E-01 | 4.22E-01 | 2.02E-01 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL_ER-130 Modified | 2.64E+00 | 1.67E+00 | 1.68E+00 | 2.75E+00 | 1.35E+00 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL_ER-130 Modified | 1.27E+00 | 1.69E-01 | 1.81E-01 | 9.52E-02 | 1.30E-01 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932

SDG: 15-10085
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To: Work Order Details:

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|----------------|--------------|---------------|----------|--------------|----------------------|----------|----------|----------|----------|----------|--------------|
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Actinium-228 | LANL ER-130 Modified | 1.23E+00 | 2.58E-01 | 2.66E-01 | 3.95E-01 | 1.88E-01 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Bismuth-214 | LANL ER-130 Modified | 1.26E+00 | 1.57E-01 | 1.69E-01 | 2.01E-01 | 9.68E-02 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Potassium-40 | LANL ER-130 Modified | 2.09E+01 | 2.60E+00 | 2.81E+00 | 8.47E-01 | 3.89E-01 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-212 | LANL ER-130 Modified | 1.54E+00 | 1.80E-01 | 1.96E-01 | 2.50E-01 | 1.23E-01 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Lead-214 | LANL ER-130 Modified | 1.41E+00 | 1.64E-01 | 1.79E-01 | 2.37E-01 | 1.15E-01 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-226 | LANL ER-130 Modified | 1.26E+00 | 1.57E-01 | 1.69E-01 | 2.01E-01 | 1.30E+00 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Radium-228 | LANL ER-130 Modified | 1.23E+00 | 2.58E-01 | 2.66E-01 | 3.95E-01 | 1.88E-01 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Thorium-234 | LANL ER-130 Modified | 2.38E+00 | 1.76E+00 | 1.76E+00 | 2.90E+00 | 1.43E+00 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 11/6/2015 | 15-10085 | Thallium-208 | LANL ER-130 Modified | 1.34E+00 | 1.70E-01 | 1.83E-01 | 1.58E-01 | 1.19E-01 | pCi/g |
| 15-10085-01 | LCS | KNOWN | 10/14/15 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 4.72E+00 | 1.70E-01 | | | | pCi/g |
| 15-10085-01 | LCS | SPIKE | 10/14/15 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 5.17E+00 | 8.15E-01 | 9.49E-01 | 7.95E-02 | 1.23E-02 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 5.50E-02 | 5.74E-02 | 5.76E-02 | 7.18E-02 | 9.62E-03 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.12E+00 | 2.78E-01 | 2.98E-01 | 8.25E-02 | 2.74E-02 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.16E+00 | 2.65E-01 | 2.86E-01 | 4.89E-02 | 7.41E-03 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.17E+00 | 2.62E-01 | 2.84E-01 | 5.62E-02 | 1.28E-02 | pCi/g |
| 15-10085-06 | TRG | CP5007S06-07 | 10/07/15 14:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.44E+00 | 3.29E-01 | 3.59E-01 | 5.28E-02 | 6.91E-03 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.17E+00 | 2.83E-01 | 3.03E-01 | 6.39E-02 | 1.31E-02 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.12E+00 | 2.64E-01 | 2.84E-01 | 4.88E-02 | 6.39E-03 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.02E+00 | 2.56E-01 | 2.74E-01 | 6.76E-02 | 1.60E-02 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.60E+00 | 3.80E-01 | 4.09E-01 | 7.53E-02 | 1.66E-02 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 8.58E-01 | 2.47E-01 | 2.60E-01 | 6.69E-02 | 1.01E-02 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.27E+00 | 3.18E-01 | 3.40E-01 | 6.18E-02 | 9.39E-03 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.54E+00 | 4.16E-01 | 4.40E-01 | 8.16E-02 | 1.24E-02 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.47E+00 | 3.95E-01 | 4.19E-01 | 1.00E-01 | 2.51E-02 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.35E+00 | 3.30E-01 | 3.54E-01 | 1.11E-01 | 5.39E-02 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.70E+00 | 4.13E-01 | 4.43E-01 | 7.22E-02 | 1.23E-02 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.47E+00 | 3.51E-01 | 3.77E-01 | 7.25E-02 | 1.60E-02 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.31E+00 | 3.19E-01 | 3.42E-01 | 7.26E-02 | 1.72E-02 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.39E+00 | 3.45E-01 | 3.69E-01 | 6.88E-02 | 1.18E-02 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-228 | EML Th-01 Modified | 1.17E+00 | 2.98E-01 | 3.18E-01 | 7.99E-02 | 2.13E-02 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
 9821 Cogdill Road, Suite 1
 Knoxville, TN 37932

SDG: 15-10085
Project: PAP-KAN
Analysis Category: ENVIRONMENTAL
Sample Matrix: SO

Report To:

Work Order Details:

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|----------------|--------------|---------------|----------|-------------|--------------------|----------|----------|----------|----------|----------|--------------|
| 15-10085-01 | LCS | KNOWN | 10/14/15 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 5.37E+00 | 1.45E-01 | | | | pCi/g |
| 15-10085-01 | LCS | SPIKE | 10/14/15 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 6.15E+00 | 9.38E-01 | 1.21E+00 | 6.98E-02 | 7.52E-02 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 8.05E-02 | 6.83E-02 | 6.90E-02 | 7.18E-02 | 7.40E-02 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 3.56E+00 | 5.98E-01 | 8.26E-01 | 8.41E-02 | 7.75E-02 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 3.04E+00 | 5.69E-01 | 6.82E-01 | 4.20E-02 | 4.52E-02 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.15E+00 | 2.97E-01 | 2.94E-01 | 4.38E-02 | 4.53E-02 | pCi/g |
| 15-10085-06 | TRG | CP5007S06-07 | 10/07/15 14:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.44E+00 | 3.27E-01 | 3.73E-01 | 3.81E-02 | 4.85E-02 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.09E+00 | 2.66E-01 | 2.98E-01 | 4.80E-02 | 5.17E-02 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.54E+00 | 3.33E-01 | 3.83E-01 | 4.43E-02 | 4.77E-02 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.16E+00 | 2.78E-01 | 3.12E-01 | 5.40E-02 | 5.41E-02 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 16:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.35E+00 | 3.31E-01 | 3.71E-01 | 6.84E-02 | 6.56E-02 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.55E+00 | 3.77E-01 | 4.23E-01 | 4.55E-02 | 5.80E-02 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 2.85E+00 | 6.03E-01 | 6.98E-01 | 5.31E-02 | 5.73E-02 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.78E+00 | 4.62E-01 | 5.11E-01 | 8.02E-02 | 6.86E-02 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.95E+00 | 4.88E-01 | 5.44E-01 | 7.30E-02 | 7.53E-02 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.62E+00 | 3.74E-01 | 4.24E-01 | 7.99E-02 | 7.36E-02 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.61E+00 | 3.95E-01 | 4.42E-01 | 6.33E-02 | 6.53E-02 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.65E+00 | 3.81E-01 | 4.32E-01 | 6.30E-02 | 6.14E-02 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.46E+00 | 3.44E-01 | 3.89E-01 | 4.04E-02 | 5.16E-02 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.55E+00 | 3.74E-01 | 4.20E-01 | 7.06E-02 | 6.80E-02 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-230 | EML Th-01 Modified | 1.52E+00 | 3.61E-01 | 4.07E-01 | 6.33E-02 | 6.20E-02 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
 9821 Cogdill Road, Suite 1
 Knoxville, TN 37932

SDG: 15-10085

Project: PAP-KAN

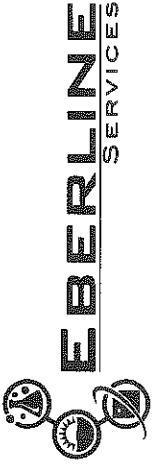
Analysis Category: ENVIRONMENTAL

Sample Matrix: SO

Work Order Details:

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|------------------|--------------|---------------|----------|-------------|--------------------|-----------|----------|----------|----------|----------|--------------|
| 15-10085-01 | LCS | KNOWN | 10/14/2015 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 4.72E+00 | 1.70E-01 | 9.77E-01 | 7.96E-02 | 8.93E-04 | pCi/g |
| 15-10085-01 | LCS | SP/KE | 10/14/15 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 5.45E+00 | 8.51E-01 | 2.60E-02 | 6.67E-02 | 7.32E-03 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | -6.48E-03 | 2.80E-02 | 2.82E-01 | 7.74E-02 | 2.42E-02 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.06E+00 | 2.40E-01 | 2.57E-01 | 4.51E-02 | 5.96E-03 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.03E+00 | 2.27E-01 | 2.42E-01 | 7.05E-02 | 2.56E-02 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 9.58E-01 | 3.15E-01 | 3.38E-01 | 4.78E-02 | 5.26E-03 | pCi/g |
| 15-10085-06 | TRG | CP5007S06-07 | 10/07/15 14:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.37E+00 | 2.82E-01 | 3.01E-01 | 5.15E-02 | 6.81E-03 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.18E+00 | 2.60E-01 | 2.77E-01 | 4.43E-02 | 4.86E-03 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.11E+00 | 2.35E-01 | 2.49E-01 | 7.89E-02 | 2.66E-02 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 9.11E-01 | 2.86E-01 | 3.02E-01 | 7.37E-02 | 1.65E-02 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.10E+00 | 2.33E-01 | 2.43E-01 | 6.51E-02 | 9.98E-03 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 7.96E-01 | 2.82E-01 | 2.98E-01 | 6.36E-02 | 1.10E-02 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.09E+00 | 3.68E-01 | 3.86E-01 | 7.99E-02 | 1.22E-02 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.32E+00 | 3.76E-01 | 3.96E-01 | 6.18E-02 | 5.25E-03 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.39E+00 | 3.54E-01 | 3.78E-01 | 4.77E-02 | 4.07E-03 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.51E+00 | 3.58E-01 | 3.79E-01 | 5.36E-02 | 4.56E-03 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.42E+00 | 3.52E-01 | 3.76E-01 | 4.77E-02 | 4.05E-03 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.49E+00 | 2.64E-01 | 2.79E-01 | 5.80E-02 | 6.52E-04 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.03E+00 | 3.12E-01 | 3.30E-01 | 6.73E-02 | 1.17E-02 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.22E+00 | 3.19E-01 | 3.39E-01 | 6.32E-02 | 1.09E-02 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Thorium-232 | EML Th-01 Modified | 1.29E+00 | 3.19E-01 | 3.39E-01 | 6.32E-02 | 1.09E-02 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

| Lab ID | | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-----|--------------|-----------|------------------|--------------|---------------|----------|-------------|-------------------|----------|----------|----------|----------|----------|--------------|
| 15-10085-01 | LCS | KNOWN | | 10/14/2015 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 8.07E+00 | 2.90E-01 | | | | pCi/g |
| 15-10085-01 | LCS | SPIKE | | 10/14/2015 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 7.10E+00 | 1.01E+00 | 1.13E+00 | 6.96E-02 | 7.34E-03 | pCi/g |
| 15-10085-02 | MBL | BLANK | | 10/14/2015 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 3.78E-02 | 4.92E-02 | 4.93E-02 | 7.75E-02 | 1.85E-02 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 2.12E+00 | 3.25E-01 | 3.59E-01 | 3.92E-02 | 5.04E-03 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 2.29E+00 | 3.99E-01 | 4.31E-01 | 5.42E-02 | 6.99E-03 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | | 10/07/15 14:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.14E+00 | 2.08E-01 | 2.24E-01 | 3.71E-02 | 4.77E-03 | pCi/g |
| 15-10085-06 | TRG | CP5007S06-07 | | 10/07/15 14:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.24E+00 | 2.41E-01 | 2.57E-01 | 3.60E-02 | 2.89E-03 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | | 10/07/15 14:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.15E+00 | 2.35E-01 | 2.49E-01 | 5.38E-02 | 1.49E-03 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | | 10/07/15 15:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.12E+00 | 2.32E-01 | 2.45E-01 | 4.75E-02 | 6.11E-03 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | | 10/07/15 15:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.22E+00 | 2.57E-01 | 2.72E-01 | 5.66E-02 | 8.45E-03 | pCi/g |
| 15-10085-10 | TRG | CP5007S16-17 | | 10/07/15 15:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 9.35E-01 | 2.07E-01 | 2.18E-01 | 6.36E-02 | 1.52E-02 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | | 10/07/15 16:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.13E+00 | 2.52E-01 | 2.64E-01 | 4.44E-02 | 3.57E-03 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | | 10/07/15 16:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.97E+00 | 3.33E-01 | 3.62E-01 | 4.93E-02 | 7.40E-03 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | | 10/07/15 16:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.13E+00 | 2.34E-01 | 2.47E-01 | 4.75E-02 | 6.10E-03 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | | 10/07/15 16:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.03E+00 | 2.31E-01 | 2.43E-01 | 5.28E-02 | 6.79E-03 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | | 10/07/15 16:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.41E+00 | 2.71E-01 | 2.89E-01 | 4.87E-02 | 6.26E-03 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | | 10/07/15 16:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.01E+00 | 2.09E-01 | 2.21E-01 | 4.67E-02 | 7.00E-03 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | | 10/07/15 17:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.07E+00 | 2.25E-01 | 2.38E-01 | 4.99E-02 | 7.46E-03 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | | 10/07/15 17:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.14E+00 | 2.88E-01 | 3.00E-01 | 8.26E-02 | 2.29E-03 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | | 10/07/15 17:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.19E+00 | 2.58E-01 | 2.72E-01 | 6.20E-02 | 1.05E-02 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | | 10/07/15 17:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-234 | EML U-02 Modified | 1.53E+00 | 3.03E-01 | 3.22E-01 | 6.17E-02 | 1.70E-03 | pCi/g |

Work Order Details:

15-10085

SDG:

PAP-KAN

Project:

ENVIRONMENTAL

Analysis Category:

Sample Matrix:

SO

Report To:

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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EBERLINE ANALYTICAL CORPORATION

601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

| Eberline Analytical Final Report of Analysis | | Cecilia Greene Auxier & Associates, Inc. 9821 Cogdill Road, Suite 1 Knoxville, TN 37932 | | | | | | | | | | 15-10085 PAP-KAN ENVIRONMENTAL SO | | | |
|---|-------------|--|------------------|--------------|---------------|----------|-------------|-------------------|----------|----------|----------|--|----------|--------------|--|
| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units | |
| 15-10085-01 | LCS | SPIKE | 10/14/2015 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 5.26E-01 | 2.02E-01 | 2.08E-01 | 1.01E-01 | 1.08E-02 | pCi/g | |
| 15-10085-02 | MBL | BLANK | 10/14/15 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 3.59E-02 | 4.63E-02 | 4.63E-02 | 6.43E-02 | 4.43E-03 | pCi/g | |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 1.92E-01 | 8.50E-02 | 8.61E-02 | 3.89E-02 | 1.77E-03 | pCi/g | |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 8.70E-02 | 6.69E-02 | 6.72E-02 | 5.32E-02 | 2.45E-03 | pCi/g | |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 5.96E-02 | 4.57E-02 | 4.59E-02 | 3.64E-02 | 1.67E-03 | pCi/g | |
| 15-10085-06 | TRG | CP5007S06-07 | 10/07/15 14:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 6.20E-02 | 5.16E-02 | 5.18E-02 | 4.44E-02 | 2.04E-03 | pCi/g | |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 1.18E-01 | 7.32E-02 | 7.37E-02 | 5.29E-02 | 3.64E-03 | pCi/g | |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 1.08E-01 | 7.04E-02 | 7.09E-02 | 5.34E-02 | 3.68E-03 | pCi/g | |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 1.36E-01 | 8.55E-02 | 8.60E-02 | 7.42E-02 | 6.73E-04 | pCi/g | |
| 15-10085-10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 5.10E-02 | 5.92E-02 | 5.93E-02 | 9.05E-02 | 2.19E-02 | pCi/g | |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 8.97E-02 | 6.91E-02 | 6.93E-02 | 5.48E-02 | 2.52E-03 | pCi/g | |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 8.98E-02 | 6.46E-02 | 6.49E-02 | 6.09E-02 | 6.54E-03 | pCi/g | |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 9.27E-03 | 2.22E-02 | 2.22E-02 | 4.66E-02 | 2.14E-03 | pCi/g | |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 8.06E-02 | 6.54E-02 | 6.56E-02 | 6.51E-02 | 5.79E-03 | pCi/g | |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 1.15E-01 | 7.55E-02 | 7.59E-02 | 6.87E-02 | 6.23E-04 | pCi/g | |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 8.85E-02 | 6.10E-02 | 6.14E-02 | 4.89E-02 | 3.37E-03 | pCi/g | |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 1.02E-01 | 6.90E-02 | 6.94E-02 | 6.16E-02 | 6.59E-03 | pCi/g | |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 3.48E-01 | 1.59E-01 | 1.61E-01 | 8.91E-02 | 7.94E-03 | pCi/g | |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 4.02E-02 | 5.12E-02 | 5.13E-02 | 7.65E-02 | 9.48E-03 | pCi/g | |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-235 | EML U-02 Modified | 8.89E-02 | 7.11E-02 | 7.14E-02 | 7.61E-02 | 6.90E-04 | pCi/g | |

Work Order Details:

Report To:

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



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Eberline Analytical

Final Report of Analysis

Cecilia Greene
Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932

SDG:
Project:
Analysis Category:
Sample Matrix:

15-10085
PAP-KAN
ENVIRONMENTAL
SO

Work Order Details:

Report To:

| Lab ID | Sample Type | Client ID | Sample Date | Receipt Date | Analysis Date | Batch ID | Analyte | Method | Result | CU | CSU | MDA | CV | Report Units |
|-------------|-------------|--------------|------------------|--------------|---------------|----------|-------------|-------------------|----------|----------|----------|----------|----------|--------------|
| 15-10085-01 | LCS | KNOWN | 10/14/2015 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 7.86E+00 | 2.83E-01 | 1.23E+00 | 6.93E-02 | 6.02E-03 | pCi/g |
| 15-10085-01 | LCS | SPIKE | 10/14/2015 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 7.85E+00 | 1.09E+00 | 4.38E-02 | 7.15E-02 | 1.38E-02 | pCi/g |
| 15-10085-02 | MBL | BLANK | 10/14/2015 00:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 3.05E-02 | 4.38E-02 | 3.54E-01 | 3.56E-02 | 3.08E-03 | pCi/g |
| 15-10085-03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 2.09E+00 | 3.21E-01 | 4.03E-01 | 4.29E-02 | 2.53E-03 | pCi/g |
| 15-10085-04 | DO | CP5007S01-02 | 10/07/15 14:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 2.10E+00 | 3.74E-01 | 2.23E-01 | 3.97E-02 | 5.33E-03 | pCi/g |
| 15-10085-05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.14E+00 | 2.08E-01 | 2.59E-01 | 5.14E-02 | 6.46E-04 | pCi/g |
| 15-10085-06 | TRG | CP5007S05-07 | 10/07/15 14:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.25E+00 | 2.43E-01 | 2.40E-01 | 5.35E-02 | 6.72E-04 | pCi/g |
| 15-10085-07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.09E+00 | 2.27E-01 | 2.65E-01 | 5.41E-02 | 6.80E-04 | pCi/g |
| 15-10085-08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.25E+00 | 2.49E-01 | 2.85E-01 | 5.99E-02 | 7.52E-04 | pCi/g |
| 15-10085-09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.31E+00 | 2.69E-01 | 2.85E-01 | 5.99E-02 | 7.52E-04 | pCi/g |
| 15-10085-10 | TRG | CP5007S15-17 | 10/07/15 15:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.04E+00 | 2.21E-01 | 2.34E-01 | 6.94E-02 | 1.89E-02 | pCi/g |
| 15-10085-11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.30E+00 | 2.76E-01 | 2.91E-01 | 4.42E-02 | 2.60E-03 | pCi/g |
| 15-10085-12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 2.05E+00 | 3.44E-01 | 3.74E-01 | 7.93E-02 | 2.89E-02 | pCi/g |
| 15-10085-13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.10E+00 | 2.30E-01 | 2.43E-01 | 5.09E-02 | 6.81E-03 | pCi/g |
| 15-10085-14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.04E+00 | 2.32E-01 | 2.43E-01 | 5.26E-02 | 5.87E-03 | pCi/g |
| 15-10085-15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.22E+00 | 2.46E-01 | 2.61E-01 | 3.86E-02 | 2.27E-03 | pCi/g |
| 15-10085-16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 9.95E-01 | 2.08E-01 | 2.19E-01 | 5.66E-02 | 1.19E-02 | pCi/g |
| 15-10085-17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.15E+00 | 2.34E-01 | 2.48E-01 | 5.28E-02 | 8.16E-03 | pCi/g |
| 15-10085-18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.23E+00 | 3.01E-01 | 3.13E-01 | 6.55E-02 | 5.71E-03 | pCi/g |
| 15-10085-19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.38E+00 | 2.84E-01 | 3.01E-01 | 6.17E-02 | 9.57E-03 | pCi/g |
| 15-10085-20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 10/14/2015 | 10/28/2015 | 15-10085 | Uranium-238 | EML U-02 Modified | 1.62E+00 | 3.14E-01 | 3.34E-01 | 6.75E-02 | 1.30E-02 | pCi/g |

CU=Counting Uncertainty; CSU=Combined Standard Uncertainty (2-sigma); MDA=Minimal Detected Activity; LCS=Laboratory Control Sample; MBL=Blank; DUP=Duplicate; TRG=Normal Sample; DO=Duplicate Original; CV=Critical Value



EBERLINE
 SERVICES

EBERLINE ANALYTICAL CORPORATION

601 SCARBORO ROAD OAK RIDGE, TN 37830 865/481-0683 FAX 865/483-4621

SECTION V
ANALYTICAL STANDARD

U-8

QA/QC REVIEWED
Date 1/16/95 Initials [initials]

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

Radionuclide: U-238NAT
Half Life: (4.468 ± 0.005) x 10⁹ years
Catalog No.: 7338
Source No.: 479-50

Customer: TMA EBERLINE
P.O.No.: OR2778
Reference Date: January 1 1995 12:00 PST.
Contained Radioactivity: (Total U) 8.016 µCi
Contained Radioactivity: (Total U) 297 kBq

Description of Solution
a. Mass of solution: 65.2896 g in a 50 ml flame sealed ampoule
b. Chemical form: Uranyl Nitrate in H₂O
c. Carrier content: None
d. Density: Approximately 1.3202 g/ml @ 20°C.

Radioimpurities Refer to attached technical data sheet

Radioactive Daughters Refer to attached technical data sheet

Radionuclide Concentration (Total U) 0.1228 µCi/g.

Method of Calibration
Activity calculations are based upon known specific activity and mass.

Uncertainty of Measurement
a. Systematic uncertainty in instrument calibration: ±3.0%
b. Random uncertainty in assay: ±0.0%
c. Random uncertainty in weighing(s): ±2.0%
d. Total uncertainty at the 99% confidence level: ±3.6%

NIST Traceability
This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)
See reverse side for Leak Test(s) applied to this source.

Notes
1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).

[Signature]
ERIC ALLAS
QUALITY CONTROL

29 DECEMBER 1994
Date Signed



ISOTOPE PRODUCTS LABORATORIES
3017 N. SAN FERNANDO BLVD.
BURBANK, CALIFORNIA 91504
818-843-7000 FAX 818-843-6168



QUALITY CONTROL PROGRAM
MP-009

Rev.8; 11/01/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE SOLUTIONS
PRIMARY DILUTION RECERTIFICATION
MP 009

SOLUTION REFERENCE # IPL 479-50 CURRENT DATE 10/1/2015 0:00
SOLUTION # U-8

Principal Radionuclide ^{234, 235, 238}U Half Life, Years 4.468E+09 Half Life, Days 1.632E+12

Radionuclide ^{234, 235, 238}U Reference Date 1/1/1995 0:00
Certified Activity 8.016E+00 μCi
Certified Concentration 8.0160 $\mu\text{Ci per gram}$

Ampoule /Solution Gross 97.6400 Weight, Grams
Empty Ampoule 32.5020 Weight, Grams
Solution Net 65.1380 Weight, Grams
Total Activity in Ampoule 8.0160 μCi

Chemical Composition of Standard Solution
Uranyl nitrate in dilute HNO₃

Dilution Instructions: Dilution Solvent Used 1M HNO₃

Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 8.0160 μCi Which Equals 1.780E+07 dpm at the date listed above

And after dilution the activity of this solution is 1.77955E+04 dpm/ml
This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: July 27, 2016

Verified & Approved By [Signature]

Date: 10/1/2015 0:00

QC Approval [Signature]

Date: 10/1/15



QUALITY CONTROL PROGRAM
MP-009

Rev.8; 11/01/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

Solution Reference # MP-009 Date 10/1/2015 0:00
IPL 479-50 Solution # U-8a

Principal Radionuclide 234, 235, 238 U Half Life, Years 4.468E+09 Half Life, Days 1.632E+12

Radionuclide of Interest 234, 235, 238 U Reference Date 1/1/1995 0:00
Parent Solution Conc. 1.7796E+04 dpm/ml

Chemical Composition of Standard Solution

Uranly Nitrate in 1M HNO₃

Dilution Instructions: Dilution Solvent Used 1M HNO₃

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 4.0000 ml
Total Activity: 7.1182E+04 dpm Final Activity Concentration: 7.1182E+01 dpm/ml
Final Volume: 1000.00 ml

NOTES:

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Isotopic Distribution as:
U-238 Atom % = 48.239 U-238 = 71.182 dpm/ml X 0.48249 = 34.345 dpm/ml
U-235 Atom % = 2.25 U-235 = 71.182 dpm/ml X 0.0225 = 1.602 dpm/ml
U-234 Atom % = 49.501 U-234 = 71.182 dpm/ml X 0.49501 = 35.236 dpm/ml
All values +/- 3.6%

Isotopic ratios from manufacturer's data sheet

Expiration Date: July 27, 2016

Verified & Approved By [Signature]

Date: 10/1/2015 0:00

QC Approval [Signature]

Date: 10/1/15

RECORD COPY

Tracer Solution for Environmental Analysis & Disequilibrium Studies

Product Description & Measurement Certificate

Description Principal radionuclide: **uranium 232 (U-232)** Product code: **UDP10050**
Daughter Nuclide: **Th-228** Batch Number: **92/232/67**

Measurement Reference date: **01 March 2000**
Radioactive concentration U-232 **6.739E+03 becquerels per gram of solution**
which is equivalent to **1.821E-01 microcuries per gram of solution**
Mass of solution **5.356 grams**
Volume of solution **5.035 millilitres**
Total activity of U-232 **3.61E+04 becquerels**
which is equivalent to **9.76E-01 microcuries**

Accuracy Method of measurement (see reverse of this certificate)
Random uncertainty is: $\pm 0.7\%$ Systematic uncertainty: $\pm 0.5\%$
Overall uncertainty in the radioactive concentration quoted above: $\pm 1.7\%$
Overall uncertainty is defined on the reverse of this certificate.

Radionuclidic Purity Any radioactive impurities measured are listed below, expressed as percentages of the activity of the principle radionuclide at the reference date .

Th-228 and daughter activity removed 2 Feb 2000
U-232 daughters activity will increase with time. By alpha 88% U-232, 12% daughters on 1/3/00

Isotopic Purity The isotopic composition, expressed as atom per cent at the reference date .

Not measured

Chemical Composition Calculated weight of U-232, 4.42E-08 grams, as 2M HNO3 solution in a flame sealed glass vial.
This Tracer solution has been produced 'carrier free'.

Physical Data Recommended half life of uranium 232: 6.980E+01 years
Principle energies of alpha emissions (MeV): 5.263 31.7%, 5.320 68.0%
Branching ratio for alpha emission: 100%
Calculated specific activity of uranium 232: 8.167E+05 Bq per microgram U-232.

Remarks For safety information and notes to ensure correct usage by all persons handling this radioactive Tracer solution please read the instructions accompanying the package.

AEA Technology operates a quality management system which has been independently audited and approved to ISO 9001.

Approved
Signatory



Roger Wiltshire

Project Ref. AE2315

Prepared and characterised in the UK, for world wide distribution by **Isotrak, AEA Technology, QSA.**



QUALITY CONTROL PROGRAM
MP-009

Rev.8; 11/01/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE SOLUTIONS
PRIMARY DILUTION RECERTIFICATION
MP 009

CURRENT DATE 10/27/2015 0:00

SOLUTION REFERENCE # AEA/Amersham 92/232/67

SOLUTION # U-10

Principal Radionuclide

Half Life, Years

Half Life, Days

²³²U

7.200E+01

2.630E+04

Radionuclide ²³²U

Reference Date 3/1/2000 0:00

Certified Activity 9.760E-01 μCi

Certified Concentration μCi per gram

| | | |
|---------------------------|--------|---------------|
| Ampoule /Solution Gross | | Weight, Grams |
| Empty Ampoule | | Weight, Grams |
| Solution Net | | Weight, Grams |
| Total Activity in Ampoule | 0.9760 | μCi |

Chemical Composition of Standard Solution

²³²U(NO₃)₆ in 2M HNO₃

Dilution Instructions:

Dilution Solvent Used

2M HNO₃

Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 0.9760 μCi

Which Equals 2.167E+06 dpm at the date listed above

And after dilution the activity of this solution is 2.167E+03 dpm/ml

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: October 26, 2016

Verified & Approved By 

Date: 10/27/2015 0:00

QC Approval 

Date: 10/28/15



QUALITY CONTROL PROGRAM
MP-009

Rev.8; 11/01/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

MP-009 Date: 10/27/2015 0:00
Solution Reference # AEA/Amersham 92/232/87 Solution #: U-10a

Principal Radionuclide: ²³²U Half Life, Years: 7.200E+01 Half Life, Days: 2.630E+04

Radionuclide of Interest: ²³²U Reference Date: 3/1/2000 0:00
Parent Solution Conc: 2.167E+03 dpm/ml

Chemical Composition of Standard Solution
²³²U(NO₃)₆ in 2M HNO₃

Dilution Instructions: Dilution Solvent Used: 2M HNO₃

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 10.0000 ml
Total Activity: 2.1670E+04 dpm Final Activity Concentration: 2.1670E+01 dpm/ml
Final Volume: 1000.00 ml

NOTES:

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: October 26, 2016

Verified & Approved By

Date: 10/27/2015 0:00

QC Approval

Date: 10/28/15

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

| | | | |
|---------------|--|--------------------------|----------------------------|
| Radionuclide: | Th-232 | Customer: | TMA EBERLINE |
| Half Life: | $(1.405 \pm 0.006) \times 10^{10}$ years | P.O.No.: | VH1632 |
| Catalog No.: | 7232 | Reference Date: | November 1 1993 12:00 PST. |
| Source No.: | 435-104-2 | Contained Radioactivity: | (Th-232) 0.0933 μ Ci. |
| | | Contained Radioactivity: | (Th-232) 3.45 kBq. |

Description of Solution

- | | | |
|----------------------|---|--------------|
| a. Mass of solution: | 11.9712 g (in a 10 ml flame sealed ampoule) | |
| b. Chemical form: | Th(NO ₃) ₄ in water | |
| c. Carrier content: | None added | |
| d. Density: | Approx. 1.21 | g/ml @ 20°C. |

Radioimpurities: None detected (other than daughters).

Radioactive Daughters

Ra-228, Ac-228, Th-228, Ra-224, Rn-220, Po-216, Pb-212, Bi-212, Po-212, Tl-208

Radionuclide Concentration

(Th-232) 0.00779 μ Ci/g.

Method of Calibration

Activity calculations are based upon known specific activity and mass.

Uncertainty of Measurement

- | | |
|--|-------|
| a. Systematic uncertainty in instrument calibration: | ±3.0% |
| b. Random uncertainty in assay: | ±0.0% |
| c. Random uncertainty in weighing(s): | ±2.0% |
| d. Total uncertainty at the 99% confidence level: | ±3.6% |

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
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(818) 843 - 7000

Anna U. Khan
QUALITY CONTROL

Nov. 8, 1993
Date Signed



QUALITY CONTROL PROGRAM
MP-009

Rev.8; 1/10/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE SOLUTIONS
PRIMARY DILUTION RECERTIFICATION
MP 009

SOLUTION REFERENCE # IPL 435-104-2 **CURRENT DATE** 9/29/2015 0:00
SOLUTION # Th-8

Principal Radionuclide ²³²Th, ²²⁸Th **Half Life, Years** 1.405E+10 **Half Life, Days** 5.132E+12

Radionuclide ^{232 & 228}Th **Reference Date** 11/1/1993 0:00
Certified Activity 9.330E-02 μ Ci
Certified Concentration μ Ci per gram

Ampoule /Solution Gross 18.8415 **Weight, Grams**
Empty Ampoule 6.9296 **Weight, Grams**
Solution Net 11.9119 **Weight, Grams**
Total Activity in Ampoule 0.0933 μ Ci

Chemical Composition of Standard Solution
Th(NO₃)₄ in H₂O

Dilution Instructions: **Dilution Solvent Used** 1% Nitric Acid

Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 0.0933 μ Ci **Which Equals** 2.071E+05 dpm at the date listed above

And after dilution the activity of this solution is 2.071E+02 dpm/ml This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: August 25, 2016

Verified & Approved By  **Date:** 9/29/2015 0:00
QC Approval  **Date:** 9/30/15



QUALITY CONTROL PROGRAM
MP-009

Rev.8; 1/10/03
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

Solution Reference # MP-009 IPL-435-104-2 Date 9/29/2015 0:00
Solution # Th-8b

Principal Radionuclide ²²⁸Th Half Life, Years 1.405E+10 Half Life, Days 5.132E+12

Radionuclide of Interest ²²⁸Th Reference Date 11/1/1993 0:00
Parent Solution Conc. 2.07E+02 dpm/ml

Chemical Composition of Standard Solution
Th(NO₃)₄ in 1% HNO₃

Dilution Instructions: Dilution Solvent Used 1% Nitric Acid

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 500.0000 ml
Total Activity: 1.0355E+05 dpm Final Activity Concentration: 1.0355E+02 dpm/ml
Final Volume: 1000.00 ml

NOTES:

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: August 25, 2016

Verified & Approved By [Signature]

Date: 9/29/2015 0:00

QC Approval [Signature]

Date: 9/30/15

QA/QC REVIEWED

Date 10/14/91 Initials wt

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

Received
OCT 14 1991
TMA/Eberline
Oak Ridge Lab

Radionuclide: Th-230
Half Life: $(7.54 \pm 0.03) \times 10^4$ years
Catalog No.: 7230
Source No.: 388-116

Customer: TMA EBERLINE
P.O.No.: TT4944
Reference Date: November 1 1991 12:00 PST.
Contained Radioactivity: 1.036 μ Ci.

Description of Solution

- a. Mass of solution: 5.0042 grams.
- b. Chemical form: Th(NO₃)₄ in 0.1N HNO₃
- c. Carrier content: None added
- d. Density: 1.0016 gram/ml @ 20°C.

Radioimpurities

See attached technical data sheet

Radioactive Daughters

See attached technical data sheet

Radionuclide Concentration

0.207 μ Ci/gram.

Method of Calibration

Weighed aliquots of the solution were assayed using a liquid scintillation counter.

Uncertainty of Measurement

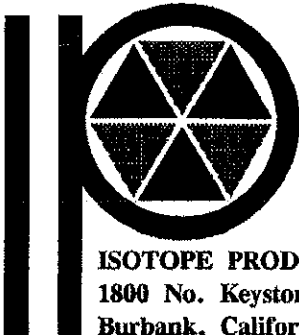
- a. Systematic uncertainty in instrument calibration: $\pm 2.0\%$
- b. Random uncertainty in assay: $\pm 0.5\%$
- c. Random uncertainty in weighing(s): $\pm 0.2\%$
- d. Total uncertainty at the 99% confidence level: $\pm 2.7\%$

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Notes

1. Nuclear data were taken from "Table of Isotopes", Seventh Edition, edited by Virginia S. Shirley.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials. (As in NRC Regulatory Guide 4.15)



ISOTOPE PRODUCTS LABORATORIES
1800 No. Keystone Street.,
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[Signature]
QUALITY CONTROL



QUALITY CONTROL PROGRAM

MP-009

Rev.14; 10/10/2012

Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY RADIOACTIVE REFERENCE SOLUTIONS PRIMARY DILUTION RECERTIFICATION MP 009

SOLUTION REFERENCE # IPL 388-116 CURRENT DATE 4/15/2015 0:00
SOLUTION # Th-1

Principal Radionuclide ²³⁰Th Half Life, Years 7.540E+04 Half Life, Days 2.754E+07

Radionuclide ²³⁰Thorium Reference Date 11/1/1991 0:00
Certified Activity 1.036E+00 μCi
Certified Concentration $\mu\text{Ci per gram}$

Ampoule /Solution Gross 9.2660 Weight, Grams
Empty Ampoule 4.6218 Weight, Grams
Solution Net 4.6442 Weight, Grams
Total Activity in Ampoule 1.0360 μCi

Chemical Composition of Standard Solution
²³⁰Th(NO₃)₄ in 0.1N HNO₃

Dilution Instructions: Dilution Solvent Used 0.1N HNO₃
Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 1.0360 μCi Which Equals 2.300E+06 dpm at the date listed above

And after dilution the activity of this solution is 2.300E+03 dpm/ml
This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: February 12, 2016

Recertified By [Signature] Date: 4/15/2015 0:00
QC Approval [Signature] Date: 4/15/15



QUALITY CONTROL PROGRAM
MP-009

Rev.14; 10/10/2012
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

Solution Reference # MP-009 IPL 388-116 Date 4/15/2015 0:00
Solution # Th-1b

Principal Radionuclide ²³⁰Th Half Life, Years 7.540E+04 Half Life, Days 2.754E+07

Radionuclide of Interest ²³⁰Thorium Reference Date 11/1/1991 0:00
Parent Solution Conc. 2.30E+03 dpm/ml

Chemical Composition of Standard Solution
²³⁰Th(NO₃)₄ in 0.1N HNO₃

Dilution Instructions: Dilution Solvent Used 0.1N HNO₃

SECONDARY VOLUMETRIC DILUTION

Vol. Parent Solution: 10.0000 ml
Total Activity: 2.2999E+04 dpm Final Activity Concentration: 2.2999E+01 dpm/ml
Final Volume: 1000.00 ml

NOTES: This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: February 12, 2016

Recertified By [Signature]

Date: 4/15/2015 0:00

QC Approval [Signature]

Date: 4/15/15



**Isotope Products
Laboratories**

An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661-309-1010

Fax 661-257-8303

Th-18

CERTIFICATE OF CALIBRATION ALPHA STANDARD SOLUTION

| | |
|------------------------------------|--|
| Radionuclide: Th-229 | Customer: EBERLINE SERVICES |
| Half-life: 7340 ± 160 years | P.O. No.: 00009633 |
| Catalog No.: 7229 | Reference Date: 15-Jan-02 12:00 PST |
| Source No.: 867-54 | Contained Radioactivity: 1.013 μCi 37.48 kBq (Th-229 only) |

Physical Description:

| | |
|----------------------|--|
| A. Mass of solution: | 5.0147 g in 5 mL flame-sealed ampoule |
| B. Chemical form: | Th(NO ₃) ₄ in 0.1M HNO ₃ |
| C. Carrier content: | 10μg Th/mL |
| D. Density: | 1.0016 g/mL @ 20°C. |

Radioimpurities:

None detected (daughters in equilibrium)

Radionuclide Concentration: 0.2020 μCi/g, 7.474 kBq/g

Method of Calibration:

This source was prepared from a weighed aliquot of solution whose activity in μCi/g was determined using gamma ray spectrometry.

| | |
|-----------------------------------|-------------------------|
| Peak energy used for integration: | 193.5 keV |
| Branching ratio used: | 0.0441 gammas per decay |

Uncertainty of Measurement:

| | |
|---|---------|
| A. Type A (random) uncertainty: | ± 0.7 % |
| B. Type B (systematic) uncertainty: | ± 3.0 % |
| C. Uncertainty in aliquot weighing: | ± 0.0 % |
| D. Total uncertainty at the 99% confidence level: | ± 3.1 % |

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA Technical Report Series No. 261.
- This solution has a working life of 5 years.

Alan U Khan
Quality Control

9-Jan-02
Date Signed

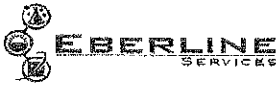
IPL Ref. No.: 867-54

ISO 9001 CERTIFIED

Medical Imaging Laboratory
24937 Avenue Tibbitts Valencia, California 91355

Industrial Gauging Laboratory
1800 North Keystone Street Burbank, California 91504

: 00042



QUALITY CONTROL PROGRAM

MP-009

Rev.8; 1/10/03

Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY RADIOACTIVE REFERENCE SOLUTIONS PRIMARY DILUTION RECERTIFICATION MP 009

SOLUTION REFERENCE # IPL 867-54 CURRENT DATE 9/29/2015 0:00
SOLUTION # Th-18

Principal Radionuclide ²²⁹Th Half Life, Years 7.340E+03 Half Life, Days 2.681E+06

Radionuclide ²²⁹Th Reference Date 1/15/2002 0:00
Certified Activity 1.013E+00 μCi
Certified Concentration $\mu\text{Ci per gram}$

Ampoule /Solution Gross 8.7752 Weight, Grams
Empty Ampoule 3.7591 Weight, Grams
Solution Net 5.0161 Weight, Grams
Total Activity in Ampoule 1.0130 μCi

Chemical Composition of Standard Solution
²²⁹Th(NO₃)₄ in 0.1M HNO₃

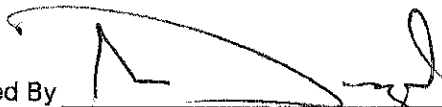
Dilution Instructions: Dilution Solvent Used 0.1 M HNO₃
Dilute to a volume of 1000.00 milliliters

Certified Total Activity of 1.0130 μCi Which Equals 2.249E+06 dpm at the date listed above

And after dilution the activity of this solution is 2.249E+03 dpm/ml

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

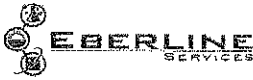
Expiration Date: August 24, 2016

Verified & Approved By 

Date: 9/29/2015 0:00

QC Approval 

Date: 9/30/15



QUALITY CONTROL PROGRAM
MP-009

Rev.7; 9/29/99
Title: Radioactive Reference Standards Solutions & Records

EBERLINE SERVICES - OAK RIDGE LABORATORY
RADIOACTIVE REFERENCE STANDARD SOLUTIONS
SECONDARY DILUTION RECERTIFICATION

| | | | | |
|--|-----------------------|-----------------|------------|----------------|
| Solution Reference # | | MP-009 | Date | 9/29/2015 0:00 |
| IPL 867-54 | | | Solution # | Th-18a |
| Principal Radionuclide | Half Life, Years | Half Life, Days | | |
| ²²⁹ Th | 7.340E+03 | 2.681E+06 | | |
| Radionuclide of Interest | Parent Solution Conc. | Reference Date | | |
| ²²⁹ Th | 2.25E+03 dpm/ml | 1/15/2002 0:00 | | |
| Chemical Composition of Standard Solution | | | | |
| TH(NO ₃) ₄ in 0.1M HNO ₃ | | | | |

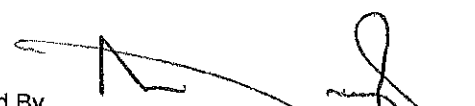
Dilution Instructions: Dilution Solvent Used 0.1M HNO₃

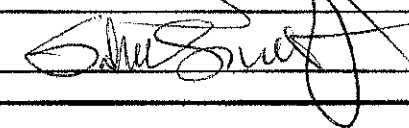
SECONDARY VOLUMETRIC DILUTION

| | | | |
|-----------------------|----------------|-------------------------------|-------------------|
| Vol. Parent Solution: | 10.0000 ml | Final Activity Concentration: | 2.2490E+01 dpm/ml |
| Total Activity: | 2.2490E+04 dpm | | |
| Final Volume: | 1000.00 ml | | |

NOTES: This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Expiration Date: August 24, 2016

Verified & Approved By  Date: 9/29/2015 0:00

QC Approval  Date: 9/30/15



Eckert & Ziegler

Analytics

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Atlanta, Georgia 30318
Tel 404-352-8677
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www.analyticsinc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

GAS-1402

98503

Sand in 16 Ounce PP Taral Jar Filled to Capacity

Customer: Eberline Analytical Corporation
P.O. No.: OR-1405030, Item 6 Product Code: 8401-EG-SAN
Reference Date: 01-Oct-2014 12:00 PM EST Grams of Master Source: 0.017608

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solutions. Additional radionuclides were added gravimetrically from solutions calibrated by gamma-ray spectrometry, ionization chamber, or liquid scintillation counting. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

| Nuclide | Gamma-Ray Energy (keV) | Half-Life, Days | Master Source* γ ps/gram | This Source γ ps | Uncertainty* , % | | | Calibration Method* |
|---------|------------------------|-----------------|---------------------------------|-------------------------|------------------|-------|-----|---------------------|
| | | | | | u_A | u_B | U | |
| Am-241 | 59.5 | 1.580E+05 | — | 2.030E+03 | 0.1 | 1.8 | 3.6 | 4 π LS |
| Cd-109 | 88.0 | 4.614E+02 | 1.663E+05 | 2.929E+03 | 0.5 | 2.0 | 4.1 | HPGe |
| Co-57 | 122.1 | 2.717E+02 | 8.913E+04 | 1.569E+03 | 0.4 | 1.7 | 3.5 | HPGe |
| Ce-139 | 165.9 | 1.376E+02 | 1.241E+05 | 2.185E+03 | 0.4 | 1.7 | 3.5 | HPGe |
| Hg-203 | 279.2 | 4.659E+01 | 2.675E+05 | 4.710E+03 | 0.3 | 1.7 | 3.5 | HPGe |
| Sn-113 | 391.7 | 1.151E+02 | 1.796E+05 | 3.163E+03 | 0.4 | 1.9 | 3.9 | HPGe |
| Cs-137 | 661.7 | 1.099E+04 | 1.111E+05 | 1.956E+03 | 0.7 | 1.9 | 4.0 | HPGe |
| Y-88 | 898.0 | 1.066E+02 | 4.223E+05 | 7.435E+03 | 0.7 | 1.7 | 3.7 | HPGe |
| Co-60 | 1173.2 | 1.925E+03 | 2.091E+05 | 3.683E+03 | 0.7 | 1.8 | 3.9 | HPGe |
| Co-60 | 1332.5 | 1.925E+03 | 2.094E+05 | 3.687E+03 | 0.7 | 1.8 | 3.9 | HPGe |
| Y-88 | 1836.1 | 1.066E+02 | 4.471E+05 | 7.872E+03 | 0.7 | 1.7 | 3.7 | HPGe |

* Master Source refers to Analytics' 8-isotope mixture which is calibrated quarterly.

Calibration Methods: 4 π LS - 4 pi Liquid Scintillation Counting, HPGe - High Purity Germanium Gamma-Ray Spectrometer, IC - Ionization Chamber. Uncertainty: U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

(Certificate continued on reverse side)

ANA FORMS REV. 11/03



SECTION VI
QUALITY CONTROL SAMPLE RESULTS SUMMARY

| | | | | | |
|-----------------|---------------|----------|----------------|---------------|--------------------------------------|
| W/O | Analysis | Run | Activity Units | Aliquot Units | Client Name |
| 15-10085 | UUIISO | 1 | pCi | g | Auxier & Associates, Inc. |

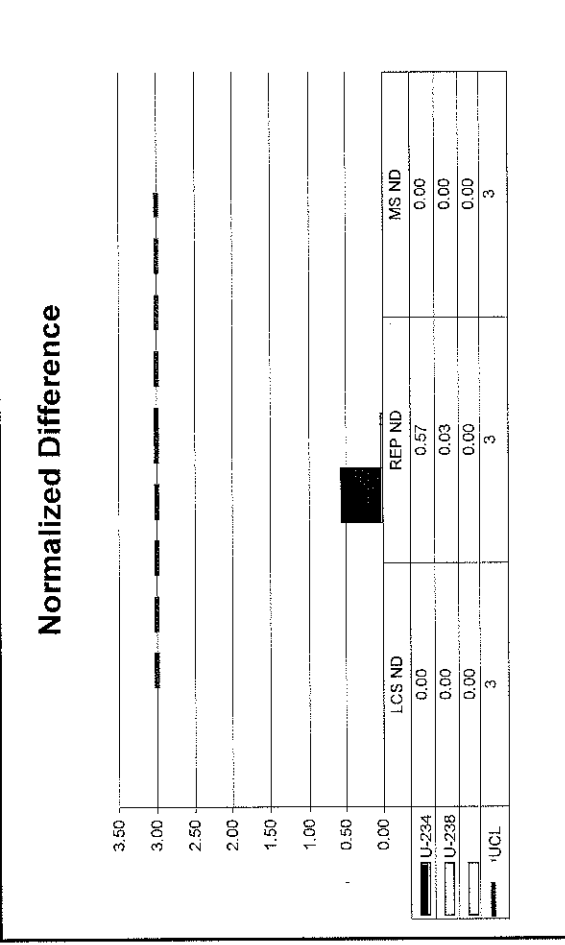
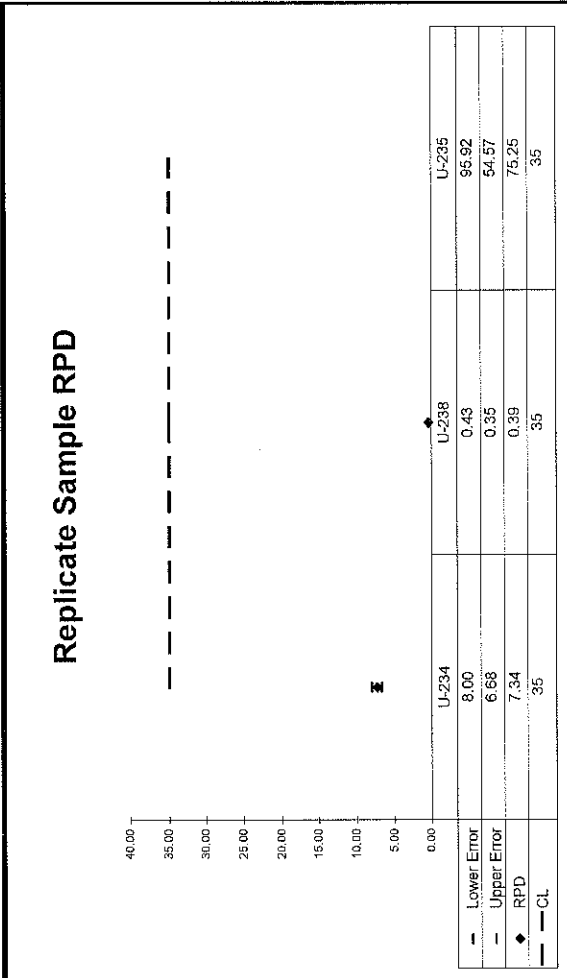
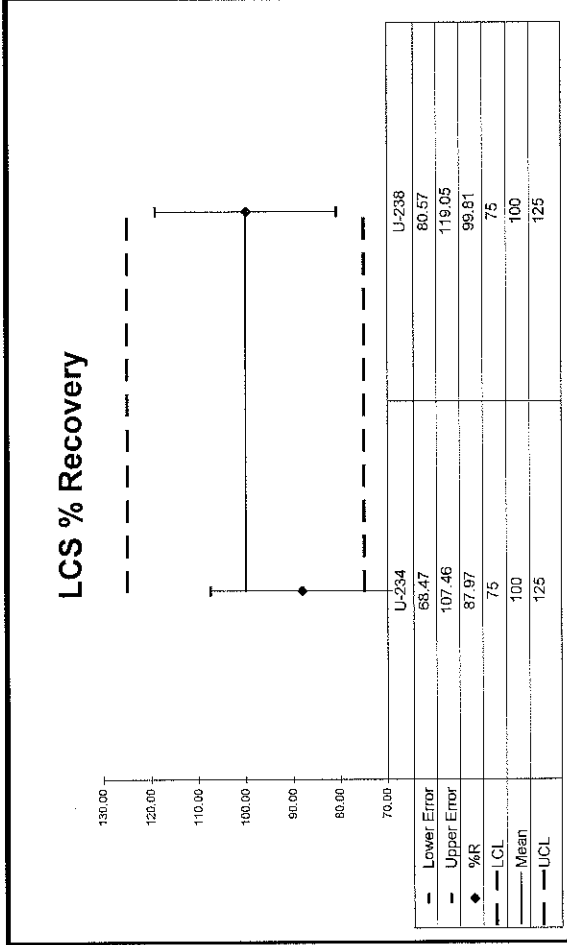
| Laboratory Control Sample | | | | | | | | | | | | |
|---------------------------|--------------|--------------|--------------|------------------|----------|-------------|----------|----------|-------------|--------------------|----------------|--------------------|
| Analyte | LCS Measured | CSU Measured | LCS Expected | Uncert. Expected | Known | Known Error | Result | CSU | Standard ID | Standard ACT (dpm) | Standard Error | Standard Added (g) |
| U-234 | 87.97% | 15.89% | 100.00% | 3.60% | 8.07E+00 | 2.90E-01 | 7.10E+00 | 1.13E+00 | U-8a | 3.52E+01 | 3.60E+00 | 5.08E-01 |
| U-238 | 99.81% | 15.64% | 100.00% | 3.60% | 7.86E+00 | 2.83E-01 | 7.85E+00 | 1.23E+00 | U-8a | 3.44E+01 | 3.60E+00 | 5.08E-01 |

| Matrix Spike | | | | | | | | | | | | | |
|--------------|-----------------------|-----------------|--------------------|--------------------|------------------|---------------|---------------|------------|----------------|-------------|--------------------|------------------|--------------------|
| Analyte | Normalized Difference | MS Actual % Rec | Expected MS Result | Expected MS Uncert | Actual MS Result | Actual MS CSU | Sample Result | Sample CSU | Sample Aliquot | Standard ID | Standard ACT (dpm) | Standard Error % | Standard Added (g) |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| Replicate Sample | | | | | | | | | | | | |
|------------------|-----------------------|-------|-----------------|--------------|------------------|---------------|-------------------|---------|--------|-------|---------|--------|
| Analyte | Normalized Difference | RPD | Original Result | Original CSU | Replicate Result | Replicate CSU | LCS Relative Bias | LCS % R | MS % R | MS ND | Rep RPD | Rep ND |
| U-234 | 0.57 | 7.34 | 2.29E+00 | 4.31E-01 | 2.12E+00 | 3.59E-01 | 0.88 | OK | | | OK | OK |
| U-238 | 0.03 | 0.39 | 2.10E+00 | 4.03E-01 | 2.09E+00 | 3.54E-01 | 1.00 | OK | | | OK | OK |
| U-235 | 1.88 | 75.25 | 8.70E-02 | 6.72E-02 | 1.92E-01 | 8.61E-02 | | OK | | | NA | OK |

00047

| | | | | | |
|-----------------|---------------|----------|----------------|---------------|--------------------------------------|
| WO | Analysis | Run | Activity Units | Aliquot Units | Client Name |
| 15-10085 | UUIISO | 1 | pCi | 9 | Auxier & Associates, Inc. |



No Matrix Spike

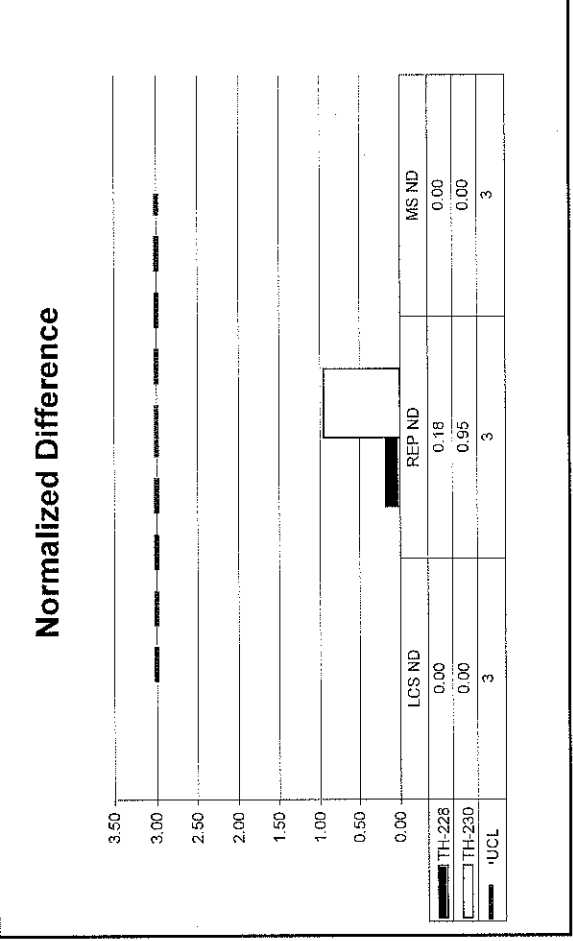
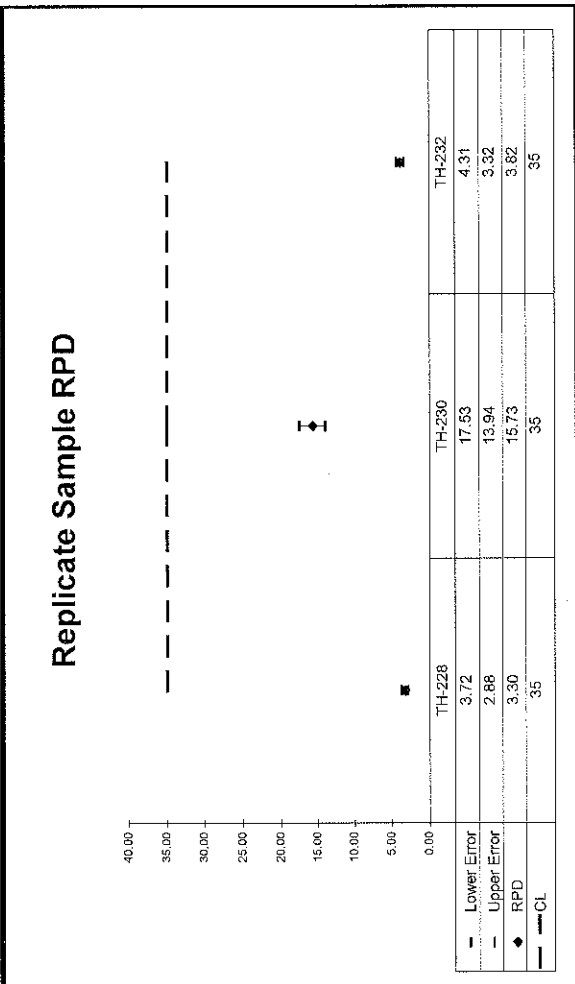
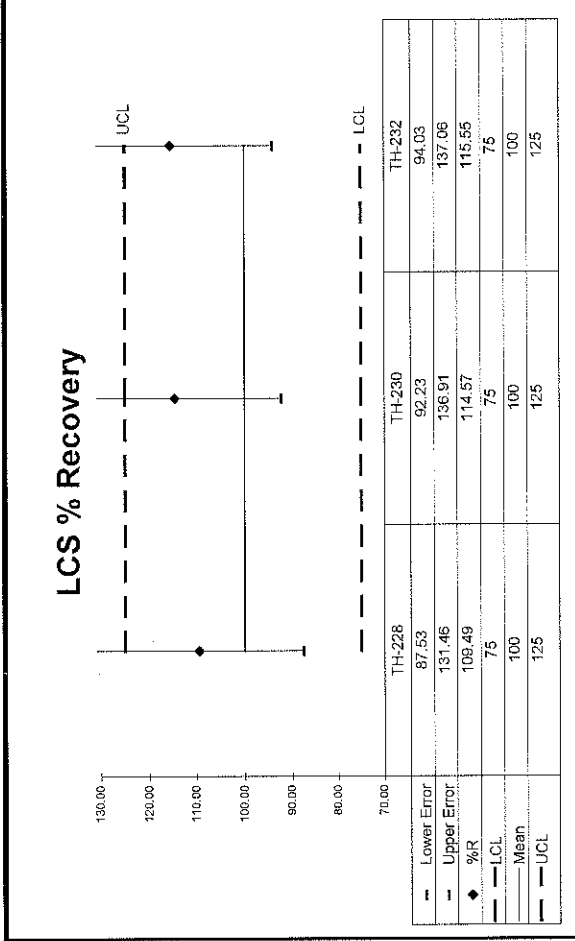
| | | | | | |
|-----------------|--------------|----------|----------------|---------------|--------------------------------------|
| WO | Analysis | Run | Activity Units | Aliquot Units | Client Name |
| 15-10085 | THISO | 1 | pCi | g | Auxier & Associates, Inc. |

| Laboratory Control Sample | | | | | | | | | | | | |
|---------------------------|--------------|--------------|--------------|------------------|----------|-------------|----------|----------|-------------|--------------------|----------------|--------------------|
| Analyte | LCS Measured | CSU Measured | LCS Expected | Uncert. Expected | Known | Known Error | Result | CSU | Standard ID | Standard ACT (dpm) | Standard Error | Standard Added (g) |
| TH-228 | 109.49% | 18.37% | 100.00% | 3.60% | 4.72E+00 | 1.70E-01 | 5.17E+00 | 9.49E-01 | Th-8b | 1.04E+02 | 3.60E+00 | 1.01E-01 |
| TH-230 | 114.57% | 19.64% | 100.00% | 2.70% | 5.37E+00 | 1.45E-01 | 6.15E+00 | 1.21E+00 | Th-1b | 2.35E+01 | 2.70E+00 | 5.07E-01 |
| TH-232 | 115.55% | 17.92% | 100.00% | 3.60% | 4.72E+00 | 1.70E-01 | 5.45E+00 | 9.77E-01 | Th-8b | 1.04E+02 | 3.60E+00 | 1.01E-01 |

| Matrix Spike | | | | | | | | | | | | | |
|--------------|-----------------------|-----------------|--------------------|--------------------|------------------|---------------|---------------|------------|----------------|-------------|--------------------|------------------|--------------------|
| Analyte | Normalized Difference | MS Actual % Rec | Expected MS Result | Expected MS Uncert | Actual MS Result | Actual MS CSU | Sample Result | Sample CSU | Sample Aliquot | Standard ID | Standard ACT (dpm) | Standard Error % | Standard Added (g) |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| Replicate Sample | | | | | | | | | | QC Summary | | | |
|------------------|-----------------------|-------|-----------------|--------------|------------------|---------------|-------------------|---------|--------|------------|---------|--------|--|
| Analyte | Normalized Difference | RPD | Original Result | Original CSU | Replicate Result | Replicate CSU | LCS Relative Bias | LCS % R | MS % R | MS ND | Rep RPD | Rep ND | |
| TH-228 | 0.18 | 3.30 | 1.16E+00 | 2.86E-01 | 1.12E+00 | 2.98E-01 | 1.09 | OK | | | OK | OK | |
| TH-230 | 0.95 | 15.73 | 3.04E+00 | 6.82E-01 | 3.56E+00 | 8.26E-01 | 1.15 | OK | | | OK | OK | |
| TH-232 | 0.20 | 3.82 | 1.03E+00 | 2.57E-01 | 1.06E+00 | 2.82E-01 | 1.16 | OK | | | OK | OK | |

| | | | | | |
|-----------------|--------------|----------|----------------|---------------|--------------------------------------|
| WO | Analysis | Run | Activity Units | Aliquot Units | Client Name |
| 15-10085 | ThISO | 1 | pCi | g | Auxier & Associates, Inc. |



No Matrix Spike

| | | | | | |
|-----------------|--------------|----------|----------------|---------------|--------------------------------------|
| WO | Analysis | Run | Activity Units | Aliquot Units | Client Name |
| 15-10085 | Gamma | 1 | pCi | g | Auxier & Associates, Inc. |

Laboratory Control Sample

| Analyte | LCS Measured | CSU Measured | LCS Expected | Uncert. Expected | Known | Known Error | Result | CSU | Standard ID | Standard ACT (dpm) | Standard Error | Standard Added (g) |
|---------|--------------|--------------|--------------|------------------|----------|-------------|----------|----------|-------------|--------------------|----------------|--------------------|
| CO-60 | 99.56% | 7.73% | 100.00% | 4.00% | 1.37E+02 | 5.48E+00 | 1.36E+02 | 1.05E+01 | GAS-1302 | 1.37E+02 | 5.48E+00 | 7.36E+02 |
| CS-137 | 102.40% | 10.24% | 100.00% | 4.00% | 8.69E+01 | 3.48E+00 | 8.90E+01 | 9.11E+00 | GAS-1302 | 8.69E+01 | 3.48E+00 | 7.36E+02 |

Matrix Spike

| Analyte | Normalized Difference | MS Actual % Rec | Expected MS Result | Expected MS Uncert | Actual MS Result | Actual MS CSU | Sample Result | Sample CSU | Sample Aliquot | Standard ID | Standard ACT (dpm) | Standard Error % | Standard Added (g) |
|---------|-----------------------|-----------------|--------------------|--------------------|------------------|---------------|---------------|------------|----------------|-------------|--------------------|------------------|--------------------|
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

Replicate Sample

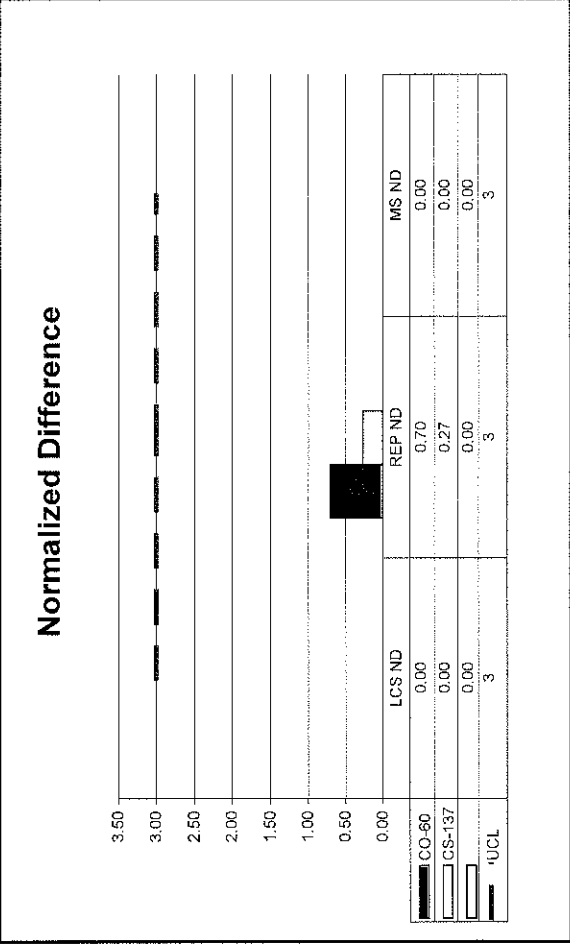
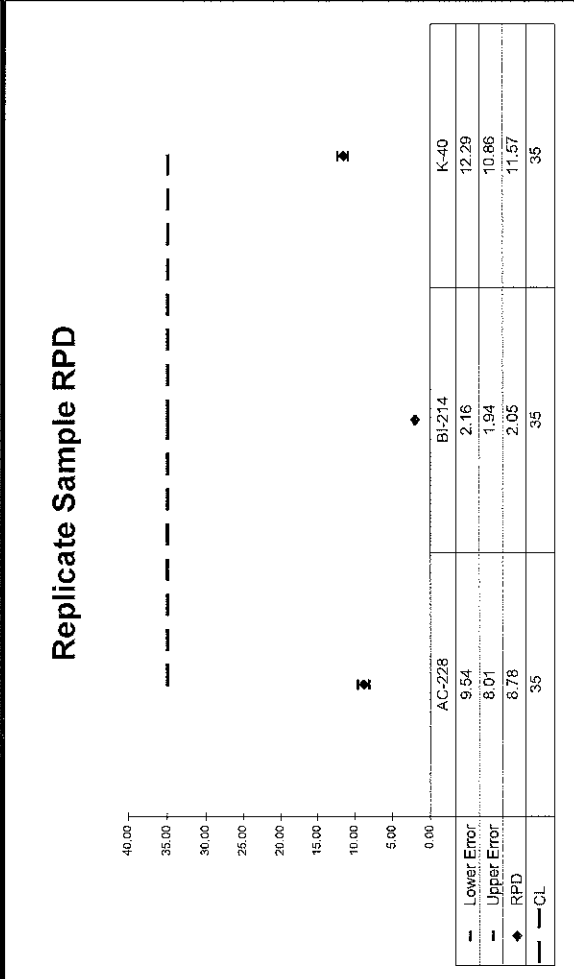
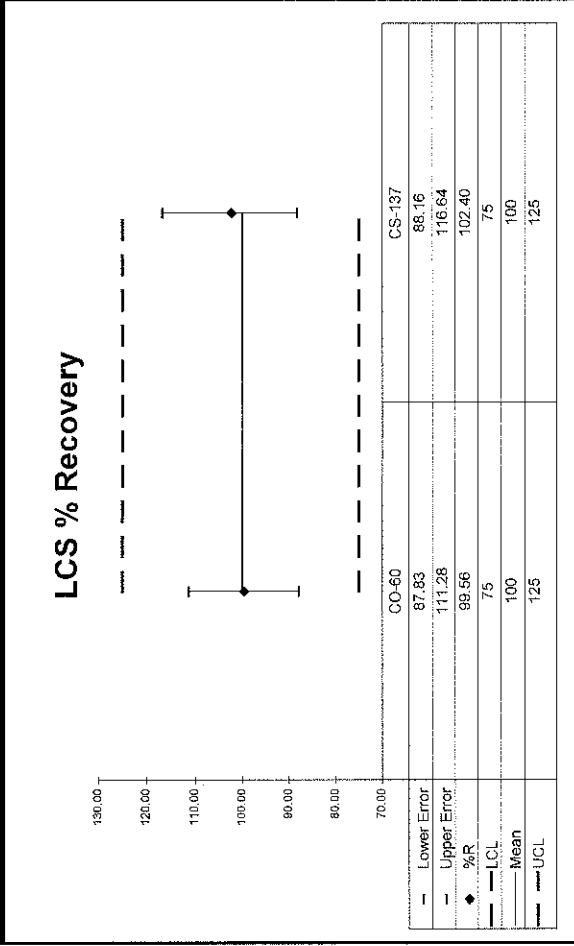
| Analyte | Normalized Difference | RPD | Original Result | Original CSU | Replicate Result | Replicate CSU | LCS Relative Bias | LCS % R | MS % R | MS ND | Rep RPD | Rep ND |
|---------|-----------------------|-------|-----------------|--------------|------------------|---------------|-------------------|---------|---------|---------|---------|--------|
| AC-228 | 0.70 | 8.78 | 1.17E+00 | 2.20E-01 | 1.28E+00 | 2.06E-01 | 1.00 | OK | <CS-137 | AC-228> | OK | |
| BI-214 | 0.27 | 2.05 | 2.25E+00 | 2.46E-01 | 2.30E+00 | 2.41E-01 | 1.02 | OK | <CO-60 | BI-214> | OK | OK |
| K-40 | 1.30 | 11.57 | 1.80E+01 | 2.25E+00 | 2.02E+01 | 2.46E+00 | | | | K-40> | OK | OK |

QC Summary

| Analyte | Normalized Difference | RPD | Original Result | Original CSU | Replicate Result | Replicate CSU | LCS Relative Bias | LCS % R | MS % R | MS ND | Rep RPD | Rep ND |
|---------|-----------------------|-------|-----------------|--------------|------------------|---------------|-------------------|---------|---------|---------|---------|--------|
| AC-228 | 0.70 | 8.78 | 1.17E+00 | 2.20E-01 | 1.28E+00 | 2.06E-01 | 1.00 | OK | <CS-137 | AC-228> | OK | |
| BI-214 | 0.27 | 2.05 | 2.25E+00 | 2.46E-01 | 2.30E+00 | 2.41E-01 | 1.02 | OK | <CO-60 | BI-214> | OK | OK |
| K-40 | 1.30 | 11.57 | 1.80E+01 | 2.25E+00 | 2.02E+01 | 2.46E+00 | | | | K-40> | OK | OK |




| | | | | | |
|-----------------|--------------|----------|----------------|---------------|--------------------------------------|
| WO | Analysis | Run | Activity Units | Aliquot Units | Client Name |
| 15-10085 | Gamma | 1 | pCi | g | Auxier & Associates, Inc. |




SECTION VII
LABORATORY TECHNICIAN'S NOTES
& RUN LOGS

ISO U NOTES

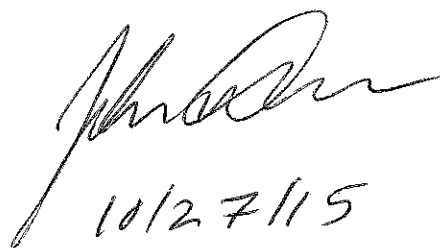
| | | | |
|--|--|---------------------|-----------------|
|  EBERLINE SERVICES Work Order Analysis Notes | Oak Ridge Laboratory | Internal Work Order | 15-10085 |
| | 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com | Analysis Code | UUISO |
| | | Run Number | 1 |


| # | Date | Dept | User | Notes |
|---|----------------|------|-----------|---|
| 1 | 10/16/15 09:34 | PREP | JPACHELLA | Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations. |

10-16-15 JPACHELLA


| | | | |
|--|---|---------------------|----------|
|  EBERLINE <small>SERVICES</small> Work Order Analysis Notes | Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com | Internal Work Order | 15-10085 |
| | | Analysis Code | UUISO |
| | | Run Number | 1 |

| # | Date | Dept. | User | Notes |
|---|----------------|-------|-----------|---|
| 1 | 10/16/15 09:34 | PREP | JPACHELLA | Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations. |
| 2 | 10/27/15 17:08 | CHEM | JDEMELAS | Added concentrated HCl to sample beakers and heated to dryness; Added 20 ml 8N HCL to samples and transferred to new, labeled C-Tubes, rinsing with 8N HCl to bring volume to ~35 ml; Preconditioned resin columns with 35 ml 8N HCl; Centrifuged samples and loaded onto columns; Rinsed C-Tubes with 20 ml 8N HCl, centrifuged as needed and loaded onto columns; Rinsed columns with 35 ml 8N HCl - 0.1N NH4I, 35 ml of 6.5N HCl - 0.04N HF, and 10 ml of 6.5N HCl; Eluted Uranium with 50 ml of 0.5N HCl into clean, labeled 100 ml beakers; Dried-down samples on hotplate; Dissolved samples in ~10 ml of concentrated HCl; Transferred to new, labeled C-Tubes with DI H2O. Set samples aside for later precipitation and filtering. |


 10/27/15

| | | | | |
|--|---|--|---------------------|----------|
|  EBERLINE <small>SERVICES</small> Work Order Analysis Notes | Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com | | Internal Work Order | 15-10085 |
| | | | Analysis Code | UUISO |
| | | | Run Number | 1 |

| # | Date | Dept | User | Notes |
|---|----------------|------|-----------|---|
| 1 | 10/16/15 09:34 | PREP | JPACHELLA | Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations. |
| 2 | 10/27/15 17:08 | CHEM | JDEMELAS | Added concentrated HCl to sample beakers and heated to dryness; Added 20 ml 8N HCL to samples and transferred to new, labeled C-Tubes, rinsing with 8N HCl to bring volume to ~35 ml; Preconditioned resin columns with 35 ml 8N HCl; Centrifuged samples and loaded onto columns; Rinsed C-Tubes with 20 ml 8N HCl, centrifuged as needed and loaded onto columns; Rinsed columns with 35 ml 8N HCl - 0.1N NH4I, 35 ml of 6.5N HCl - 0.04N HF, and 10 ml of 6.5N HCl; Eluted Uranium with 50 ml of 0.5N HCl into clean, labeled 100 ml beakers; Dried-down samples on hotplate; Dissolved samples in ~10 ml of concentrated HCl; Transferred to new, labeled C-Tubes with DI H2O. Set samples aside for later precipitation and filtering. |
| 3 | 10/28/15 06:29 | CHEM | TSMITH | Followed steps 12.1.7 to 12.4.5 in AP-005 . (Precipitated and filtered samples for Uranium) |

10-28-15




Reagents Used in an Analysis

Internal Work Order

15-10085

Analysis Code

Run

UUISO

1

| Reagent ID | Reagent Name | Reagent Concentration | Analyst ID | Date Recorded |
|------------|----------------------|-----------------------|------------|---------------|
| 016569P | Hydrofluoric Acid | Reagent Grade | JPACHELLA | 10/16/2015 |
| 016519P | Nitric Acid | Reagent Grade | JPACHELLA | 10/16/2015 |
| 016158P | Perchloric Acid | Reagent Grade | JPACHELLA | 10/16/2015 |
| 016679P | Sulfuric Acid | Reagent Grade | JPACHELLA | 10/16/2015 |
| 016862P | Anion Exchange Resin | Reagent Grade | JDEMELAS | 10/27/2015 |
| 016927S | HCl - HF | 6.5N - 0.04N | JDEMELAS | 10/27/2015 |
| 016745D03 | Hydrochloric Acid | 0.5N | JDEMELAS | 10/27/2015 |
| 016803S | Hydrochloric Acid | 6.5N | JDEMELAS | 10/27/2015 |
| 016874P | Hydrochloric Acid | Reagent Grade | JDEMELAS | 10/27/2015 |
| 016947S | HCl - NH4I | 8N - 0.1M | JDEMELAS | 10/27/2015 |
| 016937S | Hydrochloric Acid | 8N | JDEMELAS | 10/27/2015 |
| 016569P | Hydrofluoric Acid | Reagent Grade | TSMITH | 10/28/2015 |
| 016583S | Neodymium Carrier | 1 mg/ml | TSMITH | 10/28/2015 |
| 016514P | Reagent Alcohol | Reagent Grade | TSMITH | 10/28/2015 |
| 016606P | Titanous Chloride | Reagent Grade | TSMITH | 10/28/2015 |
| 016924S | Carbon substrate | Solution | TSMITH | 10/28/2015 |


Alphabet 3

| Date | Sample # | Client | Location | CT Time | Analysis | Prod |
|----------|------------------------|-----------------|-----------------|----------------|------------------|--------------|
| 10/27 | 15100824(1-2) | UCON | 0903 | 2hr | Three | C |
| 10/27/6 | 15100824(3-4) | UCON | 1152 | 2hr 50 | Three | KB |
| 10/27/15 | 15100691A(1-4) | Unitech | 1153 | 2hr 50 | Np | KB |
| 10/27/15 | 15100691A(1-4) | Unitech | 1153 | 2hr 50 | ULL | KB |
| 10/27/15 | 15100891A(1-7) | Auxin | 1156 | 2hr 50 | 750-Th | KB |
| 10/28 | Daisy Print | UCON | 0903 | 2hr | Three | C |
| 10/28 | 15100854(4-10) | Auxin | 0909 | 2hr | Unitech | - |
| 10/28 | 15100691A(1-5) | Unitech | 0910 | 2hr | Putso | - |

Alpha #1

| Date | Sample # | Client | Machine | CPT | Analysis | Test |
|----------|-------------------|--------------------|---------|-----------|----------|------|
| 10/19/15 | 1510054B(1-4) | USA | 0959 | 2hr50- | ISO YL | KB |
| 10/19/15 | 1510021A(1-3) | UCOR | 1000 | 2hr50- | Am241 | KB |
| 10/20 | Daily Pulse | US | 0515 | 1- | NA | - |
| 10/20 | 1510067A(1-7) | Auxier | 0909 | 2hr5- | UUTSO | - |
| 10/20/15 | 1510051A(1-6) | TN Dept. of Health | 1209 | 16.40 hrs | Ull | KB |
| 10/20/15 | 1510051A (1) | TN Dept. of Health | 1208 | 16.40 hrs | ISO-PH | KB |
| 10/21 | Daily Pulse | US | 0530 | 1- | NA | - |
| 10/21 | 1510084A(1-6) | Auxier | 0851 | 2hr5- | UUTSO | - |
| 10/21/15 | 1510051A(1-3,5-6) | TN Dept. of Health | 1147 | 16.40 hrs | Am241 | KB |
| 10/22 | Daily Pulse | US | 0527 | 1- | NA | - |
| 10/22 | 1510114A(1-4) | PEC | 0904 | 2hr5- | Th250 | - |
| 10/22 | 1509055A(1-2) | Emerson Dir | 0905 | 2hr5- | Th250 | - |
| 10/22/15 | 1510052A(1-6) | TN Dept. of Health | 1205 | 16.40 hrs | Ull | KB |
| 10/22 | Daily Pulse | US | 0503 | 1- | NA | - |
| 10/22 | SECALC(1-1) | US | 1120 | 2hr5- | NA | - |
| 10/22 | 1510115A(1-4) | UCOR | 0820 | 2hr5- | UUTSO | - |
| 10/22 | 1510104A(1-2) | EAT | 0821 | 2hr5- | UUTSO | - |
| 10/23/15 | System OKSD | Lab | 1620 | 16.40 hrs | - | KB |
| 10/24/15 | Daily Pulse | Lab | 0951 | 10min | NA | AK |
| 10/26 | Daily Pulse | US | 0516 | 1- | NA | - |
| 10/26 | 1510082A(1-4) | UCOR | 0902 | 2hr5- | Am241 | - |
| 10/26 | 1510082A(1-3) | UCOR | 0903 | 2hr5- | Am241 | - |
| 10/26/15 | 1510080A(1-7) | Accentest | 1353 | 2hr50- | Rare | KB |
| 10/27 | Daily Pulse | US | 0516 | 10.00 | NA | - |
| 10/27 | 1510144A(1-4) | Materion | 0856 | 2hr5- | Th250 | - |
| 10/27 | 1510063A(1-3) | UCOR | 0856 | 2hr5- | UUTSO | - |
| 10/28 | Daily Pulse | US | 0525 | 1- | NA | - |
| 10/28 | 1510071A(1-4) | Unitech | 0908 | 2hr5- | Am241 | - |
| 10/28 | 1510085A(1-3) | Auxier | 0909 | 2hr5- | UUTSO | - |

ISO-TH NOTES


| | | | |
|--|---|---------------------|----------|
|  EBERLINE <small>SERVICES</small> Work Order Analysis Notes | Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com | Internal Work Order | 15-10085 |
| | | Analysis Code | ThISO |
| | | Run Number | 1 |

| # | Date | Dept | User | Notes |
|---|----------------|------|-----------|---|
| 1 | 10/16/15 09:33 | PREP | JPACHELLA | Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations. |

10-16-15 JPachella

| | | | |
|--|---|---------------------|----------|
|  EBERLINE <small>SERVICES</small> Work Order Analysis Notes | Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com | Internal Work Order | 15-10085 |
| | | Analysis Code | ThISO |
| | | Run Number | 1 |

| # | Date | Dept | User | Notes |
|---|----------------|------|-----------|--|
| 1 | 10/16/15 09:33 | PREP | JPACHELLA | Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations. |
| 2 | 10/27/15 17:08 | CHEM | JDEMELAS | Added concentrated HNO3 to sample beakers and heated to dryness; Added 20 ml 8N HNO3 to samples and transferred to new, labeled C-Tubes, adding 8N HNO3 to bring volume to ~35 ml; Preconditioned resin columns with 50 ml 8N HNO3; Centrifuged samples as needed, and passed through columns; Rinsed C-Tubes with 20 ml 8N HNO3; Centrifuged rinsates and loaded onto columns; Rinsed columns with 40 ml 8N HNO3; Eluted Thorium with 50 ml of 8N HCl into clean, labeled 100-ml beakers; Dried-down samples on hotplate; Dissolved samples in ~10 ml of concentrated HCl; Transferred to new, labeled C-Tubes with deionized water, bringing volume to ~15ml. Set samples aside for later precipitation and filtering. |


 10/27/15

| | | | |
|--|---|--|--|
|  EBERLINE <small>SERVICES</small> Work Order Analysis Notes | Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com | | Internal Work Order 15-10085 |
| | | | Analysis Code ThISO |
| | | | Run Number 1 |

| # | Date | Dept | User | Notes |
|---|----------------|------|-----------|--|
| 1 | 10/16/15 09:33 | PREP | JPACHELLA | Samples were aliquoted, spiked and traced. Samples were digested with HF till dry. Samples were further digested in a mixed acid digestion till dry. Samples were submitted to separations. |
| 2 | 10/27/15 17:08 | CHEM | JDEMELAS | Added concentrated HNO3 to sample beakers and heated to dryness; Added 20 ml 8N HNO3 to samples and transferred to new, labeled C-Tubes, adding 8N HNO3 to bring volume to ~35 ml; Preconditioned resin columns with 50 ml 8N HNO3; Centrifuged samples as needed, and passed through columns; Rinsed C-Tubes with 20 ml 8N HNO3; Centrifuged rinsates and loaded onto columns; Rinsed columns with 40 ml 8N HNO3; Eluted Thorium with 50 ml of 8N HCl into clean, labeled 100-ml beakers; Dried-down samples on hotplate; Dissolved samples in ~10 ml of concentrated HCl; Transferred to new, labeled C-Tubes with deionized water, bringing volume to ~15ml. Set samples aside for later precipitation and filtering. |
| 3 | 10/28/15 06:30 | CHEM | TSMITH | Followed steps 12.2.5 to 12.4.5 in AP-005 . (Precipitated and filtered samples for Thorium) |

10-28-15
JMK



Reagents Used in an Analysis

Internal Work Order

15-10085

Analysis Code

Run

ThISO

1

| Reagent ID | Reagent Name | Reagent Concentration | Analyst ID | Date Recorded |
|------------|----------------------|-----------------------|------------|---------------|
| 016569P | Hydrofluoric Acid | Reagent Grade | JPACHELLA | 10/16/2015 |
| 016519P | Nitric Acid | Reagent Grade | JPACHELLA | 10/16/2015 |
| 016679P | Sulfuric Acid | Reagent Grade | JPACHELLA | 10/16/2015 |
| 016158P | Perchloric Acid | Reagent Grade | JPACHELLA | 10/16/2015 |
| 016862P | Anion Exchange Resin | Reagent Grade | JDEMELAS | 10/27/2015 |
| 016874P | Hydrochloric Acid | Reagent Grade | JDEMELAS | 10/27/2015 |
| 016516P | Nitric Acid | Reagent Grade | JDEMELAS | 10/27/2015 |
| 016937S | Hydrochloric Acid | 8N | JDEMELAS | 10/27/2015 |
| 016936S | Nitric Acid | 8N | JDEMELAS | 10/27/2015 |
| 016869S | Cerrium Carrier | 0.1mg/ml | TSMITH | 10/28/2015 |
| 016569P | Hydrofluoric Acid | Reagent Grade | TSMITH | 10/28/2015 |
| 016514P | Reagent Alcohol | Reagent Grade | TSMITH | 10/28/2015 |
| 016924S | Carbon substrate | Solution | TSMITH | 10/28/2015 |

Alphast 3

| Date | Sample # | Client | Location | CT Time | Analysis | Prod |
|----------|----------------|---------|----------|---------|----------|------|
| 10/27 | 1510082A(1-2) | UCON | 0907 | 2hr | Three | C |
| 10/27/15 | 1510082A(3-4) | UCON | 1152 | 2hr 50- | Three | KB |
| 10/27/15 | 1510069A(1-4) | Unitech | 1153 | 2hr 50+ | Np | KB |
| 10/27/15 | 1510069A(1-4) | Unitech | 1153 | 2hr 50- | Ull | KB |
| 10/27/15 | 1510089A(1-7) | Auxin | 1156 | 2hr 50- | 750-Th | KB |
| 10/28 | Dusky Pine | UCON | 0925 | 1hr | Ull | — |
| 10/28 | 1510085A(1-20) | Auxin | 0909 | 2hr | Ull 50 | — |
| 10/28 | 1510069A(1-5) | Unitech | 0910 | 2hr | Pu 50 | — |
| 10/28/15 | 1510071A(1-4) | Unitech | 1207 | 2hr 50+ | Np | KB |
| 10/28/15 | 1510085A(1-20) | Auxin | 1210 | 2hr 50- | 750-Th | KB |

GAMMA NOTES

| DATE | SAMPLE # | Client | Loss Time | CT Time | Analysis | Tech |
|-----------------|------------|---------|-----------|---------|----------|------|
| 1115 | CAF-14 | UAB | 0514 | 15 | r | S |
| 1115 | Duquay | UAB | 0545 | 15 | r | S |
| 1115 | 151100202 | Unitech | 0602 | 2L | r | — |
| 1115 | 1511018-03 | UCON | 0833 | 4L | r | — |
| 1115/16 | 1511018-01 | UCON | 1234 | 30mins | r | KB |
| 1115 | 1511018-04 | UCON | 1206 | 4L | r | — |
| 1116 | ET 7 14 | UAB | 0517 | 15 | r | S |
| 1116 | Duquay | UAB | 0545 | 15 | r | S |
| 1116 | 1510085-03 | Auxier | 0608 | 2L | r | S |
| 1116 | 1510085-04 | Auxier | 0711 | 2L | r | S |
| 1116 | 1510085-11 | Auxier | 0817 | 2L | r | — |
| 1116 | 1510085-15 | Auxier | 0920 | 2L | r | — |
| 1116 | 1510085-19 | Auxier | 1021 | 2L | r | — |

| DATE | SAMPLE # | Client | LoadTime | CT-Time | Analysis | Tech |
|---------|------------|----------------|----------|---------|----------|------|
| 11/5/15 | 1511021-02 | Republic Serv. | 1701 | 2hr | ✓ | KB |
| 11/6 | 6482401 | LAD | 0517 | 1R | ✓ | ✓ |
| 11/6 | Dwylr | LAD | 0545 | 1R | ✓ | ✓ |
| 11/6 | 1510085-05 | Audier | 0608 | 2L | ✓ | ✓ |
| 11/6 | 1510085-08 | Audier | 0711 | 2L | ✓ | ✓ |
| 11/6 | 1510085-12 | Audier | 0817 | 2L | ✓ | ✓ |
| 11/6 | 1510085-16 | Audier | 0920 | 2L | ✓ | ✓ |
| 11/6 | 1510085-20 | Audier | 1021 | 2L | ✓ | ✓ |

| DATE | Sample # | Client | Load Time | CT Time | Analysis | Tech |
|------------------|-----------------------|-------------------|-----------------|---------------|--------------|--------------|
| 11/14 | 1510084-07 | Aurora | 0842 | 2h | ✓ | 2 |
| 11/14 | 1510084-04 | Aurora | 0944 | 2h | ✓ | 2 |
| 11/14 | 1510084-13 | Aurora | 1112 | 2h | ✓ | - |
| 11/14 | 1510084-07 | Aurora | 1045 | 2h | ✓ | - |
| 11/14/15 | 1510084-14 | Aurora | 1146 | 1hr | ✓ | ICB |
| 11/14/15 | 1510084-17 | Aurora | 1343 | 1hr | ✓ | ICB |
| 11/14/15 | 1510165-01 | TDE | 1247 | 15mins | Ba | ICB |
| 11/14/15 | 1510165-01 | Tetra | 1207 | 15min | Ba | ICB |
| 11/14 | 1510165-06 | Tetra | 1326 | 15 | ✓ | - |
| 11/14/15 | 1511007-03 | UCOR | 1444 | 2hrs | ✓ | ICB |
| 11/14/15 | 1511007-04 | UCOR | 1644 | 2hrs | ✓ | ICB |
| 11/15 | 1511007-02 | UCOR | 0524 | 15 | ✓ | 2 |
| 11/15 | 1511007-01 | UCOR | 0545 | 15 | ✓ | 2 |
| 11/15 | 1510085-01 | Aurora | 0609 | 2h | ✓ | - |

| DATE | Sample # | Client | LoadTime | CTTime | Analysis | Tech |
|-----------------|-----------------------|-------------------|-----------------|---------------|--------------|--------------|
| 11/4 | 1510084-03 | Aurora | 0842 | 2L | ✓ | ✓ |
| 11/4 | 1510084-04 | Aurora | 0944 | 2L | ✓ | ✓ |
| 11/4 | 1510084-05 | Aurora | 0944 | 2L | ✓ | ✓ |
| 11/4 | 1510084-06 | Aurora | 1045 | 2L | ✓ | ✓ |
| 11/4/15 | 1510084-14 | Aurora | 1146 | 1hr | ✓ | ICB |
| 11/4/15 | 1510084-17 | Aurora | 1343 | 1hr | ✓ | ICB |
| 11/4/15 | 1510165-01 | TBE | 1247 | 15mins | Da | ICB |
| 11/4/15 | 1510165-01 | Tetm | 1307 | 15min | Da | ICB |
| 11/4 | 1510165-06 | Tetm | 1326 | 15 | Da | — |
| 11/4/15 | 1511007-03 | Ucor | 1444 | 2hrs | ✓ | ICB |
| 11/4/15 | 1511007-04 | Ucor | 1644 | 2hrs | ✓ | ICB |
| 11/5 | ETS1402 | LTS | 0524 | 15 | ✓ | ✓ |
| 11/5 | Dwya | LTS | 0545 | 15 | ✓ | ✓ |
| 11/5 | 1510085-01 | Aurora | 0609 | 2L | ✓ | — |
| 11/5 | 1510086-01 | Aurora | 0641 | 2L | ✓ | — |
| 11/5 | 1511018-02 | Ucon | 0834 | 4L | ✓ | — |
| 11/5/15 | 1510170-02 | ND | 1246 | 15mins | Da | ICB |
| 11/5/15 | 1510177-01 | ND | 1703 | 15mins | Da | ICB |
| 11/5 | 1510177-04 | STOFND | 1721 | 15 | Da | — |
| 11/5/15 | 1510167-02 | TBE | 1403 | 15mins | Da | ICB |
| 11/5/15 | 1510167-05 | TBE | 1419 | 15min | Da | ICB |
| 11/5/15 | 1510167-09 | TBE | 1436 | 15min | Da | ICB |
| 11/5/15 | 1511021-03 | Republic Serv | 1456 | 2hrs | ✓ | ICB |
| 11/5/15 | 1511021-04 | Republic Serv | 1701 | 2hrs | ✓ | ICB |
| 11/6 | ETS1402 | LTS | 0517 | 15 | ✓ | ✓ |
| 11/4 | Dwya | LTS | 0549 | 15 | ✓ | ✓ |
| 11/6 | 1510085-06 | Aurora | 0608 | 2L | ✓ | ✓ |
| 11/6 | 1510085-09 | Aurora | 0711 | 2L | ✓ | ✓ |
| 11/6 | 1510085-17 | Aurora | 0817 | 2L | ✓ | ✓ |
| 11/6 | 1510085-17 | Aurora | 0920 | 2L | ✓ | ✓ |

| DATE | SAMPLE # | Client | LoadTime | CT.Time | Analysis | Tech |
|---------|------------|---------|----------|---------|----------|------|
| 11/4/15 | 1510165-02 | TBE | 1247 | 15 mins | Ba | KB |
| 11/4/15 | 1510169-02 | Tetra | 1707 | 15 mins | Ba | KB |
| 11/4 | 1510169-07 | Tetra | 1726 | 15 | Ba | — |
| 11/4/15 | 1510084-18 | Auxian | 1343 | 1 hr | γ | KB |
| 11/4/15 | 1520084-19 | Auxian | 1445 | 1 hr | γ | KB |
| 11/4/15 | 1510084-20 | Auxian | 1546 | 1 hr | γ | KB |
| 11/4/15 | 1511007-01 | UCOR | 1648 | 30 mins | γ | KB |
| 11/4/15 | 1511002-01 | Unitech | 1720 | 30 mins | γ | KB |
| 11/4/15 | 1511007-02 | UCOR | 1752 | 4 hr | γ | KB |
| 11/5 | GW 14 | LAB | 0544 | 15 | γ | KB |
| 11/5 | Quilys | LAB | 0545 | 15 | γ | KB |
| 11/5 | 1510085-02 | Auxian | 0609 | 7L | γ | — |

| DATE | SAMPLE # | Client | LoadTime | CT Time | Analysis | Tech |
|---------|------------|---------------|----------|---------|----------|------|
| 11/4/15 | 1510165-02 | TBE | 1247 | 15 mins | Ba | KB |
| 11/4/15 | 1510169-02 | Tetra | 1707 | 15 mins | Ba | KB |
| 11/4/15 | 1510169-07 | Tetra | 1726 | 15 | Ba | — |
| 11/4/15 | 1510084-18 | Auxier | 1343 | 1 hr | Y | KB |
| 11/4/15 | 1520084-19 | Auxier | 1445 | 1 hr | Y | KB |
| 11/4/15 | 1510084-20 | Auxier | 1546 | 1 hr | Y | KB |
| 11/4/15 | 1511007-01 | UCOR | 1648 | 30 mins | Y | KB |
| 11/4/15 | 1511002-01 | Unitech | 1720 | 30 mins | Y | KB |
| 11/4/15 | 1511007-02 | UCOR | 1752 | 4 hrs | Y | KB |
| 11/5 | CAW 14 | LAS | 0514 | 15 | Y | — |
| 11/5 | Quin | LAS | 0545 | 15 | Y | — |
| 11/5 | 1510085-02 | Auxier | 0609 | 2L | Y | — |
| 11/5 | 1510086-02 | Auxier | 0713 | 2L | Y | — |
| 11/5 | 1511017-02 | UCOR | 0876 | 3L | Y | — |
| 11/5 | 1511017-01 | UCOR | 1139 | 3L | Y | — |
| 11/5/15 | 1510170-03 | ND | 1244 | 15 mins | Ba | KB |
| 11/5/15 | 1510177-02 | ND | 1304 | 15 mins | Ba | KB |
| 11/5/15 | 1510167-03 | TBE | 1403 | 15 mins | Ba | KB |
| 11/6/15 | 1510167-06 | TBE | 1420 | 15 mins | Ba | KB |
| 11/6/15 | 1510167-10 | TBE | 1436 | 15 mins | Ba | KB |
| 11/6/15 | 1511021-01 | Republic Sew. | 1457 | 30 min | Y | KB |
| 11/6 | CAW 1402 | LAS | 0527 | 15 | Y | — |
| 11/6 | Quin | LAS | 0545 | 15 | Y | — |
| 11/6 | 1510085-07 | Auxier | 0608 | 2L | Y | — |
| 11/6 | 1510085-10 | Auxier | 0711 | 2L | Y | — |
| 11/6 | 1510085-14 | Auxier | 0817 | 2L | Y | — |
| 11/6 | 1510085-18 | Auxier | 0925 | 2L | Y | — |

SECTION VIII
ANALYTICAL DATA (ISOTOPIC URANIUM)

| | |
|----------------------|---------------------------|
| Work Order | 15-10085 |
| Analysis Code | UUISO |
| Run | 1 |
| Date Received | 10/14/2015 |
| Lab Deadline | 11/6/2015 |
| Client | Auxier & Associates, Inc. |
| Project | PAP-KAN |
| Report Level | 4 |
| Activity Units | pCi |
| Aliquot Units | g |
| Matrix | SO |
| Method | EML U-02 Modified |
| Instrument Type | Alpha Spectroscopy |
| Radiometric Tracer | U-232 |
| Radiometric Sol# | U-10a |
| Tracer Act (dpm/g) | 18.64 |
| Carrier | |
| Carrier Conc (mg/ml) | |
| | |
| | |

| Internal Fraction | Sample Desc | Client ID | Login CPM | Sample Date | Sample Aliquot |
|-------------------|-------------|--------------|-----------|----------------|----------------|
| 01 | LCS | LCS | | 10/14/15 00:00 | 1.0000E+00 |
| 02 | MBL | BLANK | | 10/14/15 00:00 | 1.5000E+00 |
| 03 | DUP | CP5007S01-02 | 39 | 10/07/15 14:20 | 1.5154E+00 |
| 04 | DO | CP5007S01-02 | 39 | 10/07/15 14:20 | 1.5098E+00 |
| 05 | TRG | CP5007S03-04 | 34 | 10/07/15 14:30 | 1.5505E+00 |
| 06 | TRG | CP5007S06-07 | 32 | 10/07/15 14:40 | 1.5053E+00 |
| 07 | TRG | CP5007S08-09 | 33 | 10/07/15 14:50 | 1.5463E+00 |
| 08 | TRG | CP5007S11-12 | 36 | 10/07/15 15:10 | 1.5212E+00 |
| 09 | TRG | CP5007S13-14 | 34 | 10/07/15 15:20 | 1.5239E+00 |
| 10 | TRG | CP5007S16-17 | 34 | 10/07/15 15:30 | 1.5072E+00 |
| 11 | TRG | CP5006S01-02 | 34 | 10/07/15 16:00 | 1.5267E+00 |
| 12 | TRG | CP5006S03-04 | 32 | 10/07/15 16:10 | 1.5377E+00 |
| 13 | TRG | CP5006S04-05 | 38 | 10/07/15 16:20 | 1.5486E+00 |
| 14 | TRG | CP5006S07-08 | 37 | 10/07/15 16:30 | 1.5087E+00 |
| 15 | TRG | CP5006S09-10 | 36 | 10/07/15 16:40 | 1.5050E+00 |
| 16 | TRG | CP5006S12-13 | 36 | 10/07/15 16:50 | 1.5687E+00 |
| 17 | TRG | CP5006S14-15 | 36 | 10/07/15 17:00 | 1.5907E+00 |
| 18 | TRG | CP5006S17-18 | 34 | 10/07/15 17:10 | 1.5179E+00 |
| 19 | TRG | CP5006S19-20 | 33 | 10/07/15 17:20 | 1.5347E+00 |
| 20 | TRG | CP5006S22-23 | 35 | 10/07/15 17:30 | 1.5191E+00 |

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

| Internal Fraction | Sample Desc | Tracer Aliquot (g) | Tracer Total ACT (dpm) | Radiometric Tracer (pCi) | Radiometric % Rec | Grav Carrier Added (ml) | Grav Filter Tare (g) | Grav Filter Final (g) | Grav Filter Net (g) | Grav % Rec | Mean % Rec | SAF 1* | SAF 2* |
|-------------------|-------------|--------------------|------------------------|--------------------------|-------------------|-------------------------|----------------------|-----------------------|---------------------|------------|------------|--------|--------|
| 01 | LCS | 0.6552 | 12.2 | | 0.00 | | | | | | | | |
| 02 | MBL | 0.6541 | 12.2 | | 0.00 | | | | | | | | |
| 03 | DUP | 0.6594 | 12.3 | | 0.00 | | | | | | | | |
| 04 | DO | 0.6538 | 12.2 | | 0.00 | | | | | | | | |
| 05 | TRG | 0.6649 | 12.4 | | 0.00 | | | | | | | | |
| 06 | TRG | 0.6574 | 12.3 | | 0.00 | | | | | | | | |
| 07 | TRG | 0.6520 | 12.2 | | 0.00 | | | | | | | | |
| 08 | TRG | 0.6532 | 12.2 | | 0.00 | | | | | | | | |
| 09 | TRG | 0.6544 | 12.2 | | 0.00 | | | | | | | | |
| 10 | TRG | 0.6532 | 12.2 | | 0.00 | | | | | | | | |
| 11 | TRG | 0.6550 | 12.2 | | 0.00 | | | | | | | | |
| 12 | TRG | 0.6581 | 12.3 | | 0.00 | | | | | | | | |
| 13 | TRG | 0.6519 | 12.2 | | 0.00 | | | | | | | | |
| 14 | TRG | 0.6579 | 12.3 | | 0.00 | | | | | | | | |
| 15 | TRG | 0.6684 | 12.5 | | 0.00 | | | | | | | | |
| 16 | TRG | 0.6523 | 12.2 | | 0.00 | | | | | | | | |
| 17 | TRG | 0.6524 | 12.2 | | 0.00 | | | | | | | | |
| 18 | TRG | 0.6536 | 12.2 | | 0.00 | | | | | | | | |
| 19 | TRG | 0.6534 | 12.2 | | 0.00 | | | | | | | | |
| 20 | TRG | 0.6524 | 12.2 | | 0.00 | | | | | | | | |

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

| Internal Fraction | Sample Desc | Rough Prep Date | Rough Prep By | Prep Date | Prep By | Sep 10 Date/Time | Sep 10 By | Sep 11 Date/Time | Sep 11 By |
|-------------------|-------------|-----------------|---------------|----------------|-----------|------------------|-----------|------------------|-----------|
| 01 | LCS | | | 10/16/15 11:48 | JPACHELLA | | | | |
| 02 | MBL | | | 10/16/15 11:48 | JPACHELLA | | | | |
| 03 | DUP | | | 10/16/15 11:48 | JPACHELLA | | | | |
| 04 | DO | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 05 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 06 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 07 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 08 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 09 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 10 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 11 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 12 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 13 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 14 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 15 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 16 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 17 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 18 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 19 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |
| 20 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 11:48 | JPACHELLA | | | | |

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
 ** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LCS Known | LCS %R | LCS Flag | RPD Flag | MDA Flag | Blank Flag |
|--------------|---------|-------------|-----------------------|----------------|----------|----------------|----------|-----------|--------|----------|----------|----------|------------|
| 01 | U-234 | LCS | LCS | pCi/g | 7.10E+00 | 1.01E+00 | 6.96E-02 | 8.07E+00 | 87.97 | OK | | OK | |
| 02 | U-234 | MBL | BLANK | pCi/g | 3.78E-02 | 4.92E-02 | 7.75E-02 | | | | | OK | OK |
| 03 | U-234 | DUP | CP5007S01-02 | pCi/g | 2.12E+00 | 3.25E-01 | 3.92E-02 | | | | OK | OK | |
| 04 | U-234 | DO | CP5007S01-02 | pCi/g | 2.29E+00 | 3.99E-01 | 5.42E-02 | | | | | OK | |
| 05 | U-234 | TRG | CP5007S03-04 | pCi/g | 1.14E+00 | 2.08E-01 | 3.71E-02 | | | | | OK | |
| 06 | U-234 | TRG | CP5007S06-07 | pCi/g | 1.24E+00 | 2.41E-01 | 3.60E-02 | | | | | OK | |
| 07 | U-234 | TRG | CP5007S08-09 | pCi/g | 1.15E+00 | 2.35E-01 | 5.38E-02 | | | | | OK | |
| 08 | U-234 | TRG | CP5007S11-12 | pCi/g | 1.12E+00 | 2.32E-01 | 4.75E-02 | | | | | OK | |
| 09 | U-234 | TRG | CP5007S13-14 | pCi/g | 1.22E+00 | 2.57E-01 | 5.66E-02 | | | | | OK | |
| 10 | U-234 | TRG | CP5007S16-17 | pCi/g | 9.35E-01 | 2.07E-01 | 6.36E-02 | | | | | OK | |
| 11 | U-234 | TRG | CP5006S01-02 | pCi/g | 1.13E+00 | 2.52E-01 | 4.44E-02 | | | | | OK | |
| 12 | U-234 | TRG | CP5006S03-04 | pCi/g | 1.97E+00 | 3.33E-01 | 4.93E-02 | | | | | OK | |
| 13 | U-234 | TRG | CP5006S04-05 | pCi/g | 1.13E+00 | 2.34E-01 | 4.75E-02 | | | | | OK | |
| 14 | U-234 | TRG | CP5006S07-08 | pCi/g | 1.03E+00 | 2.31E-01 | 5.28E-02 | | | | | OK | |
| 15 | U-234 | TRG | CP5006S09-10 | pCi/g | 1.41E+00 | 2.71E-01 | 4.87E-02 | | | | | OK | |
| 16 | U-234 | TRG | CP5006S12-13 | pCi/g | 1.01E+00 | 2.09E-01 | 4.67E-02 | | | | | OK | |
| 17 | U-234 | TRG | CP5006S14-15 | pCi/g | 1.07E+00 | 2.25E-01 | 4.99E-02 | | | | | OK | |
| 18 | U-234 | TRG | CP5006S17-18 | pCi/g | 1.14E+00 | 2.88E-01 | 8.26E-02 | | | | | OK | |
| 19 | U-234 | TRG | CP5006S19-20 | pCi/g | 1.19E+00 | 2.58E-01 | 6.20E-02 | | | | | OK | |
| 20 | U-234 | TRG | CP5006S22-23 | pCi/g | 1.53E+00 | 3.03E-01 | 6.17E-02 | | | | | OK | |

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|---|------------------------------|---------------------------|
|  | Client | Auxier & Associates, Inc. |
| | Eberline Services Work Order | 15-10085 |
| Run | Analysis Code | UJISO |
| 1 | | |

01000

Preliminary Data Report & Analytical Calculations
Work Order: 15-10085-UUISO-1

| | |
|------------------------------|---------------------------|
| Client | Auxier & Associates, Inc. |
| Eberline Services Work Order | 15-10085 |
| Analysis Code | UUISO |
| Run | 1 |

| Lab Fraction | Nuclide | Sample Desc | Sample Date | Sample Aliquot | Radiometric % Rec | Grav % Rec | Mean % Rec | SAF | Sep 10 Date/Time | Sep 11 Date/Time |
|--------------|---------|-------------|----------------|----------------|-------------------|------------|------------|-----|------------------|------------------|
| 01 | U-234 | LCS | 10/14/15 00:00 | 1.00E+00 | 94.20 | 0.00 | 0.00 | | | |
| 02 | U-234 | MBL | 10/14/15 00:00 | 1.50E+00 | 88.23 | 0.00 | 0.00 | | | |
| 03 | U-234 | DUP | 10/07/15 14:20 | 1.52E+00 | 99.90 | 0.00 | 0.00 | | | |
| 04 | U-234 | DO | 10/07/15 14:20 | 1.51E+00 | 94.38 | 0.00 | 0.00 | | | |
| 05 | U-234 | TRG | 10/07/15 14:30 | 1.55E+00 | 135.32 | 0.00 | 0.00 | | | |
| 06 | U-234 | TRG | 10/07/15 14:40 | 1.51E+00 | 124.24 | 0.00 | 0.00 | | | |
| 07 | U-234 | TRG | 10/07/15 14:50 | 1.55E+00 | 106.02 | 0.00 | 0.00 | | | |
| 08 | U-234 | TRG | 10/07/15 15:10 | 1.52E+00 | 112.77 | 0.00 | 0.00 | | | |
| 09 | U-234 | TRG | 10/07/15 15:20 | 1.52E+00 | 107.46 | 0.00 | 0.00 | | | |
| 10 | U-234 | TRG | 10/07/15 15:30 | 1.51E+00 | 101.71 | 0.00 | 0.00 | | | |
| 11 | U-234 | TRG | 10/07/15 16:00 | 1.53E+00 | 88.01 | 0.00 | 0.00 | | | |
| 12 | U-234 | TRG | 10/07/15 16:10 | 1.54E+00 | 105.37 | 0.00 | 0.00 | | | |
| 13 | U-234 | TRG | 10/07/15 16:20 | 1.55E+00 | 108.99 | 0.00 | 0.00 | | | |
| 14 | U-234 | TRG | 10/07/15 16:30 | 1.51E+00 | 87.53 | 0.00 | 0.00 | | | |
| 15 | U-234 | TRG | 10/07/15 16:40 | 1.51E+00 | 103.44 | 0.00 | 0.00 | | | |
| 16 | U-234 | TRG | 10/07/15 16:50 | 1.57E+00 | 116.04 | 0.00 | 0.00 | | | |
| 17 | U-234 | TRG | 10/07/15 17:00 | 1.59E+00 | 106.16 | 0.00 | 0.00 | | | |
| 18 | U-234 | TRG | 10/07/15 17:10 | 1.52E+00 | 76.97 | 0.00 | 0.00 | | | |
| 19 | U-234 | TRG | 10/07/15 17:20 | 1.53E+00 | 98.23 | 0.00 | 0.00 | | | |
| 20 | U-234 | TRG | 10/07/15 17:30 | 1.52E+00 | 111.32 | 0.00 | 0.00 | | | |

Preliminary Data Report & Analytical Calculations
Work Order: 15-10085-UUISO-1

| | | |
|---|------------------------------|---------------------------|
|  | Run | 1 |
| | Analysis Code | UUISO |
| | Eberline Services Work Order | 15-10085 |
| | Client | Auxier & Associates, Inc. |

| Lab Fraction | Nuclide | Sample Desc | Counting Date/Time | Half-life (days) | Detect | Carrier | Count Time | Counts | Bkg CPM | Eff | A to B, Cor |
|--------------|---------|-------------|--------------------|------------------|--------|-----------|------------|-----------|-----------|------|-------------|
| 01 | U-234 | LCS | 10/28/15 09:09 | | A_Spec | Alpha_012 | 170 | 4.88 E+02 | 2.00 E-03 | 19.4 | |
| 02 | U-234 | MBL | 10/28/15 09:09 | | A_Spec | Alpha_014 | 170 | 3.47 E+00 | 9.00 E-03 | 18.4 | |
| 03 | U-234 | DUP | 10/28/15 09:09 | | A_Spec | Alpha_015 | 170 | 2.84 E+02 | 3.00 E-03 | 23.5 | |
| 04 | U-234 | DO | 10/28/15 09:09 | | A_Spec | Alpha_033 | 170 | 2.21 E+02 | 3.00 E-03 | 18 | |
| 05 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_034 | 170 | 1.60 E+02 | 3.00 E-03 | 17.9 | |
| 06 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_035 | 170 | 1.44 E+02 | 1.00 E-03 | 16.5 | |
| 07 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_036 | 170 | 1.28 E+02 | 0.00 E+00 | 18.1 | |
| 08 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_037 | 170 | 1.23 E+02 | 3.00 E-03 | 17.1 | |
| 09 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_038 | 170 | 1.21 E+02 | 4.00 E-03 | 16.2 | |
| 10 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_039 | 170 | 1.04 E+02 | 9.00 E-03 | 19.3 | |
| 11 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_040 | 170 | 1.06 E+02 | 1.00 E-03 | 18.6 | |
| 12 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_041 | 170 | 2.25 E+02 | 4.00 E-03 | 18.7 | |
| 13 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_042 | 170 | 1.24 E+02 | 3.00 E-03 | 17.4 | |
| 14 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_043 | 170 | 1.02 E+02 | 3.00 E-03 | 20 | |
| 15 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_044 | 170 | 1.51 E+02 | 3.00 E-03 | 18.4 | |
| 16 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_045 | 170 | 1.21 E+02 | 4.00 E-03 | 17.6 | |
| 17 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_046 | 170 | 1.21 E+02 | 4.00 E-03 | 17.8 | |
| 18 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_047 | 170 | 8.30 E+01 | 0.00 E+00 | 16.5 | |
| 19 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_048 | 170 | 1.15 E+02 | 5.00 E-03 | 17 | |
| 20 | U-234 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_049 | 170 | 1.49 E+02 | 0.00 E+00 | 15.3 | |

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LCS Known | LCS %R | LCS Flag | RPD Flag | MDA Flag | Blank Flag |
|--------------|---------|-------------|-----------------------|----------------|----------|----------------|----------|-----------|--------|----------|----------|----------|------------|
| 01 | U-238 | LCS | LCS | pCi/g | 7.86E+00 | 1.09E+00 | 6.93E-02 | 7.86E+00 | 99.81 | OK | | OK | |
| 02 | U-238 | MBL | BLANK | pCi/g | 3.05E-02 | 4.38E-02 | 7.15E-02 | | | | | OK | OK |
| 03 | U-238 | DUP | CP5007S01-02 | pCi/g | 2.09E+00 | 3.21E-01 | 3.56E-02 | | | | OK | OK | |
| 04 | U-238 | DO | CP5007S01-02 | pCi/g | 2.10E+00 | 3.74E-01 | 4.29E-02 | | | | | OK | |
| 05 | U-238 | TRG | CP5007S03-04 | pCi/g | 1.14E+00 | 2.08E-01 | 3.97E-02 | | | | | OK | |
| 06 | U-238 | TRG | CP5007S06-07 | pCi/g | 1.25E+00 | 2.43E-01 | 5.14E-02 | | | | | OK | |
| 07 | U-238 | TRG | CP5007S08-09 | pCi/g | 1.09E+00 | 2.27E-01 | 5.35E-02 | | | | | OK | |
| 08 | U-238 | TRG | CP5007S11-12 | pCi/g | 1.25E+00 | 2.49E-01 | 5.41E-02 | | | | | OK | |
| 09 | U-238 | TRG | CP5007S13-14 | pCi/g | 1.31E+00 | 2.69E-01 | 5.99E-02 | | | | | OK | |
| 10 | U-238 | TRG | CP5007S16-17 | pCi/g | 1.04E+00 | 2.21E-01 | 6.94E-02 | | | | | OK | |
| 11 | U-238 | TRG | CP5006S01-02 | pCi/g | 1.30E+00 | 2.76E-01 | 4.42E-02 | | | | | OK | |
| 12 | U-238 | TRG | CP5006S03-04 | pCi/g | 2.05E+00 | 3.44E-01 | 7.93E-02 | | | | | OK | |
| 13 | U-238 | TRG | CP5006S04-05 | pCi/g | 1.10E+00 | 2.30E-01 | 5.09E-02 | | | | | OK | |
| 14 | U-238 | TRG | CP5006S07-08 | pCi/g | 1.04E+00 | 2.32E-01 | 5.26E-02 | | | | | OK | |
| 15 | U-238 | TRG | CP5006S09-10 | pCi/g | 1.22E+00 | 2.46E-01 | 3.86E-02 | | | | | OK | |
| 16 | U-238 | TRG | CP5006S12-13 | pCi/g | 9.95E-01 | 2.08E-01 | 5.66E-02 | | | | | OK | |
| 17 | U-238 | TRG | CP5006S14-15 | pCi/g | 1.15E+00 | 2.34E-01 | 5.28E-02 | | | | | OK | |
| 18 | U-238 | TRG | CP5006S17-18 | pCi/g | 1.23E+00 | 3.01E-01 | 6.55E-02 | | | | | OK | |
| 19 | U-238 | TRG | CP5006S19-20 | pCi/g | 1.38E+00 | 2.84E-01 | 6.17E-02 | | | | | OK | |
| 20 | U-238 | TRG | CP5006S22-23 | pCi/g | 1.62E+00 | 3.14E-01 | 6.75E-02 | | | | | OK | |

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|  | 1 Run | UUISO Analysis Code | 15-10085 Eberline Services Work Order | Auxier & Associates, Inc. Client |
|---|-----------------|-------------------------------|---|--|

100001

| | | | |
|---|--|---------------------------|-------|
|  | | Run | 1 |
| Eberline Services Work Order | | Analysis Code | UUISO |
| 15-10085 | | | |
| Client | | Auxier & Associates, Inc. | |

| Lab Fraction | Nuclide | Sample Desc | Sample Date | Sample Aliquot | Radiometric % Rec | Grav % Rec | Mean % Rec | SAF | Sep 10 Date/Time | Sep 11 Date/Time |
|--------------|---------|-------------|----------------|----------------|-------------------|------------|------------|-----|------------------|------------------|
| 01 | U-238 | LCS | 10/14/15 00:00 | 1.00E+00 | 94.20 | 0.00 | 0.00 | | | |
| 02 | U-238 | MBL | 10/14/15 00:00 | 1.50E+00 | 88.23 | 0.00 | 0.00 | | | |
| 03 | U-238 | DUP | 10/07/15 14:20 | 1.52E+00 | 99.90 | 0.00 | 0.00 | | | |
| 04 | U-238 | DO | 10/07/15 14:20 | 1.51E+00 | 94.38 | 0.00 | 0.00 | | | |
| 05 | U-238 | TRG | 10/07/15 14:30 | 1.55E+00 | 135.32 | 0.00 | 0.00 | | | |
| 06 | U-238 | TRG | 10/07/15 14:40 | 1.51E+00 | 124.24 | 0.00 | 0.00 | | | |
| 07 | U-238 | TRG | 10/07/15 14:50 | 1.55E+00 | 106.02 | 0.00 | 0.00 | | | |
| 08 | U-238 | TRG | 10/07/15 15:10 | 1.52E+00 | 112.77 | 0.00 | 0.00 | | | |
| 09 | U-238 | TRG | 10/07/15 15:20 | 1.52E+00 | 107.46 | 0.00 | 0.00 | | | |
| 10 | U-238 | TRG | 10/07/15 15:30 | 1.51E+00 | 101.71 | 0.00 | 0.00 | | | |
| 11 | U-238 | TRG | 10/07/15 16:00 | 1.53E+00 | 88.01 | 0.00 | 0.00 | | | |
| 12 | U-238 | TRG | 10/07/15 16:10 | 1.54E+00 | 105.37 | 0.00 | 0.00 | | | |
| 13 | U-238 | TRG | 10/07/15 16:20 | 1.55E+00 | 108.99 | 0.00 | 0.00 | | | |
| 14 | U-238 | TRG | 10/07/15 16:30 | 1.51E+00 | 87.53 | 0.00 | 0.00 | | | |
| 15 | U-238 | TRG | 10/07/15 16:40 | 1.51E+00 | 103.44 | 0.00 | 0.00 | | | |
| 16 | U-238 | TRG | 10/07/15 16:50 | 1.57E+00 | 116.04 | 0.00 | 0.00 | | | |
| 17 | U-238 | TRG | 10/07/15 17:00 | 1.59E+00 | 106.16 | 0.00 | 0.00 | | | |
| 18 | U-238 | TRG | 10/07/15 17:10 | 1.52E+00 | 76.97 | 0.00 | 0.00 | | | |
| 19 | U-238 | TRG | 10/07/15 17:20 | 1.53E+00 | 98.23 | 0.00 | 0.00 | | | |
| 20 | U-238 | TRG | 10/07/15 17:30 | 1.52E+00 | 111.32 | 0.00 | 0.00 | | | |

Preliminary Data Report & Analytical Calculations
Work Order: 15-10085-UISO-1

| | | |
|---|------------------------------|----------|
|  | Run | 1 |
| | Analysts Code | UISO |
| | Eberline Services Work Order | 15-10085 |
| Client | Auxier & Associates, Inc. | |

| Lab Fraction | Nuclide | Sample Desc | Counting Date/Time | Half-life (days) | Detect | Carrier | Count Time | Counts | Bkg CPM | Eff | A to B, Cor |
|--------------|---------|-------------|--------------------|------------------|--------|-----------|------------|-----------|-----------|------|-------------|
| 01 | U-238 | LCS | 10/28/15 09:09 | | A_Spec | Alpha_012 | 170 | 5.42 E+02 | 2.00 E-03 | 19.4 | |
| 02 | U-238 | MBL | 10/28/15 09:09 | | A_Spec | Alpha_014 | 170 | 2.81 E+00 | 7.00 E-03 | 18.4 | |
| 03 | U-238 | DUP | 10/28/15 09:09 | | A_Spec | Alpha_015 | 170 | 2.81 E+02 | 2.00 E-03 | 23.5 | |
| 04 | U-238 | DO | 10/28/15 09:09 | | A_Spec | Alpha_033 | 170 | 2.04 E+02 | 1.00 E-03 | 18 | |
| 05 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_034 | 170 | 1.61 E+02 | 4.00 E-03 | 17.9 | |
| 06 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_035 | 170 | 1.46 E+02 | 0.00 E+00 | 16.5 | |
| 07 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_036 | 170 | 1.22 E+02 | 0.00 E+00 | 18.1 | |
| 08 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_037 | 170 | 1.39 E+02 | 0.00 E+00 | 17.1 | |
| 09 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_038 | 170 | 1.31 E+02 | 0.00 E+00 | 16.2 | |
| 10 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_039 | 170 | 1.17 E+02 | 1.20 E-02 | 19.3 | |
| 11 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_040 | 170 | 1.23 E+02 | 1.00 E-03 | 18.6 | |
| 12 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_041 | 170 | 2.36 E+02 | 1.90 E-02 | 18.7 | |
| 13 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_042 | 170 | 1.22 E+02 | 4.00 E-03 | 17.4 | |
| 14 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_043 | 170 | 1.03 E+02 | 3.00 E-03 | 20 | |
| 15 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_044 | 170 | 1.32 E+02 | 1.00 E-03 | 18.4 | |
| 16 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_045 | 170 | 1.21 E+02 | 8.00 E-03 | 17.6 | |
| 17 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_046 | 170 | 1.30 E+02 | 5.00 E-03 | 17.8 | |
| 18 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_047 | 170 | 8.97 E+01 | 2.00 E-03 | 16.5 | |
| 19 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_048 | 170 | 1.34 E+02 | 5.00 E-03 | 17 | |
| 20 | U-238 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_049 | 170 | 1.58 E+02 | 7.00 E-03 | 15.3 | |

CP002

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LCS Known | LCS %R | LCS Flag | RPD Flag | MDA Flag | Blank Flag |
|--------------|---------|-------------|-----------------------|----------------|----------|----------------|----------|-----------|--------|----------|----------|----------|------------|
| 01 | U-235 | LCS | LCS | pCi/g | 5.26E-01 | 2.02E-01 | 1.01E-01 | | | | | OK | |
| 02 | U-235 | MBL | BLANK | pCi/g | 3.58E-02 | 4.63E-02 | 6.43E-02 | | | | | OK | OK |
| 03 | U-235 | DUP | CP5007S01-02 | pCi/g | 1.92E-01 | 8.50E-02 | 3.85E-02 | | | | NA | OK | |
| 04 | U-235 | DO | CP5007S01-02 | pCi/g | 8.70E-02 | 6.89E-02 | 5.32E-02 | | | | | OK | |
| 05 | U-235 | TRG | CP5007S03-04 | pCi/g | 5.96E-02 | 4.57E-02 | 3.64E-02 | | | | | OK | |
| 06 | U-235 | TRG | CP5007S06-07 | pCi/g | 6.20E-02 | 5.16E-02 | 4.44E-02 | | | | | OK | |
| 07 | U-235 | TRG | CP5007S08-09 | pCi/g | 1.18E-01 | 7.32E-02 | 5.29E-02 | | | | | OK | |
| 08 | U-235 | TRG | CP5007S11-12 | pCi/g | 1.08E-01 | 7.04E-02 | 5.34E-02 | | | | | OK | |
| 09 | U-235 | TRG | CP5007S13-14 | pCi/g | 1.36E-01 | 8.55E-02 | 7.42E-02 | | | | | OK | |
| 10 | U-235 | TRG | CP5007S16-17 | pCi/g | 5.10E-02 | 5.92E-02 | 9.05E-02 | | | | | OK | |
| 11 | U-235 | TRG | CP5006S01-02 | pCi/g | 8.97E-02 | 6.91E-02 | 5.48E-02 | | | | | OK | |
| 12 | U-235 | TRG | CP5006S03-04 | pCi/g | 8.98E-02 | 6.46E-02 | 6.09E-02 | | | | | OK | |
| 13 | U-235 | TRG | CP5006S04-05 | pCi/g | 9.27E-03 | 2.22E-02 | 4.66E-02 | | | | | OK | |
| 14 | U-235 | TRG | CP5006S07-08 | pCi/g | 8.06E-02 | 6.54E-02 | 6.51E-02 | | | | | OK | |
| 15 | U-235 | TRG | CP5006S09-10 | pCi/g | 1.15E-01 | 7.55E-02 | 6.87E-02 | | | | | OK | |
| 16 | U-235 | TRG | CP5006S12-13 | pCi/g | 8.85E-02 | 6.10E-02 | 4.89E-02 | | | | | OK | |
| 17 | U-235 | TRG | CP5006S14-15 | pCi/g | 1.02E-01 | 6.90E-02 | 6.16E-02 | | | | | OK | |
| 18 | U-235 | TRG | CP5006S17-18 | pCi/g | 3.48E-01 | 1.59E-01 | 8.91E-02 | | | | | OK | |
| 19 | U-235 | TRG | CP5006S19-20 | pCi/g | 4.02E-02 | 5.12E-02 | 7.65E-02 | | | | | OK | |
| 20 | U-235 | TRG | CP5006S22-23 | pCi/g | 8.89E-02 | 7.11E-02 | 7.61E-02 | | | | | OK | |

| | | |
|---|---------------------------|--------|
|  | Run | 1 |
| | Analysis Code | UUIISO |
| Eberline Services Work Order | 15-10085 | |
| Client | Auxier & Associates, Inc. | |

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| | |
|---------------------------|------------------------------|
| | Run |
| UUISO | Analysis Code |
| 15-10085 | Eberline Services Work Order |
| Auxier & Associates, Inc. | Client |

| Lab Fraction | Nuclide | Sample Desc | Sample Date | Sample Aliquot | Radiometric % Rec | Grav % Rec | Mean % Rec | SAF | Sep 10 Date/Time | Sep 11 Date/Time |
|--------------|---------|-------------|----------------|----------------|-------------------|------------|------------|-----|------------------|------------------|
| 01 | U-235 | LCS | 10/14/15 00:00 | 1.00E+00 | 94.20 | 0.00 | 0.00 | | | |
| 02 | U-235 | MBL | 10/14/15 00:00 | 1.50E+00 | 88.23 | 0.00 | 0.00 | | | |
| 03 | U-235 | DUP | 10/07/15 14:20 | 1.52E+00 | 99.90 | 0.00 | 0.00 | | | |
| 04 | U-235 | DO | 10/07/15 14:20 | 1.51E+00 | 94.38 | 0.00 | 0.00 | | | |
| 05 | U-235 | TRG | 10/07/15 14:30 | 1.55E+00 | 135.32 | 0.00 | 0.00 | | | |
| 06 | U-235 | TRG | 10/07/15 14:40 | 1.51E+00 | 124.24 | 0.00 | 0.00 | | | |
| 07 | U-235 | TRG | 10/07/15 14:50 | 1.55E+00 | 106.02 | 0.00 | 0.00 | | | |
| 08 | U-235 | TRG | 10/07/15 15:10 | 1.52E+00 | 112.77 | 0.00 | 0.00 | | | |
| 09 | U-235 | TRG | 10/07/15 15:20 | 1.52E+00 | 107.46 | 0.00 | 0.00 | | | |
| 10 | U-235 | TRG | 10/07/15 15:30 | 1.51E+00 | 101.71 | 0.00 | 0.00 | | | |
| 11 | U-235 | TRG | 10/07/15 16:00 | 1.53E+00 | 88.01 | 0.00 | 0.00 | | | |
| 12 | U-235 | TRG | 10/07/15 16:10 | 1.54E+00 | 105.37 | 0.00 | 0.00 | | | |
| 13 | U-235 | TRG | 10/07/15 16:20 | 1.55E+00 | 108.99 | 0.00 | 0.00 | | | |
| 14 | U-235 | TRG | 10/07/15 16:30 | 1.51E+00 | 87.53 | 0.00 | 0.00 | | | |
| 15 | U-235 | TRG | 10/07/15 16:40 | 1.51E+00 | 103.44 | 0.00 | 0.00 | | | |
| 16 | U-235 | TRG | 10/07/15 16:50 | 1.57E+00 | 116.04 | 0.00 | 0.00 | | | |
| 17 | U-235 | TRG | 10/07/15 17:00 | 1.59E+00 | 106.16 | 0.00 | 0.00 | | | |
| 18 | U-235 | TRG | 10/07/15 17:10 | 1.52E+00 | 76.97 | 0.00 | 0.00 | | | |
| 19 | U-235 | TRG | 10/07/15 17:20 | 1.53E+00 | 98.23 | 0.00 | 0.00 | | | |
| 20 | U-235 | TRG | 10/07/15 17:30 | 1.52E+00 | 111.32 | 0.00 | 0.00 | | | |

Preliminary Data Report & Analytical Calculations
Work Order: 15-10085-UISO-1

| | | | |
|---|--|---------------------------|------|
|  | | Run | 1 |
| Eberline Services Work Order | | Analysis Code | UISO |
| Client | | Auxier & Associates, Inc. | |

| Lab Fraction | Nuclide | Sample Desc | Counting Date/Time | Half-life (days) | Detect | Carrier | Count Time | Counts | Bkg CPM | Eff | A to B, Cor |
|--------------|---------|-------------|--------------------|------------------|--------|-----------|------------|-----------|-----------|------|-------------|
| 01 | U-235 | LCS | 10/28/15 09:09 | | A_Spec | Alpha_012 | 170 | 2.93 E+01 | 4.00 E-03 | 19.4 | |
| 02 | U-235 | MBL | 10/28/15 09:09 | | A_Spec | Alpha_014 | 170 | 2.66 E+00 | 2.00 E-03 | 18.4 | |
| 03 | U-235 | DUP | 10/28/15 09:09 | | A_Spec | Alpha_015 | 170 | 2.08 E+01 | 1.00 E-03 | 23.5 | |
| 04 | U-235 | DO | 10/28/15 09:09 | | A_Spec | Alpha_033 | 170 | 6.83 E+00 | 1.00 E-03 | 18 | |
| 05 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_034 | 170 | 6.83 E+00 | 1.00 E-03 | 17.9 | |
| 06 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_035 | 170 | 5.83 E+00 | 1.00 E-03 | 16.5 | |
| 07 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_036 | 170 | 1.07 E+01 | 2.00 E-03 | 18.1 | |
| 08 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_037 | 170 | 9.66 E+00 | 2.00 E-03 | 17.1 | |
| 09 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_038 | 170 | 1.10 E+01 | 0.00 E+00 | 16.2 | |
| 10 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_039 | 170 | 4.62 E+00 | 1.40 E-02 | 19.3 | |
| 11 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_040 | 170 | 6.83 E+00 | 1.00 E-03 | 18.6 | |
| 12 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_041 | 170 | 8.32 E+00 | 4.00 E-03 | 18.7 | |
| 13 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_042 | 170 | 8.30 E-01 | 1.00 E-03 | 17.4 | |
| 14 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_043 | 170 | 6.49 E+00 | 3.00 E-03 | 20 | |
| 15 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_044 | 170 | 1.00 E+01 | 0.00 E+00 | 18.4 | |
| 16 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_045 | 170 | 8.66 E+00 | 2.00 E-03 | 17.6 | |
| 17 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_046 | 170 | 9.32 E+00 | 4.00 E-03 | 17.8 | |
| 18 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_047 | 170 | 2.05 E+01 | 3.00 E-03 | 16.5 | |
| 19 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_048 | 170 | 3.15 E+00 | 5.00 E-03 | 17 | |
| 20 | U-235 | TRG | 10/28/15 09:09 | | A_Spec | Alpha_049 | 170 | 7.00 E+00 | 0.00 E+00 | 15.3 | |

Count Room Report
Client: Auxier Associates, Inc.

15-10085-UJISO-1 (pCi/g) in SO
Tracer ID: U-10a

| Internal Fraction | Sample Desc | Client ID | Sample Date | Sample Aliquot | Tracer Aliquot (g) | Tracer ACT (dpm) | Radiometric Tracer (pCi) | Radiometric % Rec | SAF 1* | SAF 2* |
|-------------------|-------------|--------------|----------------|----------------|--------------------|------------------|--------------------------|-------------------|--------|--------|
| 01 | LCS | LCS | 10/14/15 00:00 | 1.0000 | 0.6552 | 12.2129 | | 0.00 | | |
| 02 | MBL | BLANK | 10/14/15 00:00 | 1.5000 | 0.6541 | 12.1924 | | 0.00 | | |
| 03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 1.5154 | 0.6594 | 12.2912 | | 0.00 | | |
| 04 | DO | CP5007S01-02 | 10/07/15 14:20 | 1.5098 | 0.6538 | 12.1868 | | 0.00 | | |
| 05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 1.5505 | 0.6649 | 12.3937 | | 0.00 | | |
| 06 | TRG | CP5007S06-07 | 10/07/15 14:40 | 1.5053 | 0.6574 | 12.2539 | | 0.00 | | |
| 07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 1.5463 | 0.6520 | 12.1533 | | 0.00 | | |
| 08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 1.5212 | 0.6532 | 12.1756 | | 0.00 | | |
| 09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 1.5239 | 0.6544 | 12.1980 | | 0.00 | | |
| 10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 1.5072 | 0.6532 | 12.1756 | | 0.00 | | |
| 11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 1.5267 | 0.6550 | 12.2092 | | 0.00 | | |
| 12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 1.5377 | 0.6581 | 12.2670 | | 0.00 | | |
| 13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 1.5486 | 0.6519 | 12.1514 | | 0.00 | | |
| 14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 1.5087 | 0.6579 | 12.2633 | | 0.00 | | |
| 15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 1.5050 | 0.6684 | 12.4590 | | 0.00 | | |
| 16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 1.5687 | 0.6523 | 12.1589 | | 0.00 | | |
| 17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 1.5907 | 0.6524 | 12.1607 | | 0.00 | | |
| 18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 1.5179 | 0.6536 | 12.1831 | | 0.00 | | |
| 19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 1.5347 | 0.6534 | 12.1794 | | 0.00 | | |
| 20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 1.5191 | 0.6524 | 12.1607 | | 0.00 | | |

12
15
17
0520

10085
49

| Internal Work Order | | Run | Analysis Code | | Date | Technician | | Technician Initials | | Witness Initials | |
|--------------------------------|-------|----------------|---------------|-----------------|-------------------------|--------------------|---------------------|---------------------|---------------|------------------|--------------------|
| 15-10085 | | 1 | UUISO | | 10/16/2015 11:38 | JPACHELLA | | <i>[Signature]</i> | | | |
| LCS & Matrix Spikes | | | | | | | | | | | |
| Isotope | Sol # | Activity dpm/g | Solution Date | Approx Addition | LCS Volume Used (g) | MS Volume Used (g) | LCS Volume Used (g) | MSD Volume Used (g) | LCS Known pCi | MS Added pCi | MSD Error Estimate |
| U-234 | U-8a | 35.240 | 10/16/2015 | 0.500 | 0.5083 | | 8.07 | 0.290 | 0.00 | 0.000 | 0.000 |
| U-238 | U-8a | 34.350 | 10/16/2015 | 0.500 | 0.5083 | | 7.86 | 0.283 | 0.00 | 0.000 | 0.000 |

1C-99 MS 1C-2A 22043.636 7/5/2014 0.1

| Balance Printer Tapes | | | | | | | | | | | | |
|-----------------------|---------|-------|----------------|---------------|-----------------|-----------------|--|--|--|--|--|-----|
| Tracers | | | | | | | | | | | | |
| fraction | Isotope | Sol # | Activity dpm/g | Solution Date | Volume Used (g) | Approx Addition | | | | | | |
| 01 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6552 | 0.6500 | | | | | | LCS |
| 02 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6541 | 0.6500 | | | | | | |
| 03 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6594 | 0.6500 | | | | | | |
| 04 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6538 | 0.6500 | | | | | | |
| 05 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6649 | 0.6500 | | | | | | |
| 06 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6574 | 0.6500 | | | | | | |
| 07 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6520 | 0.6500 | | | | | | |
| 08 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6532 | 0.6500 | | | | | | |
| 09 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6544 | 0.6500 | | | | | | |
| 10 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6532 | 0.6500 | | | | | | |
| 11 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6550 | 0.6500 | | | | | | |
| 12 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6581 | 0.6500 | | | | | | |
| 13 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6519 | 0.6500 | | | | | | |
| 14 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6579 | 0.6500 | | | | | | |
| 15 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6684 | 0.6500 | | | | | | |
| 16 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6523 | 0.6500 | | | | | | |
| 17 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6524 | 0.6500 | | | | | | |
| 18 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6536 | 0.6500 | | | | | | |
| 19 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6534 | 0.6500 | | | | | | |
| 20 | U-232 | U-10a | 18.640 | 10/16/2015 | 0.6524 | 0.6500 | | | | | | |

Matrix Spike

Aliquot Worksheet

| | | | | | | | | | | | |
|-----------------|--|----------|--|---------------|--|--------------|--|------------------|--|------------------|--|
| Work Order | | Run | | Analysis Code | | Rpt Units | | Lab Deadline | | Technician | |
| 15-10085 | | 1 | | UUISO | | grams | | 11/6/2015 | | JPACHELLA | |

| Lab Fraction | Auxier & Associates, Inc. | | Sample Type | Muffle Data | | Dilution Data | | | Aliquot Data | | MS Aliquot Data | | H-3 Solids Only | |
|--------------|---------------------------|-----|-------------|----------------|-------------|---------------|-------|---------|--------------|------------|-----------------|------------------|-----------------|--|
| | Client ID | LCS | | Ratio Post/Pre | No of Dilis | Dil Factor | Ratio | Aliquot | Net Equiv | Aliquot | Net Equiv | Water Added (ml) | H3 Dist Aliq | |
| 01 | LCS | | LCS | | | | | | 1.000E+00 | 1.000E+00 | | | | |
| 02 | BLANK | | MBL | | | | | | 1.5000E+00 | 1.5000E+00 | | | | |
| 03 | CP5007S01-02 | | DUP | | | | | | 1.5154E+00 | 1.5154E+00 | | | | |
| 04 | CP5007S01-02 | | DO | | | | | | 1.5098E+00 | 1.5098E+00 | | | | |
| 05 | CP5007S03-04 | | TRG | | | | | | 1.5505E+00 | 1.5505E+00 | | | | |
| 06 | CP5007S06-07 | | TRG | | | | | | 1.5053E+00 | 1.5053E+00 | | | | |
| 07 | CP5007S08-09 | | TRG | | | | | | 1.5463E+00 | 1.5463E+00 | | | | |
| 08 | CP5007S11-12 | | TRG | | | | | | 1.5212E+00 | 1.5212E+00 | | | | |
| 09 | CP5007S13-14 | | TRG | | | | | | 1.5239E+00 | 1.5239E+00 | | | | |
| 10 | CP5007S16-17 | | TRG | | | | | | 1.5072E+00 | 1.5072E+00 | | | | |
| 11 | CP5006S01-02 | | TRG | | | | | | 1.5267E+00 | 1.5267E+00 | | | | |
| 12 | CP5006S03-04 | | TRG | | | | | | 1.5377E+00 | 1.5377E+00 | | | | |
| 13 | CP5006S04-05 | | TRG | | | | | | 1.5486E+00 | 1.5486E+00 | | | | |
| 14 | CP5006S07-08 | | TRG | | | | | | 1.5087E+00 | 1.5087E+00 | | | | |
| 15 | CP5006S09-10 | | TRG | | | | | | 1.5050E+00 | 1.5050E+00 | | | | |
| 16 | CP5006S12-13 | | TRG | | | | | | 1.5687E+00 | 1.5687E+00 | | | | |
| 17 | CP5006S14-15 | | TRG | | | | | | 1.5907E+00 | 1.5907E+00 | | | | |
| 18 | CP5006S17-18 | | TRG | | | | | | 1.5179E+00 | 1.5179E+00 | | | | |
| 19 | CP5006S19-20 | | TRG | | | | | | 1.5347E+00 | 1.5347E+00 | | | | |
| 20 | CP5006S22-23 | | TRG | | | | | | 1.5191E+00 | 1.5191E+00 | | | | |

| |
|----------|
| Comments |
|----------|

Technician: *JPachella* Date: 10.16.15

**Rough Sample Preparation
 Log Book**

| | | | | | |
|-----------------|--------------|-----------------------|-------------|---------------|------------|
| Work Order | Lab Deadline | Date Received in Prep | Date Sealed | Date Returned | Technician |
| 15-10085 | 11/6/2015 | 10/15/2015 | 10/16/2015 | 10/17/2015 | KSALLINGS |

| Eberline Fraction | Auxier & Associates, Inc. Client ID | Tare (g) | | Gross (g) | | Net (g) | | Percent | | Gamma | | Special Info |
|-------------------|-------------------------------------|----------|-----------|-----------|-----------|-----------|-----------|---------|--------|--------|---------|--------------|
| | | Pan Wt | Dry Wt | Wet Wt | Dry Wt | Wet Wt | Dry Wt | Liquid | Solid | Dry Wt | LEPS Wt | |
| 04 | CP5007S01-02 | 14.6200 | 970.8800 | 1146.9400 | 970.8800 | 1132.3200 | 956.0600 | 15.57% | 84.43% | 0.0000 | 0.0000 | |
| 05 | CP5007S03-04 | 14.5900 | 832.5400 | 1008.9800 | 832.5400 | 994.3900 | 817.9500 | 17.74% | 82.26% | 0.0000 | 0.0000 | |
| 06 | CP5007S06-07 | 14.6100 | 770.0900 | 929.4600 | 770.0900 | 914.8500 | 755.4800 | 17.42% | 82.58% | 0.0000 | 0.0000 | |
| 07 | CP5007S08-09 | 14.6800 | 765.9100 | 953.6600 | 765.9100 | 938.9800 | 751.2300 | 20.00% | 80.00% | 0.0000 | 0.0000 | |
| 08 | CP5007S11-12 | 14.6500 | 936.5800 | 1203.9000 | 936.5800 | 1189.2500 | 921.9300 | 22.48% | 77.52% | 0.0000 | 0.0000 | |
| 09 | CP5007S13-14 | 14.6400 | 870.5400 | 1124.9400 | 870.5400 | 1110.3000 | 855.9000 | 22.91% | 77.09% | 0.0000 | 0.0000 | |
| 10 | CP5007S16-17 | 14.6100 | 1066.9400 | 1398.1400 | 1066.9400 | 1383.5300 | 1052.3300 | 23.94% | 76.06% | 0.0000 | 0.0000 | |
| 11 | CP5006S01-02 | 14.6800 | 602.4100 | 676.1800 | 602.4100 | 661.5000 | 587.7300 | 11.15% | 88.85% | 0.0000 | 0.0000 | |
| 12 | CP5006S03-04 | 14.7900 | 893.0800 | 1107.3400 | 893.0800 | 1092.5500 | 878.2900 | 19.61% | 80.39% | 0.0000 | 0.0000 | |
| 13 | CP5006S04-05 | 14.6400 | 552.2100 | 699.8200 | 552.2100 | 685.1800 | 537.5700 | 21.54% | 78.46% | 0.0000 | 0.0000 | |
| 14 | CP5006S07-08 | 14.6200 | 554.4800 | 698.0300 | 554.4800 | 683.4100 | 539.8600 | 21.00% | 79.00% | 0.0000 | 0.0000 | |
| 15 | CP5006S09-10 | 14.6000 | 621.1100 | 813.6800 | 621.1100 | 799.0800 | 606.5100 | 24.10% | 75.90% | 0.0000 | 0.0000 | |
| 16 | CP5006S12-13 | 14.6300 | 591.5100 | 757.3200 | 591.5100 | 742.6900 | 576.8800 | 22.33% | 77.67% | 0.0000 | 0.0000 | |
| 17 | CP5006S14-15 | 14.1800 | 773.1000 | 988.2000 | 773.1000 | 974.0200 | 758.9200 | 22.08% | 77.92% | 0.0000 | 0.0000 | |
| 18 | CP5006S17-18 | 14.1900 | 828.2200 | 1043.0600 | 828.2200 | 1028.8700 | 814.0300 | 20.88% | 79.12% | 0.0000 | 0.0000 | |
| 19 | CP5006S19-20 | 14.1800 | 936.1600 | 1205.0800 | 936.1600 | 1190.9000 | 921.9800 | 22.58% | 77.42% | 0.0000 | 0.0000 | |
| 20 | CP5006S22-23 | 14.1600 | 747.5100 | 966.6800 | 747.5100 | 952.5200 | 733.3500 | 23.01% | 76.99% | 0.0000 | 0.0000 | |

| |
|--|
| Comments |
| Special Codes |
| H: Hot, O: Organic Hazard, P: PCB Hazard, R: Rush, T: Other (see comments) |

Kerry Saez



CB
10/28/15

Apex-Alpha™

Sample Description: SPIKE
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 01
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_012
 Chamber Serial Number:
 Detector Serial Number: 12
 Env. Background: System Bkgd 132575
 Reagent Blank: <not performed>

Sample Size: 1.000E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/28/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:00 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.655 mL
 Effective Efficiency: 0.1824 +/- 0.0103
 Counting Efficiency: 0.1936 +/- 0.0034 on 10/25/2014 6:44:33 PM
 Chem. Recovery Factor: 0.9420 +/- 0.0557

Control Certificate Name: NatU_U-8A
 Chem. Recov. of Control: U-238 0.972955 +/- 0.075005
 Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.278 | 376.15 | 10.12 | 0.85 | 0.00E+000 | 25.3 |
| U-234 | 4.732 | 487.66 | 8.88 | 0.34 | 0.00E+000 | 19.9 |
| U-235 | 4.379 | 29.32 | 36.68 | 0.68 | 0.00E+000 | 3.5 |
| U-238 | 4.145 | 541.66 | 8.42 | 0.34 | 0.00E+000 | 15.3 |

T = Tracer Peak used for Effective Efficiency

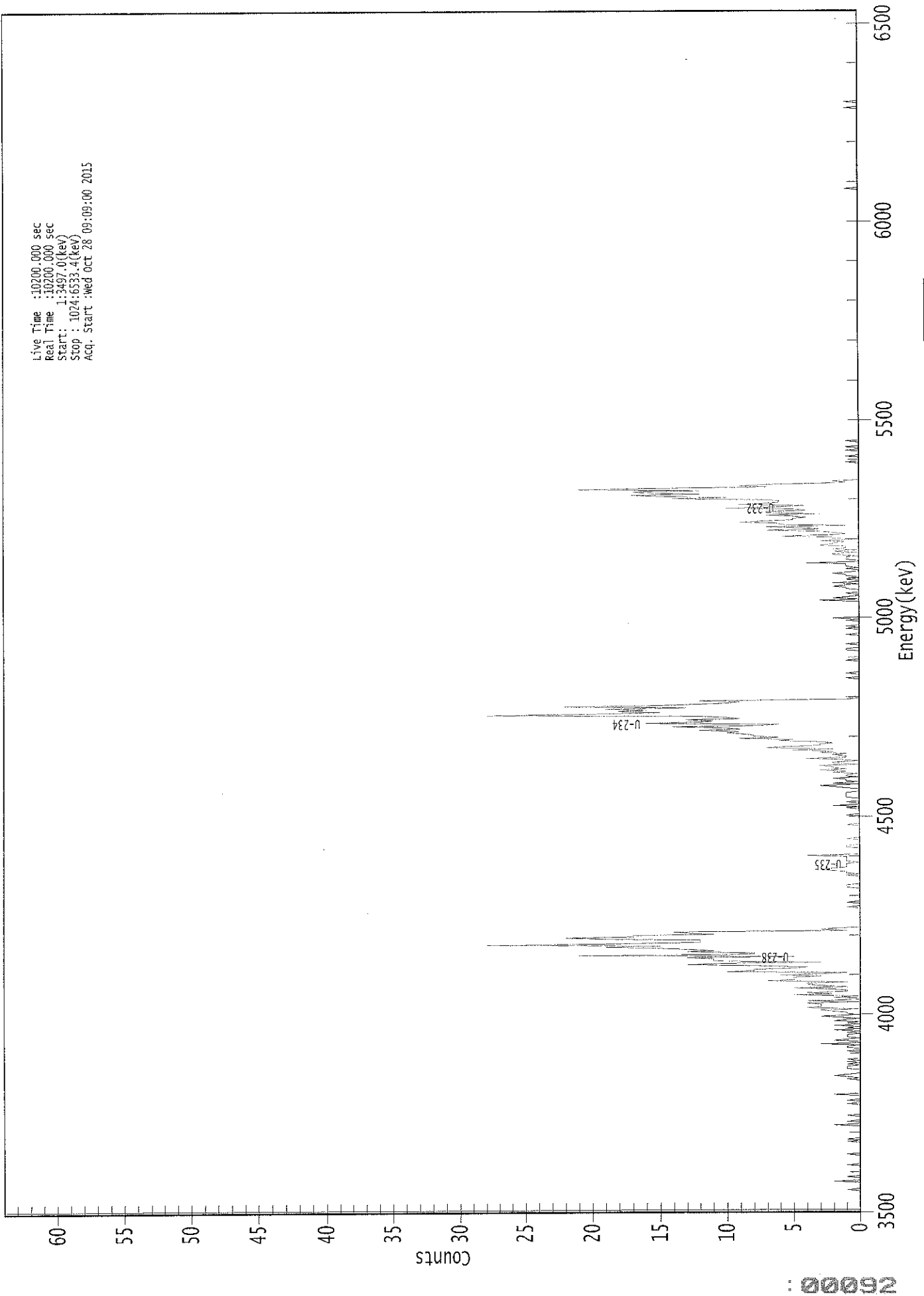
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.996 | 5302.50* | 5.47E+000 +/- 6.07E-001 | 8.71E-002 +/- 9.65E-003 |
| U-234 | 0.994 | 4761.50* | 7.10E+000 +/- 1.01E+000 | 6.96E-002 +/- 7.71E-003 |
| U-235 | 1.000 | 4385.50* | 5.26E-001 +/- 2.02E-001 | 1.01E-001 +/- 1.12E-002 |
| U-238 | 0.989 | 4184.40* | 7.85E+000 +/- 1.09E+000 | 6.93E-002 +/- 7.68E-003 |

AG
 10/28/15

0000132473.CNF

Live Time : 10200.000 sec
Real Time : 10200.000 sec
Start : 1:3497.0(keV)
Stop : 1024:6533.4(keV)
Acq. Start : Wed Oct 28 09:09:00 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 01

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 10200 | 10200 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| 81: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 97: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 |
| 121: | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| 129: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 3 |
| 145: | 0 | 0 | 2 | 1 | 0 | 1 | 1 | 1 |
| 153: | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 2 |
| 161: | 0 | 1 | 0 | 2 | 1 | 0 | 2 | 3 |
| 169: | 0 | 1 | 1 | 2 | 3 | 0 | 4 | 3 |
| 177: | 3 | 3 | 4 | 0 | 4 | 0 | 0 | 2 |
| 185: | 0 | 5 | 2 | 4 | 1 | 1 | 2 | 5 |
| 193: | 1 | 3 | 4 | 4 | 1 | 7 | 5 | 5 |
| 201: | 5 | 3 | 6 | 3 | 1 | 10 | 8 | 8 |
| 209: | 5 | 4 | 7 | 13 | 10 | 3 | 11 | 11 |
| 217: | 11 | 13 | 5 | 21 | 8 | 8 | 13 | 11 |
| 225: | 13 | 15 | 19 | 15 | 28 | 18 | 12 | 12 |
| 233: | 12 | 19 | 22 | 17 | 17 | 11 | 13 | 14 |
| 241: | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 265: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 289: | 0 | 1 | 1 | 2 | 3 | 2 | 1 | 1 |
| 297: | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 305: | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 313: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 345: | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| 353: | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 361: | 0 | 1 | 2 | 3 | 0 | 2 | 0 | 1 |

369: 1 2 0 1 1 0 2 1

Sample Title: 01

| Channel | 1 | 2 | 0 | 1 | 1 | 0 | 2 | 1 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 3 | 1 | 2 | 2 | 3 | 0 | 2 | 2 |
| 385: | 0 | 1 | 4 | 1 | 1 | 2 | 1 | 3 |
| 393: | 2 | 5 | 2 | 7 | 6 | 3 | 3 | 2 |
| 401: | 3 | 6 | 5 | 9 | 6 | 8 | 8 | 9 |
| 409: | 10 | 9 | 12 | 9 | 10 | 14 | 8 | 6 |
| 417: | 16 | 12 | 11 | 13 | 9 | 10 | 12 | 28 |
| 425: | 19 | 15 | 18 | 16 | 19 | 13 | 22 | 15 |
| 433: | 12 | 10 | 9 | 12 | 1 | 0 | 1 | 0 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 457: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 481: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 497: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 505: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 3 | 0 | 2 | 1 | 0 | 0 | 1 | 0 |
| 529: | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 2 |
| 537: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 2 |
| 545: | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 553: | 4 | 0 | 0 | 1 | 1 | 1 | 0 | 2 |
| 561: | 2 | 0 | 2 | 0 | 2 | 1 | 1 | 3 |
| 569: | 2 | 2 | 1 | 3 | 0 | 2 | 2 | 6 |
| 577: | 2 | 1 | 2 | 3 | 7 | 3 | 4 | 7 |
| 585: | 1 | 6 | 6 | 9 | 7 | 5 | 5 | 4 |
| 593: | 5 | 7 | 3 | 7 | 7 | 4 | 5 | 10 |
| 601: | 6 | 4 | 9 | 7 | 6 | 6 | 7 | 14 |
| 609: | 10 | 15 | 17 | 12 | 16 | 17 | 12 | 21 |
| 617: | 16 | 7 | 9 | 7 | 3 | 1 | 2 | 0 |
| 625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 641: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 649: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 657: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 01

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 945: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



10
10/28/15

Sample Description: BLANK
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 02
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_014
 Chamber Serial Number:
 Detector Serial Number: 14
 Env. Background: System Bkgd 132576
 Reagent Blank: <not performed>

Sample Size: 1.500E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/28/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:01 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.654 mL
 Effective Efficiency: 0.1624 +/- 0.0097
 Counting Efficiency: 0.1840 +/- 0.0032 on 10/25/2014 6:45:28 PM
 Chem. Recovery Factor: 0.8823 +/- 0.0548

Peak Match Tolerance: 0.150 MeV

 ----- PEAK AREA REPORT -----

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.269 | 334.28 | 10.77 | 2.72 | 0.00E+000 | 16.5 |
| U-234 | 4.775 | 3.47 | 129.54 | 1.53 | 0.00E+000 | 2.9 |
| U-235 | 4.381 | 2.66 | 128.85 | 0.34 | 0.00E+000 | 2.9 |
| U-238 | 4.087 | 2.81 | 142.98 | 1.19 | 0.00E+000 | 2.9 |

T = Tracer Peak used for Effective Efficiency

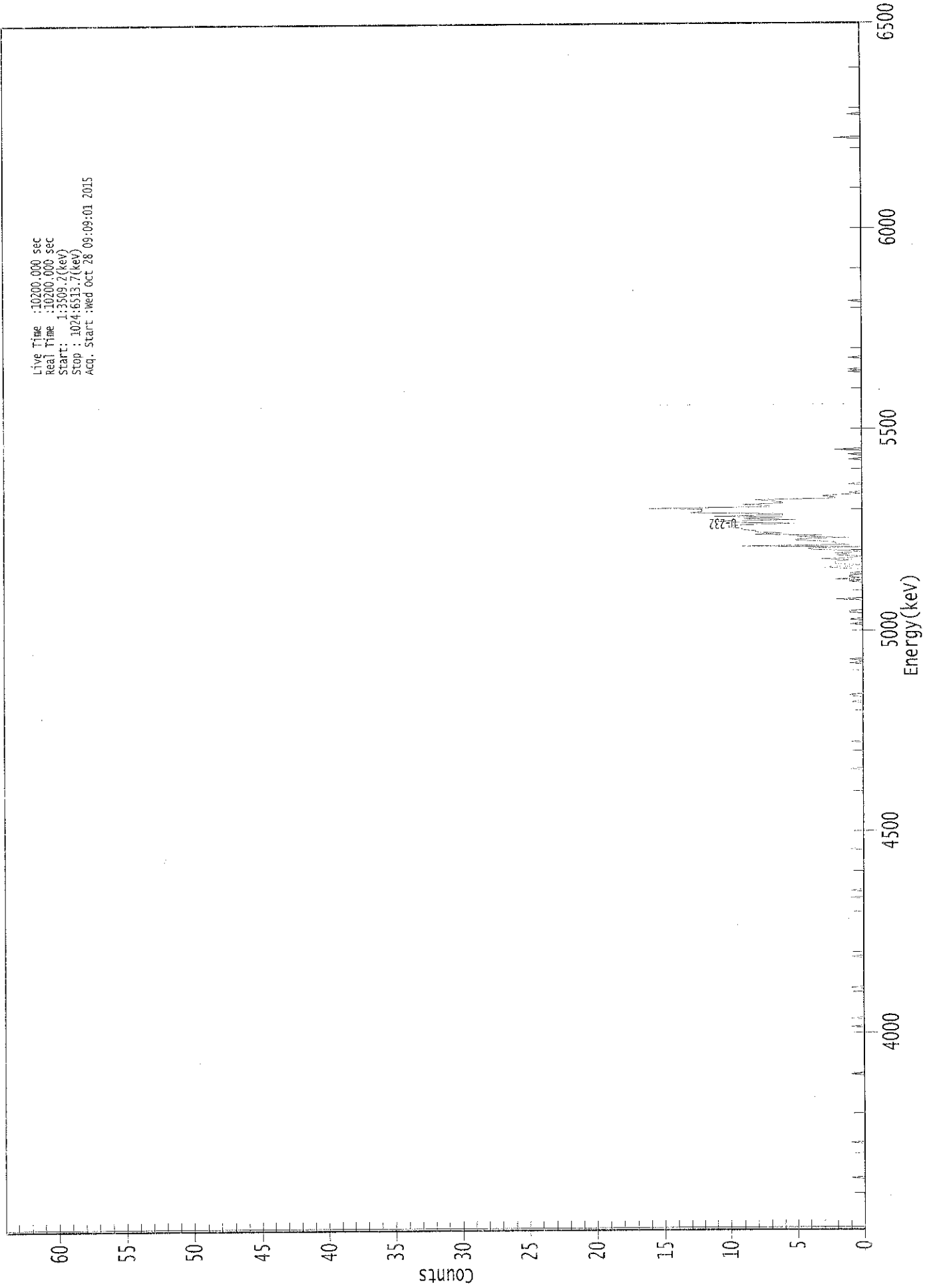
 ----- NUCLIDE ANALYSIS RESULTS -----

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.992 | 5302.50* | 3.64E+000 +/- 4.26E-001 | 9.35E-002 +/- 1.09E-002 |
| U-234 | 0.999 | 4761.50* | 3.78E-002 +/- 4.92E-002 | 7.75E-002 +/- 9.05E-003 |
| U-235 | 1.000 | 4385.50* | 3.58E-002 +/- 4.63E-002 | 6.43E-002 +/- 7.51E-003 |
| U-238 | 0.935 | 4184.40* | 3.05E-002 +/- 4.38E-002 | 7.15E-002 +/- 8.35E-003 |

AG
10/28/15

0000132474.CNF

Live Time : 10200.000 sec
Real Time : 10200.000 sec
Start : 1:3509.7(keV)
Stop : 1024.6513.7(keV)
Acq. Start : Wed Oct 28 09:09:01 2015



ROI Type: 1

ROI Type: 3

16000

***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 02

Elapsed Live time: 10200
Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|-------|-------|---|---|---|---|---|---|---|
| 1: | 10200 | 10200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

369: 0 0 0 0 0 0 0 0 0

Sample Title: 02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|----|----|----|----|----|---|---|----|----|
| 377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 393: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 409: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 417: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 425: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 449: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 521: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 553: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 561: | 1 | 3 | 1 | 0 | 2 | 2 | 2 | 2 | 1 |
| 569: | 3 | 1 | 0 | 2 | 1 | 2 | 0 | 0 | 1 |
| 577: | 4 | 4 | 0 | 9 | 1 | 2 | 2 | 2 | 3 |
| 585: | 5 | 5 | 1 | 5 | 3 | 8 | 6 | 8 | 8 |
| 593: | 8 | 9 | 9 | 10 | 10 | 9 | 5 | 9 | 9 |
| 601: | 11 | 5 | 9 | 6 | 11 | 6 | 6 | 13 | 13 |
| 609: | 12 | 12 | 12 | 16 | 7 | 7 | 9 | 6 | 6 |
| 617: | 6 | 7 | 8 | 2 | 2 | 3 | 2 | 0 | 0 |
| 625: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 657: | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 729: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 02

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

10
20/28/15

Apex-Alpha™

Sample Description: CP5007S01-02-DUP
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 03
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_015
 Chamber Serial Number:
 Detector Serial Number: 15
 Env. Background: System Bkgd 132577
 Reagent Blank: <not performed>

Sample Size: 1.515E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:02 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.659 mL
 Effective Efficiency: 0.2346 +/- 0.0119
 Counting Efficiency: 0.2348 +/- 0.0040 on 5/1/2015 2:28:00 PM
 Chem. Recovery Factor: 0.9990 +/- 0.0536

Peak Match Tolerance: 0.150 MeV

 ----- PEAK AREA REPORT -----

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.282 | 486.83 | 8.88 | 0.17 | 0.00E+000 | 31.2 |
| U-234 | 4.731 | 284.49 | 11.63 | 0.51 | 0.00E+000 | 17.4 |
| U-235 | 4.384 | 20.83 | 43.15 | 0.17 | 0.00E+000 | 3.0 |
| U-238 | 4.157 | 280.66 | 11.71 | 0.34 | 0.00E+000 | 47.1 |

T = Tracer Peak used for Effective Efficiency

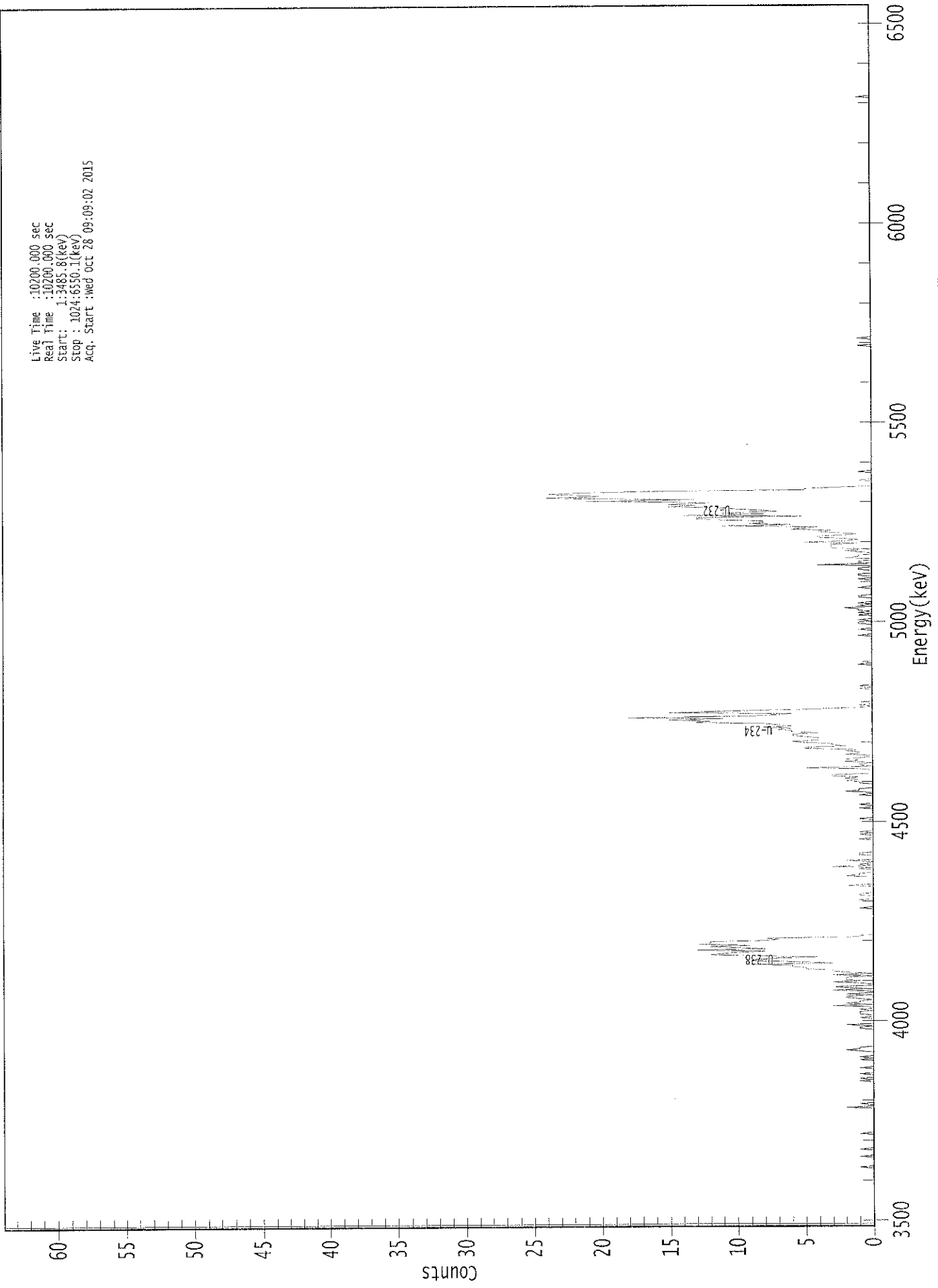
 ----- NUCLIDE ANALYSIS RESULTS -----

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.997 | 5302.50* | 3.64E+000 +/- 3.63E-001 | 3.12E-002 +/- 3.11E-003 |
| U-234 | 0.993 | 4761.50* | 2.12E+000 +/- 3.25E-001 | 3.92E-002 +/- 3.91E-003 |
| U-235 | 1.000 | 4385.50* | 1.92E-001 +/- 8.50E-002 | 3.85E-002 +/- 3.83E-003 |
| U-238 | 0.995 | 4184.40* | 2.09E+000 +/- 3.21E-001 | 3.56E-002 +/- 3.54E-003 |

AG
 10/28/15

0000132475.CNF

Live Time : 10200.000 sec
Real Time : 10200.000 sec
Start : 1:3485.8(keV)
Stop : 1024:6550.1(keV)
Acq. Start : Wed Oct 28 09:09:02 2015



ROI Type: 1

ROI Type: 3

20100

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 03

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 10200 | 10200 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 65: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 129: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 145: | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 169: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 177: | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 185: | 3 | 0 | 2 | 1 | 1 | 0 | 1 | 2 |
| 193: | 2 | 0 | 2 | 0 | 0 | 3 | 0 | 2 |
| 201: | 3 | 0 | 0 | 1 | 3 | 1 | 2 | 2 |
| 209: | 2 | 0 | 3 | 0 | 2 | 3 | 3 | 5 |
| 217: | 5 | 6 | 6 | 9 | 3 | 5 | 9 | 9 |
| 225: | 7 | 4 | 9 | 12 | 11 | 10 | 8 | 13 |
| 233: | 8 | 10 | 12 | 9 | 13 | 12 | 12 | 8 |
| 241: | 7 | 8 | 1 | 1 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 |
| 297: | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 1 |
| 305: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 |
| 313: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 329: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 353: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 0 |

369: 0 0 0 1 1 2 1 2

Sample Title: 03

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 1 | 3 | 3 | 0 | 0 | 0 | 0 | 1 |
| 385: | 5 | 0 | 1 | 1 | 0 | 2 | 1 | 2 |
| 393: | 1 | 0 | 0 | 2 | 1 | 1 | 2 | 1 |
| 401: | 5 | 5 | 2 | 3 | 3 | 5 | 6 | 4 |
| 409: | 4 | 4 | 5 | 6 | 6 | 4 | 6 | 6 |
| 417: | 7 | 6 | 8 | 6 | 7 | 8 | 13 | 12 |
| 425: | 15 | 11 | 18 | 9 | 7 | 6 | 15 | 12 |
| 433: | 8 | 4 | 1 | 0 | 1 | 0 | 0 | 0 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 497: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 505: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 513: | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 1 |
| 521: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 545: | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 553: | 0 | 4 | 0 | 1 | 1 | 0 | 0 | 2 |
| 561: | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 3 |
| 569: | 3 | 3 | 3 | 1 | 5 | 2 | 1 | 2 |
| 577: | 4 | 4 | 2 | 1 | 3 | 4 | 3 | 6 |
| 585: | 5 | 4 | 11 | 6 | 9 | 8 | 8 | 11 |
| 593: | 13 | 13 | 5 | 14 | 8 | 11 | 7 | 8 |
| 601: | 10 | 11 | 15 | 13 | 15 | 12 | 15 | 21 |
| 609: | 13 | 20 | 24 | 20 | 21 | 24 | 22 | 17 |
| 617: | 5 | 5 | 3 | 0 | 0 | 0 | 0 | 0 |
| 625: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 03

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KB
10/28/15

Sample Description: CP5007S01-02
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 04
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_033
 Chamber Serial Number: 04026479A
 Detector Serial Number: 91132
 Env. Background: System Bkgd 132578
 Reagent Blank: <not performed>

Sample Size: 1.510E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:03 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.654 mL
 Effective Efficiency: 0.1703 +/- 0.0099
 Counting Efficiency: 0.1805 +/- 0.0032 on 10/25/2014 2:26:39 PM
 Chem. Recovery Factor: 0.9438 +/- 0.0574

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.275 | 350.49 | 10.48 | 0.51 | 0.00E+000 | 22.2 |
| U-234 | 4.730 | 221.49 | 13.19 | 0.51 | 0.00E+000 | 8.6 |
| U-235 | 4.416 | 6.83 | 76.08 | 0.17 | 0.00E+000 | 3.0 |
| U-238 | 4.148 | 203.83 | 13.74 | 0.17 | 0.00E+000 | 5.3 |

T = Tracer Peak used for Effective Efficiency

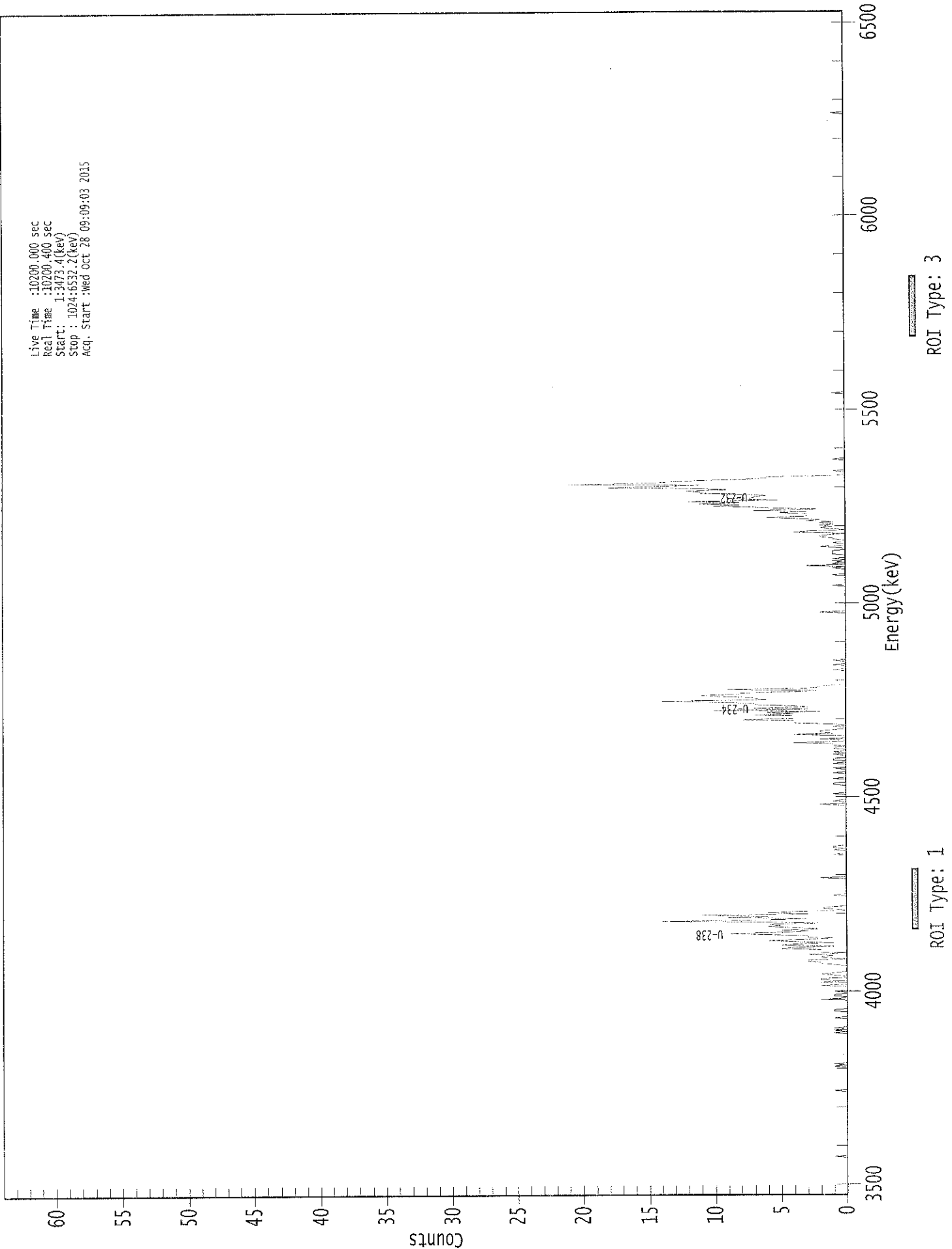
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.995 | 5302.50* | 3.62E+000 +/- 4.13E-001 | 5.42E-002 +/- 6.18E-003 |
| U-234 | 0.993 | 4761.50* | 2.29E+000 +/- 3.99E-001 | 5.42E-002 +/- 6.18E-003 |
| U-235 | 0.993 | 4385.50* | 8.70E-002 +/- 6.69E-002 | 5.32E-002 +/- 6.06E-003 |
| U-238 | 0.990 | 4184.40* | 2.10E+000 +/- 3.74E-001 | 4.29E-002 +/- 4.89E-003 |

AG
10/28/15

0000132482.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:34:3.4 (keV)
Stop : 1024:6532.2 (keV)
Acq. Start : Wed Oct 28 09:09:03 2015



10100

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 04

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|----|---|---|----|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 113: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 145: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 161: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 177: | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 185: | 2 | 0 | 2 | 2 | 0 | 0 | 1 | 2 | 0 |
| 193: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 201: | 2 | 2 | 3 | 3 | 0 | 2 | 2 | 1 | 0 |
| 209: | 3 | 0 | 2 | 2 | 2 | 5 | 4 | 1 | 0 |
| 217: | 5 | 4 | 1 | 4 | 6 | 3 | 1 | 3 | 0 |
| 225: | 3 | 6 | 9 | 5 | 3 | 5 | 2 | 4 | 0 |
| 233: | 6 | 5 | 6 | 2 | 7 | 14 | 5 | 3 | 0 |
| 241: | 9 | 6 | 11 | 3 | 6 | 4 | 0 | 1 | 0 |
| 249: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 297: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 361: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

369: 1 0 0 0 1 0 0 1

Sample Title: 04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 385: | 0 | 1 | 1 | 0 | 1 | 1 | 4 | 0 |
| 393: | 0 | 2 | 0 | 0 | 0 | 4 | 1 | 2 |
| 401: | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 4 |
| 409: | 4 | 4 | 8 | 4 | 4 | 4 | 7 | 4 |
| 417: | 6 | 2 | 10 | 3 | 7 | 3 | 4 | 7 |
| 425: | 7 | 10 | 14 | 6 | 7 | 7 | 10 | 11 |
| 433: | 8 | 8 | 4 | 2 | 9 | 3 | 2 | 2 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 457: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 537: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 |
| 545: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 553: | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| 561: | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 569: | 2 | 2 | 1 | 0 | 4 | 3 | 0 | 1 |
| 577: | 2 | 1 | 2 | 1 | 2 | 1 | 3 | 2 |
| 585: | 4 | 6 | 3 | 3 | 3 | 5 | 3 | 7 |
| 593: | 2 | 5 | 7 | 10 | 8 | 11 | 8 | 12 |
| 601: | 5 | 9 | 7 | 7 | 6 | 8 | 11 | 11 |
| 609: | 12 | 9 | 11 | 18 | 15 | 11 | 21 | 15 |
| 617: | 13 | 11 | 8 | 6 | 6 | 1 | 0 | 0 |
| 625: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 633: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 04

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KB
10/28/15

Apex-Alpha™

Sample Description: CP5007S03-04
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 05
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_034
 Chamber Serial Number: 04026479B
 Detector Serial Number: 91136
 Env. Background: System Bkgd 132579
 Reagent Blank: <not performed>

Sample Size: 1.551E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:05 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.665 mL
 Effective Efficiency: 0.2420 +/- 0.0121
 Counting Efficiency: 0.1789 +/- 0.0031 on 10/25/2014 2:30:05 PM
 Chem. Recovery Factor: 1.3532 +/- 0.0718

Peak Match Tolerance: 0.150 MeV

 ----- PEAK AREA REPORT -----

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.276 | 506.49 | 8.71 | 0.51 | 0.00E+000 | 18.1 |
| U-234 | 4.730 | 160.49 | 15.50 | 0.51 | 0.00E+000 | 14.2 |
| U-235 | 4.383 | 6.83 | 76.08 | 0.17 | 0.00E+000 | 3.0 |
| U-238 | 4.149 | 161.32 | 15.47 | 0.68 | 0.00E+000 | 4.2 |

T = Tracer Peak used for Effective Efficiency

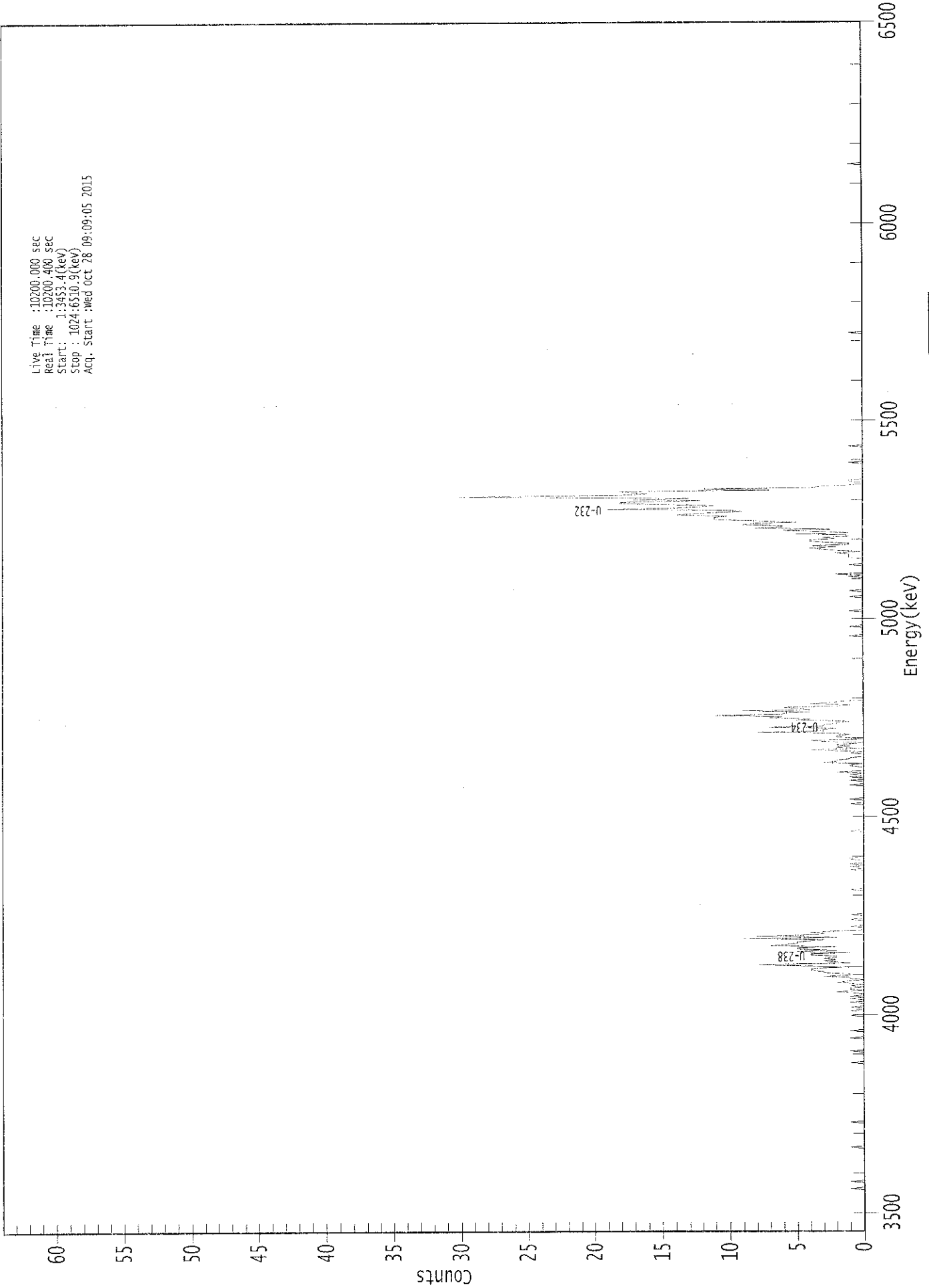
 ----- NUCLIDE ANALYSIS RESULTS -----

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.995 | 5302.50* | 3.59E+000 +/- 3.52E-001 | 3.71E-002 +/- 3.65E-003 |
| U-234 | 0.993 | 4761.50* | 1.14E+000 +/- 2.08E-001 | 3.71E-002 +/- 3.64E-003 |
| U-235 | 1.000 | 4385.50* | 5.96E-002 +/- 4.57E-002 | 3.64E-002 +/- 3.57E-003 |
| U-238 | 0.991 | 4184.40* | 1.14E+000 +/- 2.08E-001 | 3.97E-002 +/- 3.90E-003 |

AG
10/28/15

0000132483.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:3453.4(keV)
Stop : 1024:6510.9(keV)
Acq. Start : Wed Oct 28 09:09:05 2015



ROI Type: 3

ROI Type: 1

369: 0 0 0 0 0 0 0 0 0

Sample Title: 05

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 385: | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 |
| 393: | 0 | 1 | 1 | 0 | 3 | 2 | 2 | 1 |
| 401: | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 4 |
| 409: | 0 | 2 | 1 | 2 | 1 | 0 | 3 | 4 |
| 417: | 0 | 1 | 2 | 2 | 1 | 2 | 8 | 3 |
| 425: | 3 | 2 | 7 | 3 | 3 | 2 | 2 | 1 |
| 433: | 5 | 4 | 7 | 6 | 11 | 6 | 6 | 4 |
| 441: | 9 | 4 | 5 | 6 | 2 | 1 | 4 | 2 |
| 449: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| 561: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 569: | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 2 |
| 577: | 3 | 4 | 2 | 4 | 1 | 1 | 3 | 4 |
| 585: | 4 | 2 | 3 | 1 | 1 | 5 | 1 | 3 |
| 593: | 6 | 2 | 8 | 6 | 6 | 9 | 8 | 5 |
| 601: | 8 | 11 | 11 | 11 | 10 | 14 | 13 | 11 |
| 609: | 9 | 10 | 19 | 14 | 12 | 11 | 15 | 18 |
| 617: | 18 | 12 | 17 | 13 | 22 | 30 | 18 | 16 |
| 625: | 17 | 18 | 7 | 12 | 4 | 3 | 1 | 0 |
| 633: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 05

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KB
10/28/15

Sample Description: CP5007S06-07
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 06
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_035
 Chamber Serial Number: 04026477A
 Detector Serial Number: 58771
 Env. Background: System Bkgd 132580
 Reagent Blank: <not performed>

Sample Size: 1.505E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:06 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.657 mL
 Effective Efficiency: 0.2047 +/- 0.0110
 Counting Efficiency: 0.1647 +/- 0.0029 on 10/25/2014 2:34:10 PM
 Chem. Recovery Factor: 1.2424 +/- 0.0704

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.302 | 423.49 | 9.53 | 0.51 | 0.00E+000 | 27.3 |
| U-234 | 4.749 | 143.83 | 16.35 | 0.17 | 0.00E+000 | 5.1 |
| U-235 | 4.387 | 5.83 | 82.55 | 0.17 | 0.00E+000 | 3.0 |
| U-238 | 4.180 | 146.00 | 16.28 | 0.00 | 0.00E+000 | 9.3 |

T = Tracer Peak used for Effective Efficiency

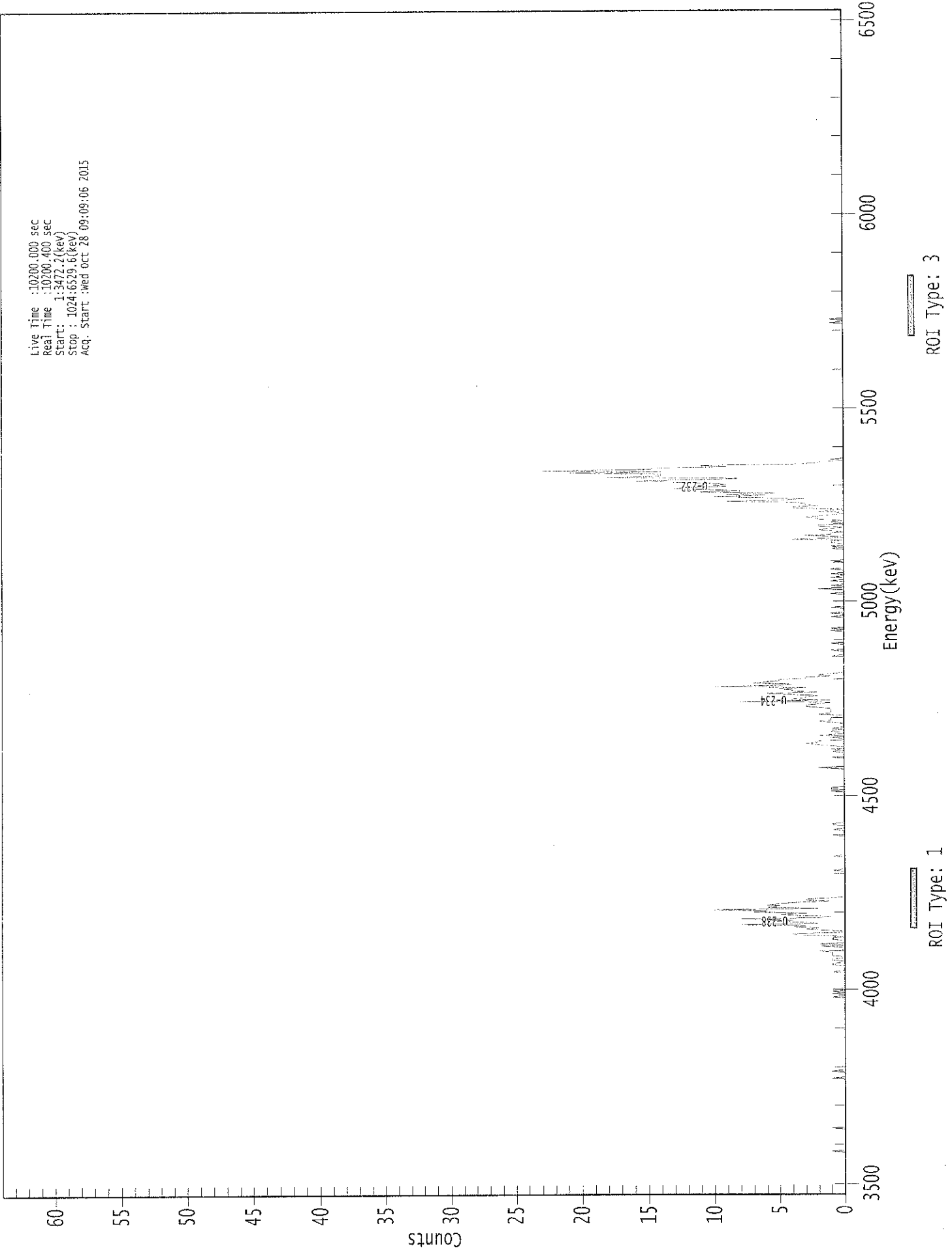
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 1.000 | 5302.50* | 3.65E+000 +/- 3.85E-001 | 4.52E-002 +/- 4.77E-003 |
| U-234 | 0.999 | 4761.50* | 1.24E+000 +/- 2.41E-001 | 3.60E-002 +/- 3.79E-003 |
| U-235 | 1.000 | 4385.50* | 6.20E-002 +/- 5.16E-002 | 4.44E-002 +/- 4.68E-003 |
| U-238 | 1.000 | 4184.40* | 1.25E+000 +/- 2.43E-001 | 5.14E-002 +/- 5.43E-003 |

AG
10/28/15

0000132480.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:34:2.2(keV)
Stop : 1024:6529.6(keV)
Acq. Start : Wed Oct 28 09:09:06 2015



: 00117

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 06

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|----|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 105: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 177: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 201: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 209: | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 0 |
| 217: | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 225: | 4 | 4 | 0 | 0 | 0 | 2 | 3 | 2 | 4 |
| 233: | 3 | 8 | 2 | 3 | 6 | 4 | 4 | 8 | 2 |
| 241: | 1 | 4 | 5 | 3 | 7 | 6 | 6 | 10 | 2 |
| 249: | 6 | 5 | 6 | 5 | 4 | 1 | 3 | 3 | 3 |
| 257: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 313: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 321: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

369: 2 0 0 0 0 0 0 0 0

Sample Title: 06

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|----|----|----|----|----|----|----|----|----|
| 377: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 385: | 1 | 0 | 0 | 1 | 2 | 3 | 2 | 2 | 2 |
| 393: | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 1 |
| 401: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 409: | 2 | 1 | 1 | 1 | 0 | 0 | 2 | 1 | 1 |
| 417: | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 2 | 2 |
| 425: | 1 | 8 | 1 | 4 | 3 | 3 | 2 | 4 | 4 |
| 433: | 6 | 2 | 4 | 4 | 5 | 3 | 10 | 5 | 5 |
| 441: | 4 | 7 | 6 | 5 | 5 | 3 | 3 | 1 | 1 |
| 449: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 489: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 505: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 521: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| 529: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 537: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 561: | 0 | 0 | 1 | 1 | 0 | 4 | 0 | 0 | 0 |
| 569: | 3 | 1 | 1 | 0 | 1 | 2 | 1 | 0 | 0 |
| 577: | 2 | 2 | 0 | 0 | 1 | 0 | 2 | 2 | 2 |
| 585: | 3 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| 593: | 4 | 4 | 2 | 3 | 3 | 4 | 9 | 5 | 5 |
| 601: | 3 | 7 | 10 | 6 | 9 | 5 | 11 | 8 | 8 |
| 609: | 10 | 13 | 12 | 9 | 10 | 9 | 11 | 14 | 14 |
| 617: | 16 | 10 | 8 | 18 | 14 | 14 | 14 | 21 | 21 |
| 625: | 14 | 23 | 15 | 14 | 9 | 11 | 4 | 2 | 2 |
| 633: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 06

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

kg
10/28/15

Apex-Alpha™

Sample Description: CP5007S08-09
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 07
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_036
 Chamber Serial Number: 04026477B
 Detector Serial Number: 84167
 Env. Background: System Bkgd 132581
 Reagent Blank: <not performed>

Sample Size: 1.546E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:08 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.652 mL
 Effective Efficiency: 0.1914 +/- 0.0106
 Counting Efficiency: 0.1806 +/- 0.0032 on 10/25/2014 2:38:17 PM
 Chem. Recovery Factor: 1.0602 +/- 0.0617

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.286 | 392.83 | 9.89 | 0.17 | 0.00E+000 | 17.5 |
| U-234 | 4.737 | 128.00 | 17.39 | 0.00 | 0.00E+000 | 16.4 |
| U-235 | 4.363 | 10.66 | 61.14 | 0.34 | 0.00E+000 | 3.0 |
| U-238 | 4.167 | 122.00 | 17.82 | 0.00 | 0.00E+000 | 4.6 |

T = Tracer Peak used for Effective Efficiency

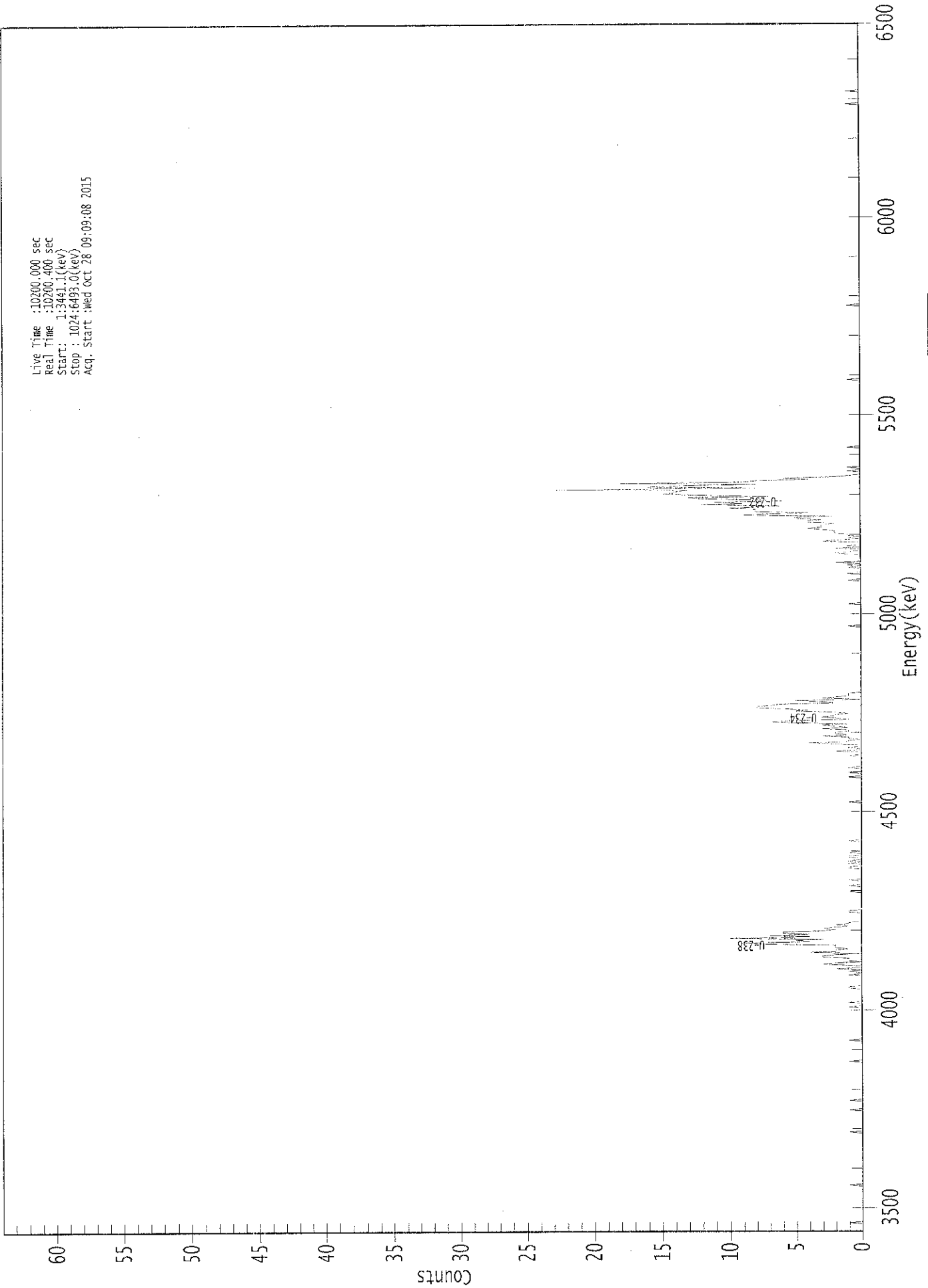
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.998 | 5302.50* | 3.53E+000 +/- 3.83E-001 | 3.75E-002 +/- 4.07E-003 |
| U-234 | 0.996 | 4761.50* | 1.15E+000 +/- 2.35E-001 | 5.38E-002 +/- 5.85E-003 |
| U-235 | 0.996 | 4385.50* | 1.18E-001 +/- 7.32E-002 | 5.29E-002 +/- 5.75E-003 |
| U-238 | 0.998 | 4184.40* | 1.09E+000 +/- 2.27E-001 | 5.35E-002 +/- 5.82E-003 |

AG
 10/28/15

0000132481.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start: 1:3441.1(kev)
Stop : 1024:6493.0(kev)
Acq. Start :wed Oct 28 09:09:08 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 07

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 193: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 |
| 225: | 0 | 1 | 3 | 2 | 0 | 1 | 1 | 1 |
| 233: | 3 | 3 | 2 | 0 | 4 | 2 | 2 | 1 |
| 241: | 2 | 2 | 2 | 7 | 9 | 4 | 5 | 3 |
| 249: | 10 | 4 | 7 | 4 | 6 | 6 | 3 | 2 |
| 257: | 3 | 2 | 1 | 2 | 1 | 1 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 289: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 297: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 313: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 321: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

369: 0 0 0 0 0 0 0 0 0

Sample Title: 07

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 393: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 401: | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 409: | 0 | 1 | 0 | 0 | 2 | 4 | 1 | 1 |
| 417: | 0 | 1 | 1 | 3 | 1 | 2 | 2 | 1 |
| 425: | 1 | 3 | 1 | 2 | 3 | 1 | 5 | 7 |
| 433: | 5 | 1 | 2 | 3 | 2 | 2 | 1 | 2 |
| 441: | 5 | 4 | 6 | 8 | 8 | 7 | 6 | 2 |
| 449: | 3 | 5 | 0 | 3 | 2 | 1 | 1 | 1 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 553: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 561: | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 577: | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| 585: | 3 | 2 | 0 | 1 | 0 | 1 | 1 | 2 |
| 593: | 2 | 2 | 3 | 4 | 3 | 3 | 3 | 2 |
| 601: | 4 | 4 | 3 | 5 | 5 | 2 | 9 | 7 |
| 609: | 4 | 8 | 8 | 8 | 10 | 8 | 6 | 12 |
| 617: | 9 | 11 | 6 | 8 | 12 | 13 | 7 | 12 |
| 625: | 15 | 14 | 14 | 13 | 23 | 8 | 16 | 13 |
| 633: | 8 | 18 | 9 | 8 | 4 | 6 | 2 | 1 |
| 641: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 07

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

KB
10/28/15

Sample Description: CP5007S11-12
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 08
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_037
 Chamber Serial Number: 04026478A
 Detector Serial Number: 91133
 Env. Background: System Bkgd 132582
 Reagent Blank: <not performed>

Sample Size: 1.521E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:11 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.653 mL
 Effective Efficiency: 0.1927 +/- 0.0107
 Counting Efficiency: 0.1709 +/- 0.0030 on 10/25/2014 2:46:09 PM
 Chem. Recovery Factor: 1.1277 +/- 0.0655

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.281 | 396.15 | 9.86 | 0.85 | 0.00E+000 | 7.1 |
| U-234 | 4.731 | 123.49 | 17.68 | 0.51 | 0.00E+000 | 12.8 |
| U-235 | 4.386 | 9.66 | 64.35 | 0.34 | 0.00E+000 | 6.0 |
| U-238 | 4.156 | 139.00 | 16.68 | 0.00 | 0.00E+000 | 4.4 |

T = Tracer Peak used for Effective Efficiency

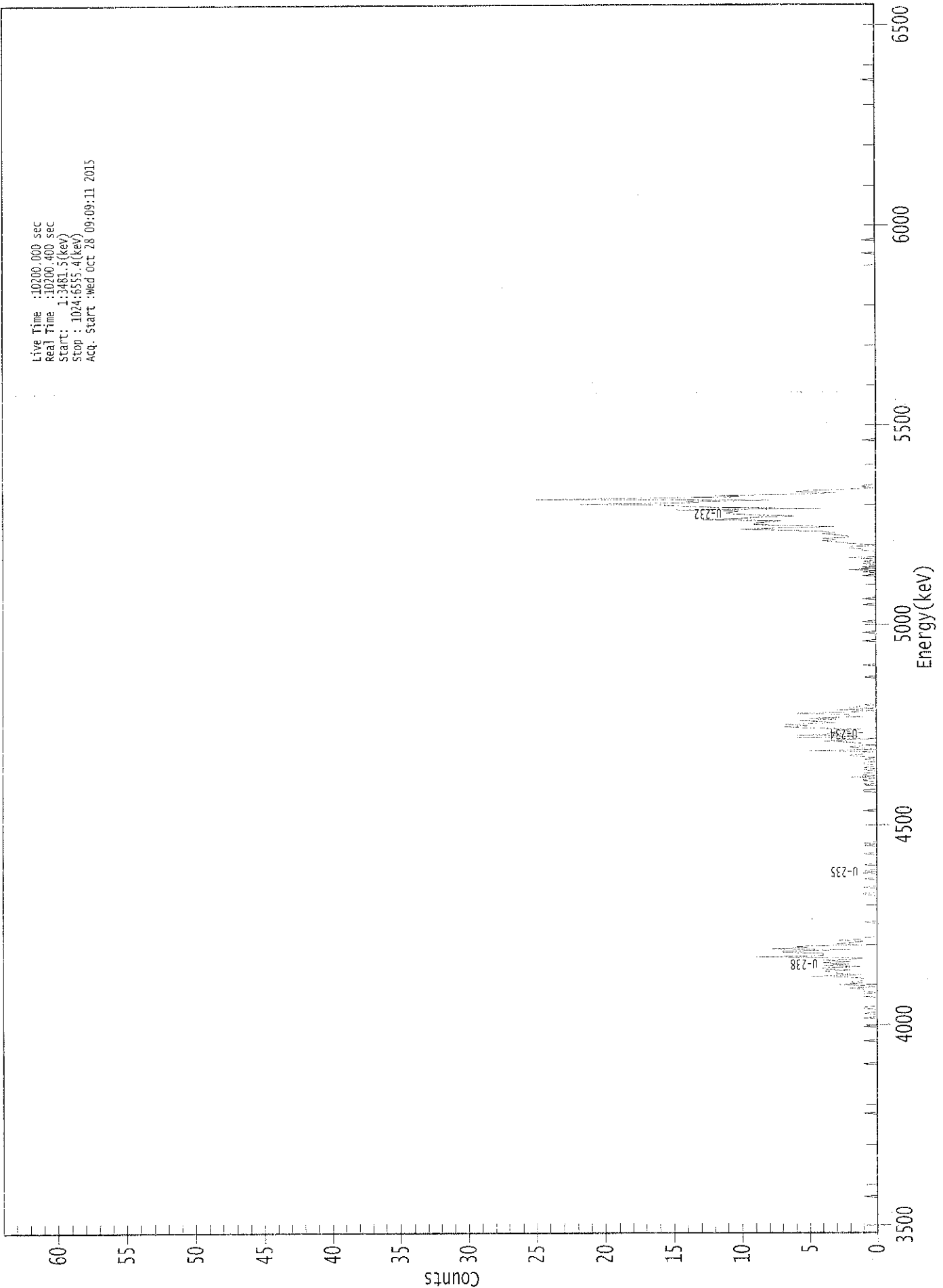
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.997 | 5302.50* | 3.59E+000 +/- 3.89E-001 | 5.43E-002 +/- 5.88E-003 |
| U-234 | 0.993 | 4761.50* | 1.12E+000 +/- 2.32E-001 | 4.75E-002 +/- 5.15E-003 |
| U-235 | 1.000 | 4385.50* | 1.08E-001 +/- 7.04E-002 | 5.34E-002 +/- 5.79E-003 |
| U-238 | 0.994 | 4184.40* | 1.25E+000 +/- 2.49E-001 | 5.41E-002 +/- 5.86E-003 |

AG
10/28/15

0000132476.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3481.3(kev)
Stop : 1024:6555.4(kev)
Acq. Start :Wed Oct 28 09:09:11 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 08

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 185: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 201: | 1 | 1 | 1 | 2 | 0 | 1 | 3 | 1 | 1 |
| 209: | 2 | 1 | 1 | 1 | 2 | 5 | 1 | 3 | 3 |
| 217: | 3 | 4 | 2 | 4 | 4 | 1 | 4 | 2 | 2 |
| 225: | 4 | 2 | 4 | 2 | 1 | 9 | 4 | 4 | 4 |
| 233: | 4 | 7 | 7 | 2 | 8 | 5 | 6 | 1 | 1 |
| 241: | 3 | 2 | 1 | 3 | 1 | 1 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 297: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 305: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

369: 1 0 0 0 0 1 0 0

Sample Title: 08

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|----|----|----|----|----|----|----|----|---|
| 377: | 1 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | |
| 385: | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | |
| 393: | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 1 | |
| 401: | 0 | 5 | 0 | 1 | 2 | 1 | 1 | 1 | |
| 409: | 2 | 4 | 2 | 0 | 6 | 1 | 6 | 3 | |
| 417: | 1 | 2 | 3 | 1 | 5 | 7 | 5 | 7 | |
| 425: | 3 | 4 | 6 | 3 | 5 | 1 | 2 | 2 | |
| 433: | 6 | 2 | 0 | 3 | 0 | 2 | 1 | 1 | |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 473: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 489: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 497: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 505: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 521: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 545: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | |
| 553: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | |
| 561: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 569: | 1 | 2 | 2 | 0 | 1 | 2 | 3 | 4 | |
| 577: | 3 | 4 | 2 | 2 | 3 | 4 | 3 | 4 | |
| 585: | 7 | 10 | 7 | 3 | 7 | 9 | 9 | 8 | |
| 593: | 7 | 13 | 10 | 9 | 6 | 9 | 11 | 11 | |
| 601: | 10 | 15 | 4 | 12 | 14 | 16 | 22 | 13 | |
| 609: | 14 | 8 | 25 | 17 | 10 | 12 | 6 | 3 | |
| 617: | 6 | 5 | 2 | 0 | 1 | 1 | 0 | 0 | |
| 625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 657: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 08

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

10/28/15

Apex-Alpha™

Sample Description: CP5007S13-14
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 09
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_038
 Chamber Serial Number: 04026478B
 Detector Serial Number: 91134
 Env. Background: System Bkgd 132583
 Reagent Blank: <not performed>

Sample Size: 1.524E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:13 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.654 mL
 Effective Efficiency: 0.1736 +/- 0.0100
 Counting Efficiency: 0.1615 +/- 0.0029 on 10/25/2014 2:50:18 PM
 Chem. Recovery Factor: 1.0746 +/- 0.0649

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.279 | 357.49 | 10.37 | 0.51 | 0.00E+000 | 14.6 |
| U-234 | 4.734 | 121.32 | 17.85 | 0.68 | 0.00E+000 | 10.9 |
| U-235 | 4.385 | 11.00 | 61.72 | 0.00 | 0.00E+000 | 3.0 |
| U-238 | 4.154 | 131.00 | 17.19 | 0.00 | 0.00E+000 | 9.4 |

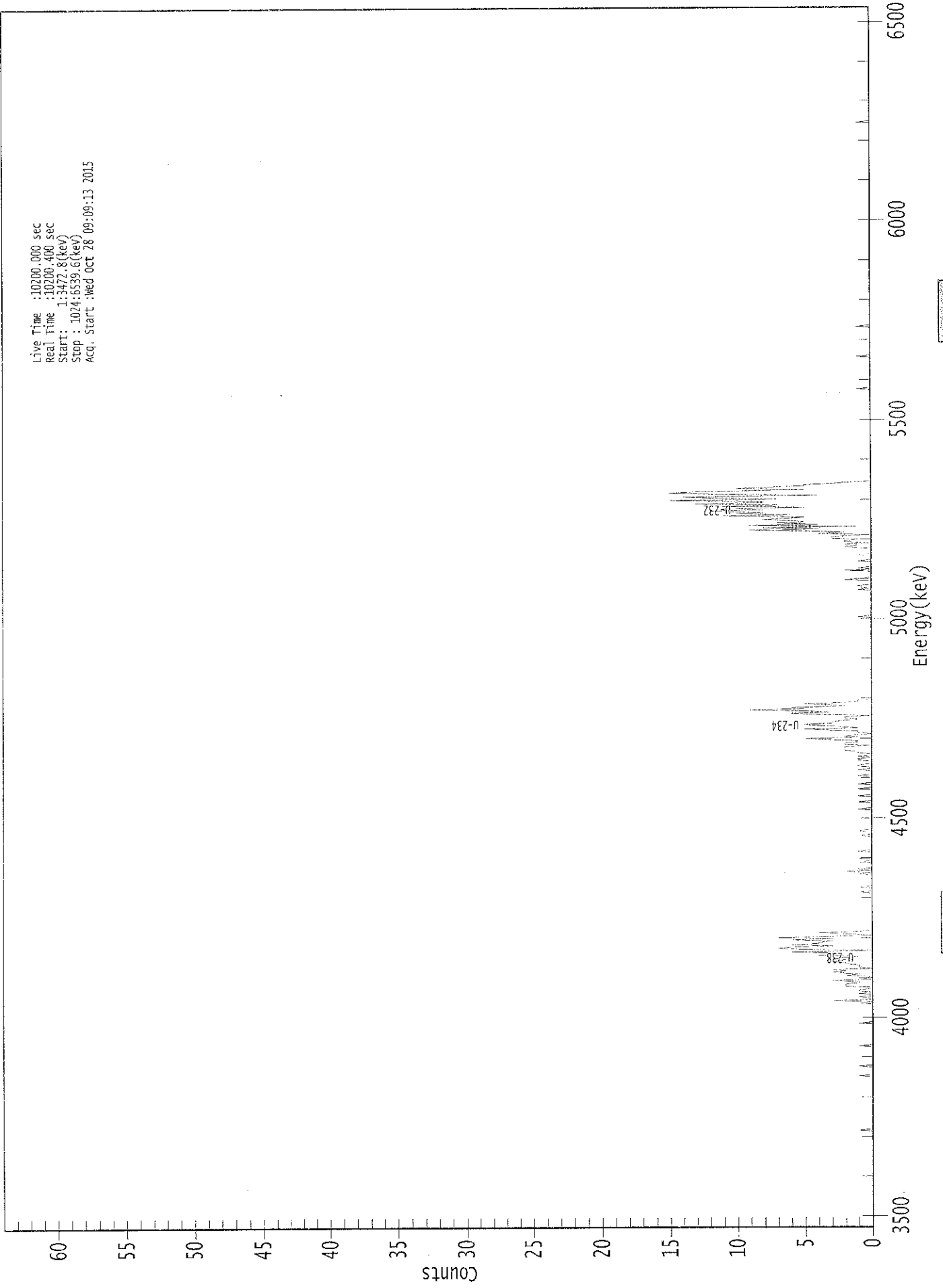
T = Tracer Peak used for Effective Efficiency

 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.996 | 5302.50* | 3.59E+000 +/- 4.06E-001 | 5.27E-002 +/- 5.96E-003 |
| U-234 | 0.995 | 4761.50* | 1.22E+000 +/- 2.57E-001 | 5.66E-002 +/- 6.41E-003 |
| U-235 | 1.000 | 4385.50* | 1.36E-001 +/- 8.55E-002 | 7.42E-002 +/- 8.40E-003 |
| U-238 | 0.994 | 4184.40* | 1.31E+000 +/- 2.69E-001 | 5.99E-002 +/- 6.78E-003 |

AG
10/22/15

0000132477.CNF



Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3472.8(keV)
Stop : 1024:6539.6(keV)
Acq. Start :Wed Oct 28 09:09:13 2015

ROI Type: 3

ROI Type: 1

2E100 :

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 09

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 |
| 193: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 201: | 0 | 0 | 2 | 2 | 2 | 1 | 1 | 3 | 3 |
| 209: | 0 | 1 | 0 | 2 | 1 | 2 | 3 | 2 | 2 |
| 217: | 3 | 0 | 1 | 1 | 1 | 2 | 2 | 3 | 3 |
| 225: | 2 | 3 | 2 | 1 | 4 | 3 | 3 | 6 | 6 |
| 233: | 0 | 5 | 7 | 6 | 3 | 6 | 4 | 4 | 4 |
| 241: | 3 | 6 | 3 | 7 | 3 | 0 | 2 | 4 | 4 |
| 249: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 361: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

369: 0 0 0 1 0 0 0 0

Sample Title: 09

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|----|----|----|----|----|---|----|----|----|
| 377: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 385: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 393: | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 2 |
| 401: | 2 | 2 | 2 | 0 | 2 | 2 | 1 | 1 | 1 |
| 409: | 3 | 5 | 1 | 2 | 1 | 0 | 1 | 1 | 1 |
| 417: | 3 | 5 | 1 | 2 | 4 | 5 | 3 | 3 | 3 |
| 425: | 2 | 1 | 2 | 2 | 0 | 4 | 6 | 3 | 3 |
| 433: | 5 | 9 | 5 | 6 | 2 | 3 | 5 | 2 | 2 |
| 441: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 537: | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 1 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 553: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 561: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 1 | 2 | 1 | 2 | 0 | 2 | 2 | 2 |
| 577: | 1 | 3 | 3 | 2 | 0 | 4 | 2 | 4 | 4 |
| 585: | 9 | 4 | 8 | 1 | 9 | 4 | 7 | 5 | 5 |
| 593: | 6 | 8 | 6 | 5 | 11 | 6 | 10 | 8 | 8 |
| 601: | 12 | 8 | 10 | 5 | 11 | 7 | 13 | 8 | 8 |
| 609: | 8 | 15 | 7 | 12 | 14 | 4 | 10 | 15 | 15 |
| 617: | 14 | 10 | 5 | 10 | 8 | 5 | 5 | 3 | 3 |
| 625: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 09

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



148
10/28/15

Sample Description: CP5007S16-17
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 10
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_039
 Chamber Serial Number: 06027396A
 Detector Serial Number: 83109
 Env. Background: System Bkgd 132584
 Reagent Blank: <not performed>

Sample Size: 1.507E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:15 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.653 mL
 Effective Efficiency: 0.1967 +/- 0.0108
 Counting Efficiency: 0.1934 +/- 0.0034 on 10/25/2014 2:53:34 PM
 Chem. Recovery Factor: 1.0171 +/- 0.0586

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.283 | 404.45 | 9.78 | 2.55 | 0.00E+000 | 25.4 |
| U-234 | 4.733 | 104.47 | 19.34 | 1.53 | 0.00E+000 | 16.5 |
| U-235 | 4.359 | 4.62 | 115.44 | 2.38 | 0.00E+000 | 3.0 |
| U-238 | 4.156 | 116.96 | 18.31 | 2.04 | 0.00E+000 | 7.0 |

T = Tracer Peak used for Effective Efficiency

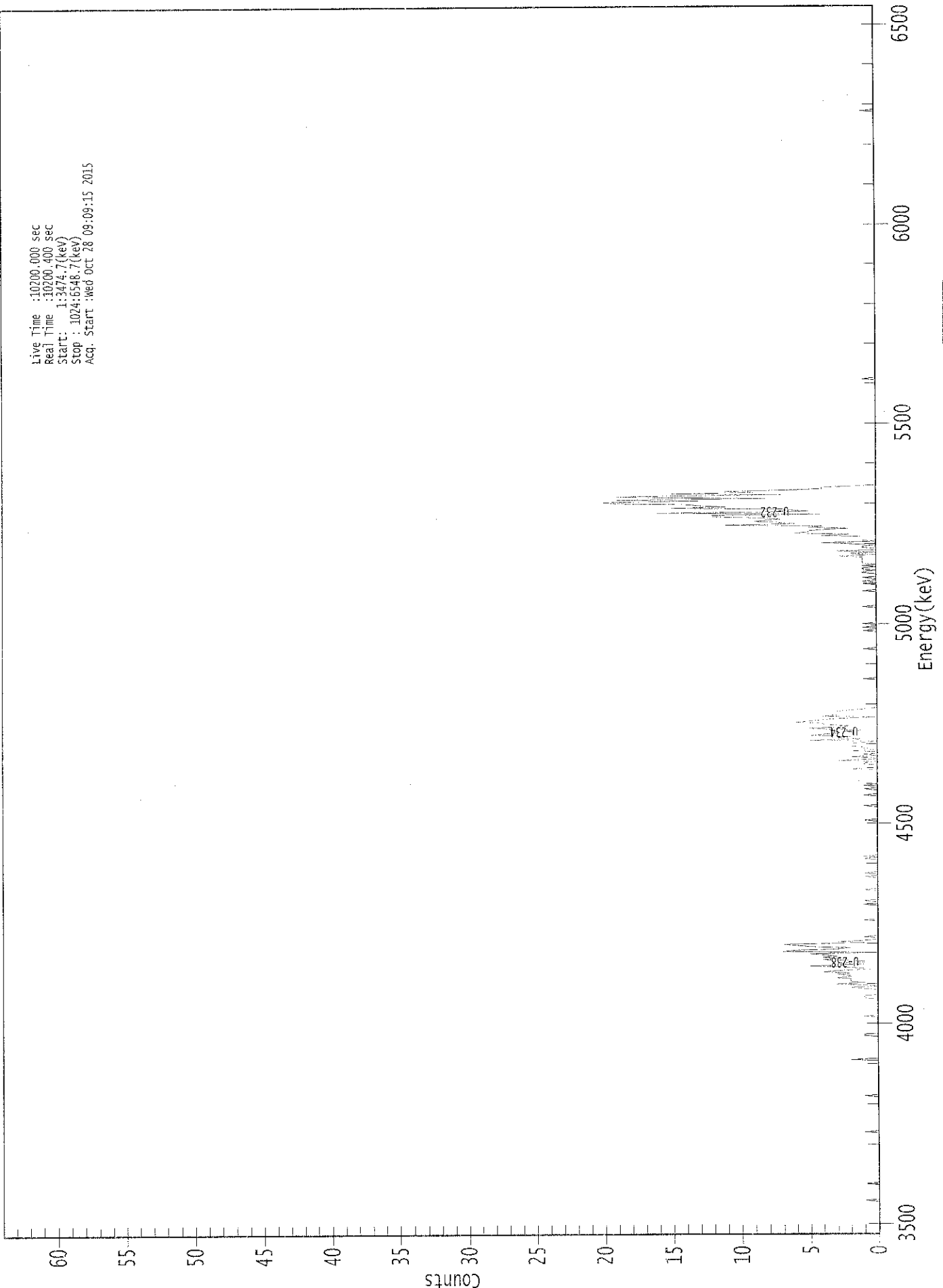
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.997 | 5302.50* | 3.62E+000 +/- 3.90E-001 | 7.52E-002 +/- 8.10E-003 |
| U-234 | 0.994 | 4761.50* | 9.35E-001 +/- 2.07E-001 | 6.36E-002 +/- 6.86E-003 |
| U-235 | 0.995 | 4385.50* | 5.10E-002 +/- 5.92E-002 | 9.05E-002 +/- 9.75E-003 |
| U-238 | 0.994 | 4184.40* | 1.04E+000 +/- 2.21E-001 | 6.94E-002 +/- 7.48E-003 |

AG
10/28/15

0000132494.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:3474.7(keV)
Stop : 1024:6548.7(keV)
Acq. Start : Wed Oct 28 09:09:15 2015



ROI Type: 3

ROI Type: 1

LE100 :

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 10

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 |
| 209: | 3 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 2 |
| 217: | 3 | 2 | 4 | 3 | 1 | 1 | 3 | 5 | 0 |
| 225: | 1 | 3 | 1 | 1 | 4 | 3 | 4 | 3 | 0 |
| 233: | 4 | 5 | 0 | 7 | 6 | 3 | 2 | 5 | 0 |
| 241: | 6 | 7 | 1 | 3 | 1 | 0 | 0 | 1 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

369: 0 0 1 0 0 1 0 0

Sample Title: 10

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| 393: | 1 | 0 | 3 | 0 | 0 | 2 | 0 | 1 |
| 401: | 0 | 0 | 2 | 0 | 1 | 1 | 2 | 2 |
| 409: | 2 | 1 | 0 | 5 | 1 | 3 | 2 | 5 |
| 417: | 4 | 3 | 3 | 1 | 3 | 5 | 3 | 2 |
| 425: | 4 | 4 | 6 | 5 | 4 | 3 | 0 | 4 |
| 433: | 3 | 3 | 3 | 3 | 2 | 1 | 0 | 0 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 505: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 537: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 545: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 553: | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
| 561: | 1 | 1 | 1 | 1 | 3 | 0 | 2 | 0 |
| 569: | 3 | 0 | 0 | 1 | 1 | 0 | 2 | 4 |
| 577: | 0 | 1 | 1 | 1 | 1 | 4 | 2 | 6 |
| 585: | 5 | 5 | 4 | 2 | 5 | 4 | 11 | 6 |
| 593: | 7 | 9 | 8 | 7 | 9 | 12 | 12 | 4 |
| 601: | 16 | 5 | 6 | 7 | 15 | 11 | 13 | 14 |
| 609: | 19 | 20 | 13 | 19 | 8 | 16 | 19 | 7 |
| 617: | 15 | 9 | 11 | 6 | 4 | 4 | 2 | 0 |
| 625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0

Sample Title: 10

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

CB
10/28/15

Apex-Alpha™

Sample Description: CP5006S01-02
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 11
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_040
 Chamber Serial Number: 06027396B
 Detector Serial Number: 91135
 Env. Background: System Bkgd 132585
 Reagent Blank: <not performed>

Sample Size: 1.527E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:17 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.655 mL
 Effective Efficiency: 0.1633 +/- 0.0097
 Counting Efficiency: 0.1856 +/- 0.0032 on 10/25/2014 2:57:14 PM
 Chem. Recovery Factor: 0.8801 +/- 0.0543

Peak Match Tolerance: 0.150 MeV

 ----- PEAK AREA REPORT -----

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.279 | 336.66 | 10.69 | 0.34 | 0.00E+000 | 19.5 |
| U-234 | 4.726 | 105.83 | 19.07 | 0.17 | 0.00E+000 | 6.0 |
| U-235 | 4.364 | 6.83 | 76.08 | 0.17 | 0.00E+000 | 9.0 |
| U-238 | 4.154 | 122.83 | 17.70 | 0.17 | 0.00E+000 | 3.8 |

T = Tracer Peak used for Effective Efficiency

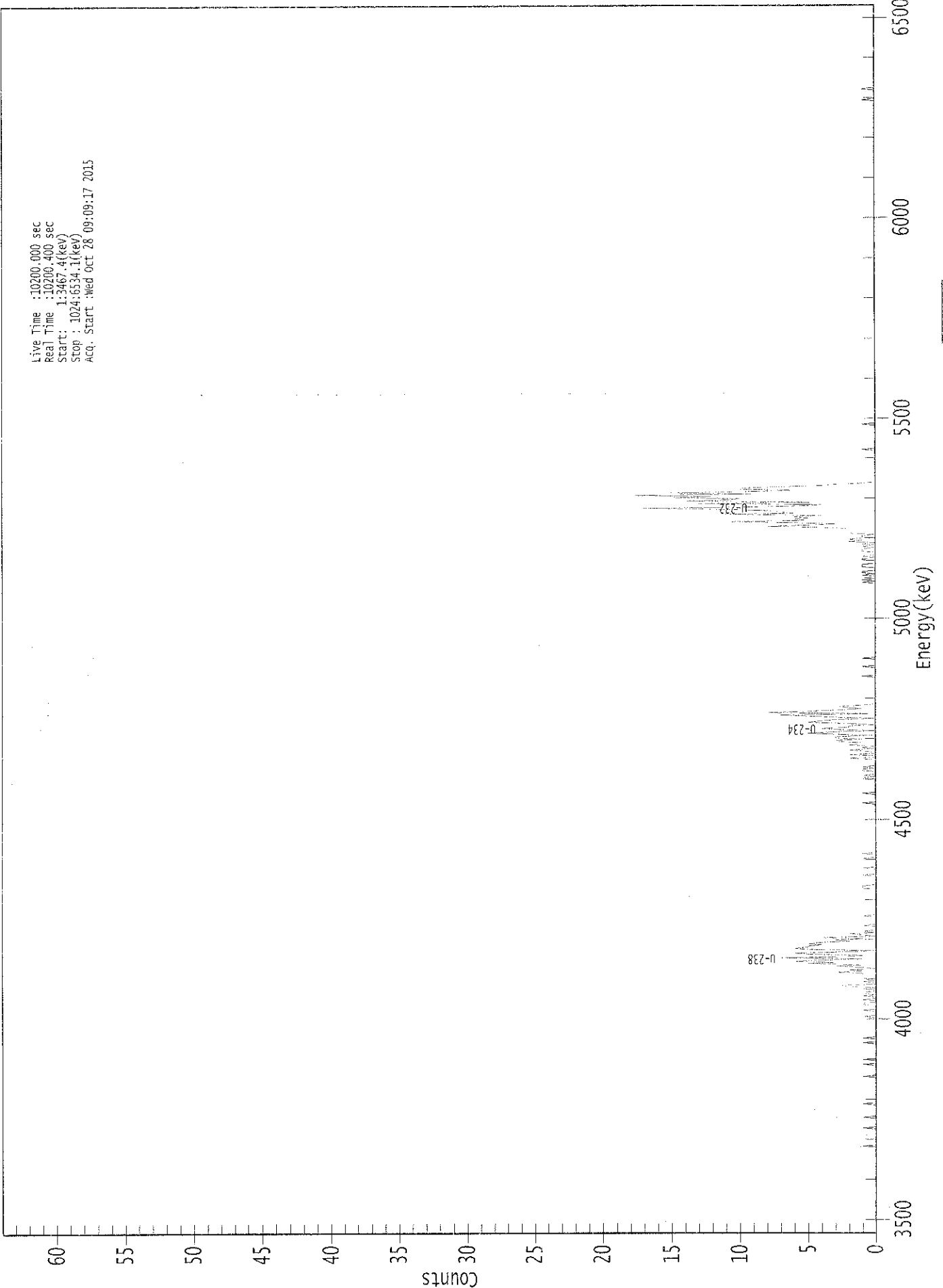
 ----- NUCLIDE ANALYSIS RESULTS -----

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.996 | 5302.50* | 3.59E+000 +/- 4.16E-001 | 5.09E-002 +/- 5.91E-003 |
| U-234 | 0.991 | 4761.50* | 1.13E+000 +/- 2.52E-001 | 4.44E-002 +/- 5.16E-003 |
| U-235 | 0.997 | 4385.50* | 8.97E-002 +/- 6.91E-002 | 5.48E-002 +/- 6.36E-003 |
| U-238 | 0.993 | 4184.40* | 1.30E+000 +/- 2.76E-001 | 4.42E-002 +/- 5.13E-003 |

AG
10/28/15

0000132495.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:3467.4(kev)
Stop : 1024:6534.1(kev)
Acq. Start : Wed Oct 28 09:09:17 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 11

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 145: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 161: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 185: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 193: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 201: | 1 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | 0 |
| 209: | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 217: | 1 | 3 | 1 | 2 | 0 | 1 | 3 | 1 | 1 |
| 225: | 5 | 3 | 6 | 4 | 1 | 7 | 2 | 1 | 1 |
| 233: | 5 | 6 | 2 | 0 | 5 | 6 | 5 | 5 | 5 |
| 241: | 4 | 5 | 4 | 2 | 3 | 1 | 4 | 0 | 0 |
| 249: | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 257: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 289: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

369: 0 0 0 0 0 0 0 0 0

Sample Title: 11

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 385: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 393: | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 |
| 401: | 0 | 1 | 2 | 0 | 1 | 0 | 2 | 1 |
| 409: | 1 | 3 | 3 | 1 | 3 | 3 | 0 | 3 |
| 417: | 5 | 3 | 0 | 3 | 4 | 2 | 2 | 0 |
| 425: | 3 | 5 | 4 | 3 | 0 | 3 | 5 | 7 |
| 433: | 0 | 8 | 5 | 3 | 1 | 2 | 3 | 1 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 545: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 553: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 561: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 569: | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 2 |
| 577: | 1 | 2 | 1 | 1 | 1 | 0 | 2 | 2 |
| 585: | 2 | 2 | 2 | 4 | 8 | 5 | 3 | 6 |
| 593: | 11 | 5 | 6 | 5 | 6 | 4 | 11 | 6 |
| 601: | 7 | 8 | 11 | 17 | 9 | 5 | 4 | 13 |
| 609: | 4 | 14 | 11 | 10 | 15 | 12 | 18 | 9 |
| 617: | 15 | 9 | 6 | 10 | 10 | 7 | 4 | 3 |
| 625: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 11

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

*11/18
1512816*

Sample Description: CP5006S03-04
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 12
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_041
 Chamber Serial Number: 05026930A
 Detector Serial Number: 91087
 Env. Background: System Bkgd 132586
 Reagent Blank: <not performed>

Sample Size: 1.538E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:20 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.658 mL
 Effective Efficiency: 0.1974 +/- 0.0108
 Counting Efficiency: 0.1873 +/- 0.0033 on 10/25/2014 3:00:28 PM
 Chem. Recovery Factor: 1.0537 +/- 0.0604

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.266 | 408.81 | 9.71 | 1.19 | 0.00E+000 | 16.5 |
| U-234 | 4.724 | 225.32 | 13.08 | 0.68 | 0.00E+000 | 7.7 |
| U-235 | 4.380 | 8.32 | 71.13 | 0.68 | 0.00E+000 | 3.0 |
| U-238 | 4.141 | 235.77 | 12.87 | 3.23 | 0.00E+000 | 4.4 |

T = Tracer Peak used for Effective Efficiency

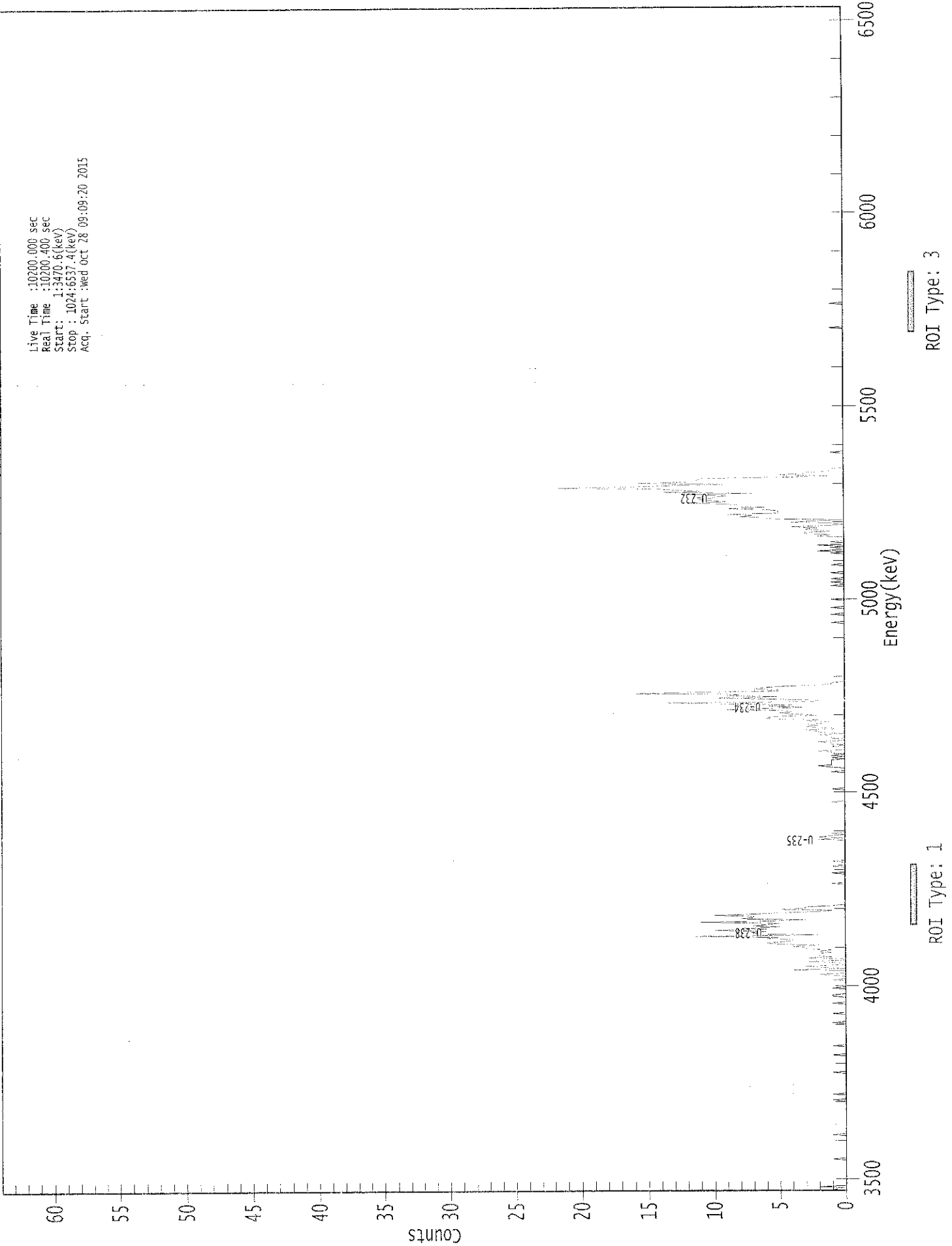
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.991 | 5302.50* | 3.58E+000 +/- 3.83E-001 | 5.77E-002 +/- 6.17E-003 |
| U-234 | 0.990 | 4761.50* | 1.97E+000 +/- 3.33E-001 | 4.93E-002 +/- 5.28E-003 |
| U-235 | 1.000 | 4385.50* | 8.98E-002 +/- 6.46E-002 | 6.09E-002 +/- 6.52E-003 |
| U-238 | 0.987 | 4184.40* | 2.05E+000 +/- 3.44E-001 | 7.93E-002 +/- 8.49E-003 |

*AG
10/28/15*

0000132484.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3470.6(kev)
Stop : 1024:6537.4(kev)
Acq. Start :Wed Oct 28 09:09:20 2015



24100 :

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 12

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|---|---|----|---|----|---|
| 1: | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 81: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 169: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 177: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 185: | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 4 |
| 193: | 0 | 2 | 3 | 0 | 0 | 1 | 3 | 0 |
| 201: | 0 | 3 | 1 | 2 | 2 | 2 | 1 | 2 |
| 209: | 1 | 3 | 3 | 4 | 2 | 5 | 6 | 5 |
| 217: | 4 | 4 | 6 | 5 | 12 | 2 | 7 | 7 |
| 225: | 6 | 10 | 6 | 8 | 5 | 7 | 6 | 5 |
| 233: | 11 | 6 | 3 | 8 | 7 | 7 | 10 | 7 |
| 241: | 5 | 2 | 1 | 5 | 3 | 3 | 1 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 281: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 305: | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 |

369: 1 1 1 1 0 1 0 1

Sample Title: 12

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 1 |
| 385: | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 1 |
| 393: | 1 | 2 | 0 | 2 | 2 | 3 | 0 | 2 |
| 401: | 3 | 2 | 3 | 1 | 1 | 3 | 2 | 6 |
| 409: | 6 | 5 | 2 | 4 | 5 | 4 | 4 | 9 |
| 417: | 6 | 3 | 6 | 4 | 8 | 14 | 2 | 2 |
| 425: | 6 | 10 | 5 | 9 | 8 | 16 | 12 | 5 |
| 433: | 5 | 7 | 6 | 5 | 2 | 1 | 1 | 0 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 529: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 553: | 2 | 0 | 0 | 1 | 0 | 2 | 0 | 0 |
| 561: | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 3 |
| 569: | 3 | 1 | 2 | 3 | 2 | 4 | 1 | 0 |
| 577: | 1 | 4 | 2 | 0 | 6 | 6 | 8 | 7 |
| 585: | 9 | 5 | 5 | 5 | 6 | 9 | 6 | 8 |
| 593: | 8 | 9 | 12 | 9 | 10 | 11 | 10 | 10 |
| 601: | 9 | 12 | 7 | 14 | 11 | 13 | 14 | 22 |
| 609: | 16 | 13 | 9 | 16 | 12 | 12 | 11 | 11 |
| 617: | 4 | 1 | 5 | 3 | 3 | 1 | 1 | 1 |
| 625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 12

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KB
10/27/15

Apex-Alpha™

Sample Description: CP5006S04-05
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 13
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_042
 Chamber Serial Number: 05026930B
 Detector Serial Number: 84185
 Env. Background: System Bkgd 132587
 Reagent Blank: <not performed>

Sample Size: 1.549E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:22 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.652 mL
 Effective Efficiency: 0.1894 +/- 0.0106
 Counting Efficiency: 0.1737 +/- 0.0030 on 10/25/2014 3:04:21 PM
 Chem. Recovery Factor: 1.0899 +/- 0.0637

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | 5.278 | 388.49 | 9.95 | 0.51 | 0.00E+000 | 22.9 |
| U-234 | 4.733 | 124.49 | 17.61 | 0.51 | 0.00E+000 | 3.3 |
| U-235 | 4.363 | 0.83 | 239.53 | 0.17 | 0.00E+000 | 3.0 |
| U-238 | 4.151 | 122.32 | 17.78 | 0.68 | 0.00E+000 | 3.5 |

T = Tracer Peak used for Effective Efficiency

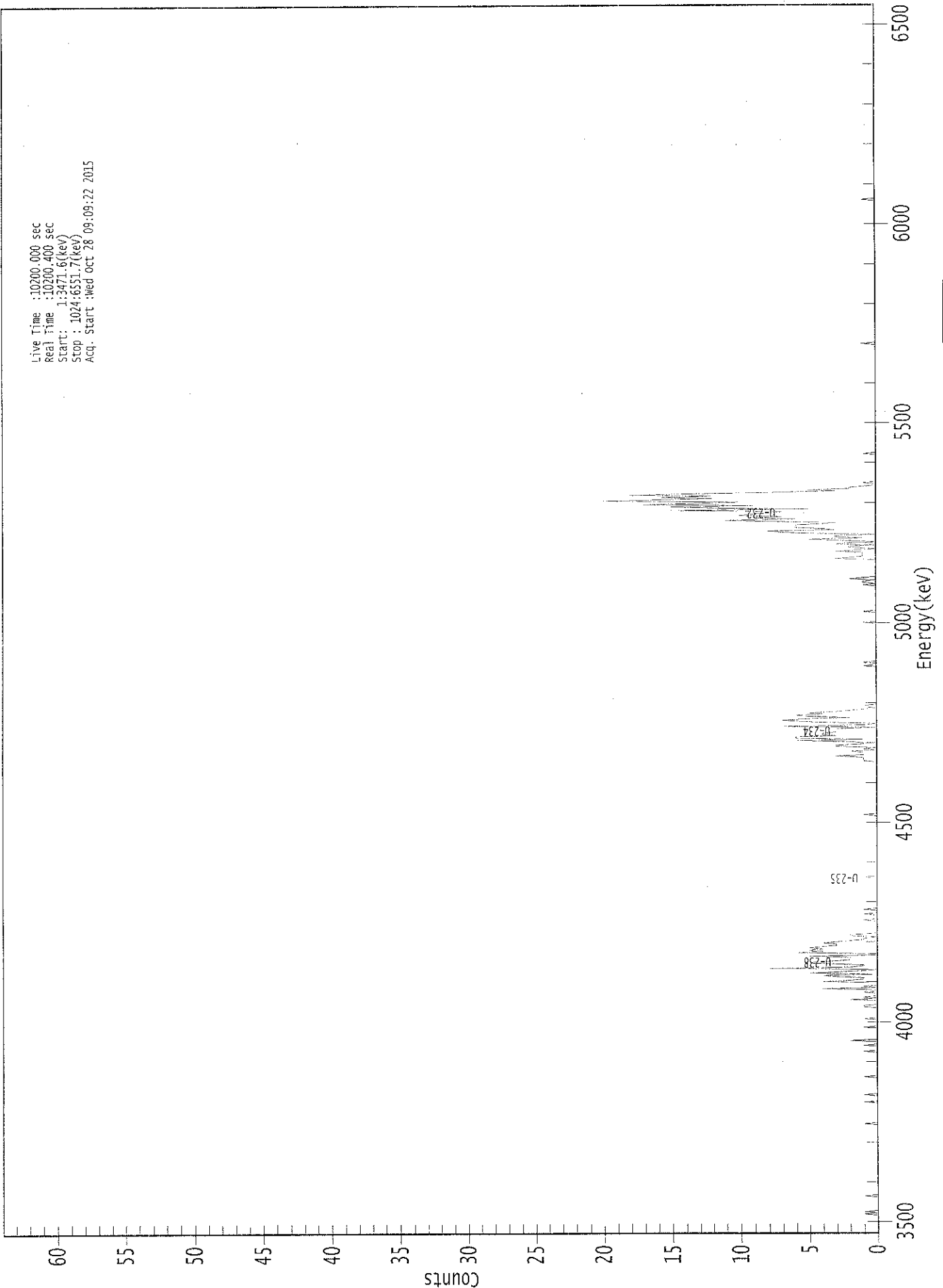
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.996 | 5302.50* | 3.52E+000 +/- 3.85E-001 | 4.75E-002 +/- 5.19E-003 |
| U-234 | 0.994 | 4761.50* | 1.13E+000 +/- 2.34E-001 | 4.75E-002 +/- 5.19E-003 |
| U-235 | 0.996 | 4385.50* | 9.27E-003 +/- 2.22E-002 | 4.66E-002 +/- 5.09E-003 |
| U-238 | 0.992 | 4184.40* | 1.10E+000 +/- 2.30E-001 | 5.09E-002 +/- 5.56E-003 |

AG
10/28/15

0000132485.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:34:1.6(keV)
Stop : 1024:6551.7(keV)
Acq. Start : Wed Oct 28 09:09:22 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 13

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 153: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 161: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 193: | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 201: | 1 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 |
| 209: | 0 | 4 | 2 | 1 | 1 | 3 | 4 | 0 | 0 |
| 217: | 5 | 3 | 1 | 0 | 8 | 2 | 1 | 1 | 0 |
| 225: | 5 | 5 | 3 | 2 | 2 | 2 | 5 | 0 | 0 |
| 233: | 0 | 6 | 4 | 5 | 4 | 5 | 4 | 3 | 0 |
| 241: | 3 | 4 | 3 | 2 | 1 | 1 | 0 | 2 | 0 |
| 249: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 265: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

369: 0 0 0 0 0 0 0 0 0

Sample Title: 13

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 393: | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 1 |
| 401: | 1 | 2 | 0 | 1 | 0 | 3 | 3 | 1 |
| 409: | 1 | 2 | 6 | 1 | 6 | 6 | 3 | 4 |
| 417: | 4 | 3 | 3 | 3 | 3 | 0 | 7 | 1 |
| 425: | 0 | 4 | 6 | 7 | 5 | 2 | 5 | 6 |
| 433: | 4 | 5 | 3 | 2 | 1 | 0 | 1 | 1 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 545: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 561: | 0 | 3 | 2 | 1 | 1 | 1 | 1 | 3 |
| 569: | 1 | 0 | 2 | 2 | 0 | 3 | 2 | 0 |
| 577: | 3 | 5 | 1 | 3 | 3 | 0 | 5 | 7 |
| 585: | 8 | 3 | 4 | 6 | 6 | 6 | 4 | 3 |
| 593: | 8 | 11 | 6 | 9 | 7 | 10 | 9 | 8 |
| 601: | 7 | 15 | 5 | 12 | 15 | 9 | 17 | 13 |
| 609: | 10 | 20 | 16 | 12 | 16 | 12 | 18 | 13 |
| 617: | 8 | 3 | 5 | 2 | 2 | 1 | 0 | 0 |
| 625: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 13

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



KB
10/28/15

Sample Description: CP5006S07-08
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 14
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_043
 Chamber Serial Number: 04026481A
 Detector Serial Number: 91088
 Env. Background: System Bkgd 132588
 Reagent Blank: <not performed>

Sample Size: 1.509E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:24 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.658 mL
 Effective Efficiency: 0.1749 +/- 0.0100
 Counting Efficiency: 0.1998 +/- 0.0035 on 10/25/2014 3:08:45 PM
 Chem. Recovery Factor: 0.8753 +/- 0.0525

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.277 | 362.15 | 10.31 | 0.85 | 0.00E+000 | 7.5 |
| U-234 | 4.732 | 102.49 | 19.42 | 0.51 | 0.00E+000 | 7.0 |
| U-235 | 4.420 | 6.49 | 80.40 | 0.51 | 0.00E+000 | 3.0 |
| U-238 | 4.162 | 103.49 | 19.32 | 0.51 | 0.00E+000 | 5.0 |

T = Tracer Peak used for Effective Efficiency

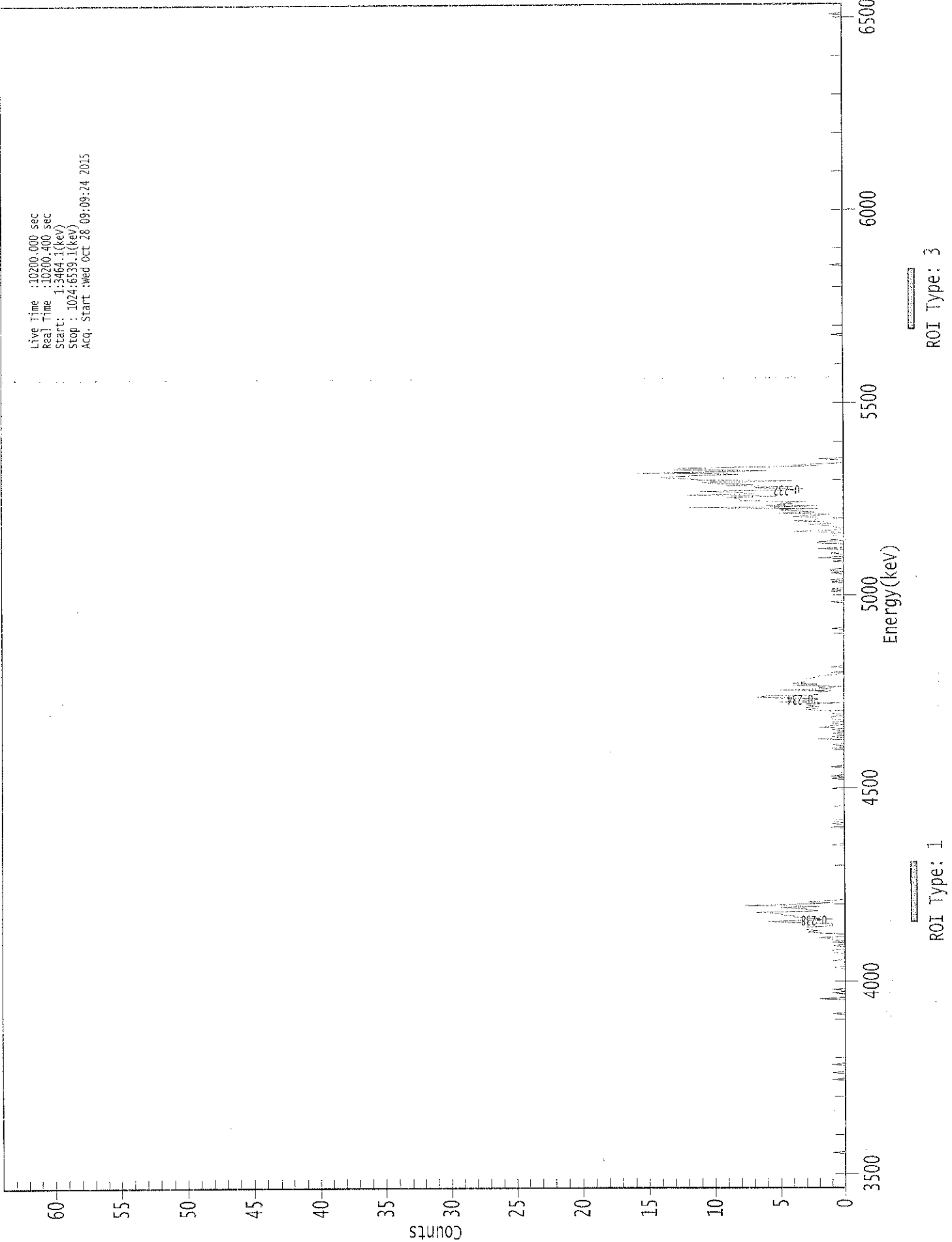
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.995 | 5302.50* | 3.65E+000 +/- 4.10E-001 | 6.03E-002 +/- 6.79E-003 |
| U-234 | 0.994 | 4761.50* | 1.03E+000 +/- 2.31E-001 | 5.28E-002 +/- 5.94E-003 |
| U-235 | 0.991 | 4385.50* | 8.06E-002 +/- 6.54E-002 | 6.51E-002 +/- 7.33E-003 |
| U-238 | 0.996 | 4184.40* | 1.04E+000 +/- 2.32E-001 | 5.26E-002 +/- 5.92E-003 |

AG
10/28/15

0000132488.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3464.1(kev)
Stop : 1024:6539.1(kev)
Acq. Start :Wed Oct 28 09:09:24 2015



: 00157

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 14

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 97: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 169: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 193: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 209: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 217: | 2 | 0 | 0 | 0 | 2 | 3 | 2 | 3 |
| 225: | 3 | 3 | 1 | 1 | 1 | 4 | 6 | 3 |
| 233: | 1 | 3 | 4 | 4 | 5 | 5 | 7 | 2 |
| 241: | 3 | 3 | 5 | 2 | 8 | 4 | 1 | 3 |
| 249: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 313: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

369: 0 0 0 0 0 0 0 0 0

Sample Title: 14

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 385: | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 |
| 393: | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 0 |
| 401: | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 409: | 0 | 1 | 1 | 1 | 3 | 2 | 3 | 2 |
| 417: | 3 | 3 | 0 | 5 | 3 | 2 | 2 | 7 |
| 425: | 6 | 2 | 2 | 2 | 1 | 5 | 1 | 2 |
| 433: | 0 | 4 | 2 | 4 | 3 | 3 | 3 | 3 |
| 441: | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 0 |
| 449: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 521: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 529: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 545: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 553: | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 1 |
| 561: | 1 | 0 | 0 | 1 | 1 | 0 | 4 | 1 |
| 569: | 0 | 0 | 1 | 1 | 3 | 1 | 1 | 4 |
| 577: | 2 | 2 | 2 | 4 | 2 | 1 | 5 | 2 |
| 585: | 4 | 5 | 2 | 12 | 2 | 6 | 4 | 5 |
| 593: | 3 | 8 | 8 | 8 | 9 | 5 | 12 | 7 |
| 601: | 8 | 11 | 5 | 3 | 7 | 4 | 9 | 7 |
| 609: | 10 | 11 | 4 | 11 | 12 | 14 | 13 | 11 |
| 617: | 8 | 16 | 10 | 6 | 13 | 13 | 9 | 2 |
| 625: | 4 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 14

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

10/28/15

Apex-Alpha™

Sample Description: CP5006S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 15
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_044
 Chamber Serial Number: 04026481B
 Detector Serial Number: 84168
 Env. Background: System Bkgd 132589
 Reagent Blank: <not performed>

Sample Size: 1.505E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:26 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.668 mL
 Effective Efficiency: 0.1900 +/- 0.0105
 Counting Efficiency: 0.1837 +/- 0.0032 on 10/25/2014 3:13:11 PM
 Chem. Recovery Factor: 1.0344 +/- 0.0598

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.290 | 399.66 | 9.81 | 0.34 | 0.00E+000 | 9.6 |
| U-234 | 4.743 | 151.49 | 15.96 | 0.51 | 0.00E+000 | 4.9 |
| U-235 | 4.408 | 10.00 | 65.01 | 0.00 | 0.00E+000 | 3.0 |
| U-238 | 4.164 | 131.83 | 17.08 | 0.17 | 0.00E+000 | 6.2 |

T = Tracer Peak used for Effective Efficiency

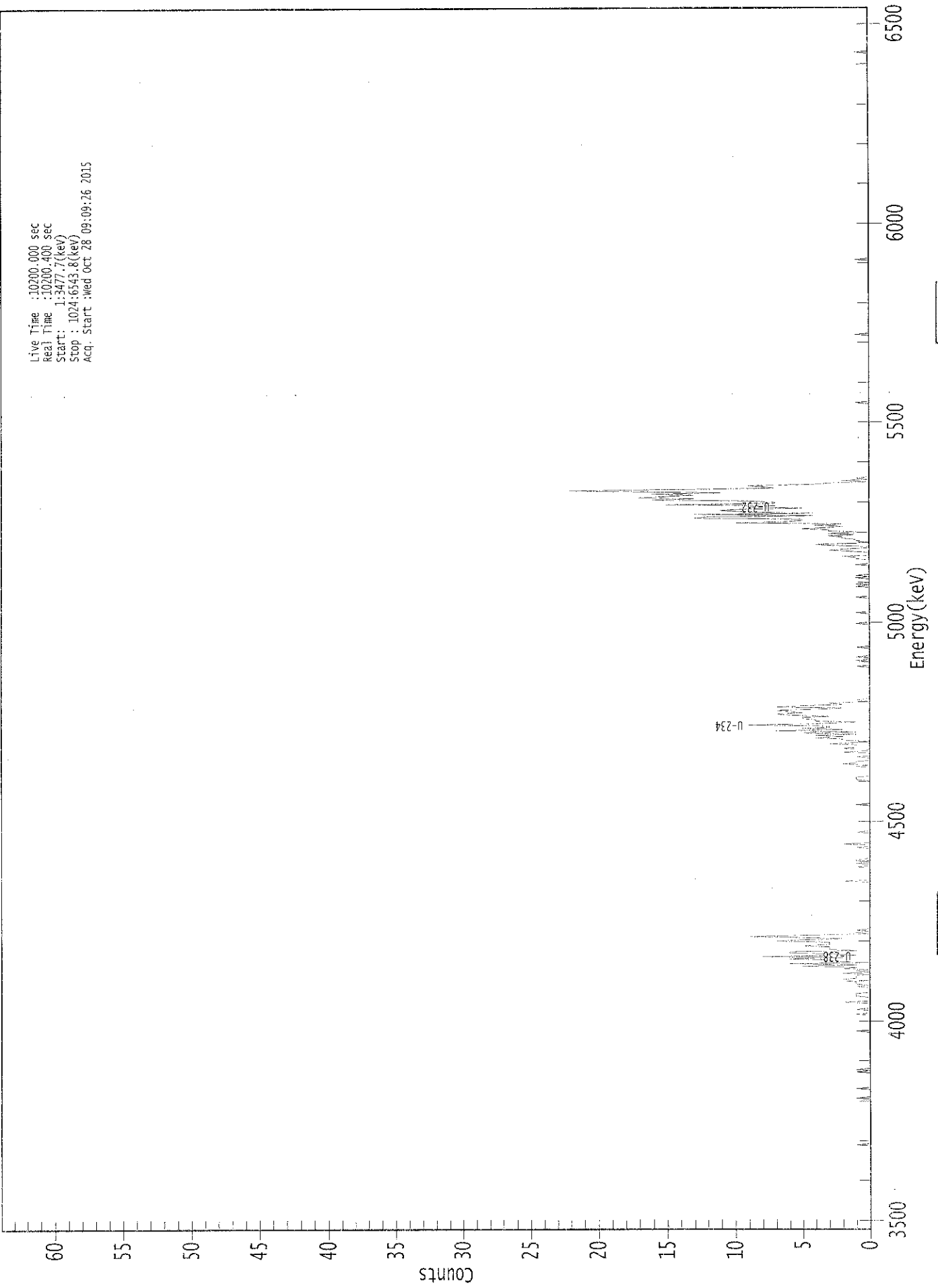
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.999 | 5302.50* | 3.71E+000 +/- 4.01E-001 | 4.44E-002 +/- 4.80E-003 |
| U-234 | 0.998 | 4761.50* | 1.41E+000 +/- 2.71E-001 | 4.87E-002 +/- 5.26E-003 |
| U-235 | 0.996 | 4385.50* | 1.15E-001 +/- 7.55E-002 | 6.87E-002 +/- 7.42E-003 |
| U-238 | 0.997 | 4184.40* | 1.22E+000 +/- 2.46E-001 | 3.86E-002 +/- 4.17E-003 |

AG
 10/28/15

0000132489.CNF

Live Time :10210.000 sec
Real Time :10200.400 sec
Start : 1:3477.7(kev)
Stop : 1024:6343.8(kev)
Acq. Start :Wed Oct 28 09:09:26 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 15

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 185: | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 193: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 201: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 209: | 2 | 2 | 1 | 1 | 1 | 0 | 2 | 0 |
| 217: | 1 | 0 | 2 | 1 | 5 | 1 | 6 | 0 |
| 225: | 3 | 3 | 6 | 2 | 8 | 1 | 3 | 6 |
| 233: | 6 | 1 | 3 | 3 | 3 | 5 | 3 | 3 |
| 241: | 3 | 7 | 5 | 2 | 5 | 9 | 4 | 0 |
| 249: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 305: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 321: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

369: 0 0 0 0 0 0 0 0 0

Sample Title: 15

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 385: | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 1 |
| 393: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 401: | 0 | 0 | 2 | 1 | 1 | 1 | 3 | 1 |
| 409: | 0 | 2 | 2 | 4 | 2 | 4 | 1 | 5 |
| 417: | 1 | 7 | 2 | 5 | 3 | 3 | 9 | 4 |
| 425: | 1 | 4 | 4 | 5 | 5 | 3 | 6 | 7 |
| 433: | 5 | 6 | 7 | 4 | 2 | 7 | 5 | 2 |
| 441: | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 473: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 545: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 561: | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 1 |
| 569: | 3 | 2 | 0 | 0 | 3 | 4 | 0 | 0 |
| 577: | 1 | 1 | 2 | 2 | 3 | 1 | 3 | 0 |
| 585: | 3 | 3 | 5 | 3 | 2 | 4 | 2 | 10 |
| 593: | 6 | 5 | 5 | 13 | 12 | 4 | 13 | 4 |
| 601: | 9 | 11 | 10 | 5 | 9 | 7 | 15 | 7 |
| 609: | 7 | 9 | 16 | 13 | 17 | 15 | 13 | 16 |
| 617: | 11 | 18 | 22 | 12 | 7 | 8 | 9 | 4 |
| 625: | 3 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 15

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



10/28/15

Sample Description: CP5006S12-13
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 16
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_045
 Chamber Serial Number: 04026482A
 Detector Serial Number: 91131
 Env. Background: System Bkgd 132590
 Reagent Blank: <not performed>

Sample Size: 1.569E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:29 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.652 mL
 Effective Efficiency: 0.2043 +/- 0.0110
 Counting Efficiency: 0.1760 +/- 0.0031 on 10/25/2014 3:16:42 PM
 Chem. Recovery Factor: 1.1604 +/- 0.0659

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.304 | 419.32 | 9.58 | 0.68 | 0.00E+000 | 5.4 |
| U-234 | 4.764 | 121.32 | 17.85 | 0.68 | 0.00E+000 | 13.4 |
| U-235 | 4.395 | 8.66 | 68.12 | 0.34 | 0.00E+000 | 3.0 |
| U-238 | 4.186 | 120.64 | 17.96 | 1.36 | 0.00E+000 | 6.8 |

T = Tracer Peak used for Effective Efficiency

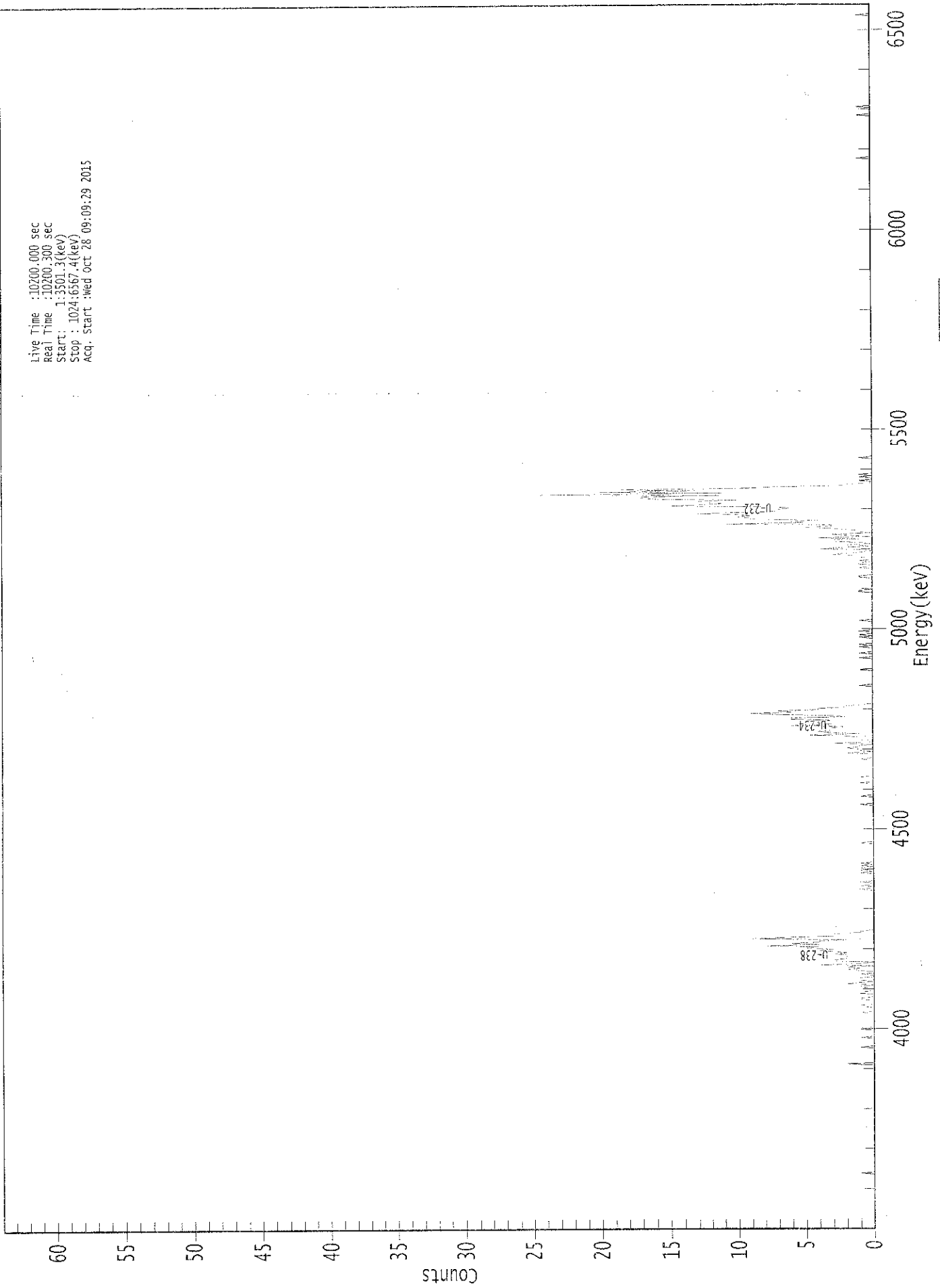
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 1.000 | 5302.50* | 3.48E+000 +/- 3.68E-001 | 4.68E-002 +/- 4.95E-003 |
| U-234 | 1.000 | 4761.50* | 1.01E+000 +/- 2.09E-001 | 4.67E-002 +/- 4.95E-003 |
| U-235 | 0.999 | 4385.50* | 8.85E-002 +/- 6.10E-002 | 4.89E-002 +/- 5.18E-003 |
| U-238 | 1.000 | 4184.40* | 9.95E-001 +/- 2.08E-001 | 5.66E-002 +/- 5.99E-003 |

AG
 10/28/15

0000132486.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3501.3(keV)
Stop : 1024:6567.4(keV)
Acq. Start : Wed Oct 28 09:09:29 2015



79100 :

ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 16

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 185: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 193: | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 201: | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 1 |
| 209: | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 217: | 2 | 1 | 2 | 0 | 4 | 1 | 0 | 0 | 3 |
| 225: | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 0 | 3 |
| 233: | 4 | 3 | 5 | 4 | 8 | 4 | 6 | 0 | 4 |
| 241: | 4 | 2 | 9 | 7 | 3 | 3 | 3 | 0 | 1 |
| 249: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 289: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 305: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

369: 0 0 0 0 1 0 0 0

Sample Title: 16

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 393: | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 401: | 1 | 2 | 1 | 1 | 0 | 3 | 0 | 0 |
| 409: | 1 | 1 | 1 | 2 | 5 | 1 | 3 | 4 |
| 417: | 3 | 3 | 3 | 2 | 6 | 3 | 4 | 4 |
| 425: | 3 | 6 | 6 | 2 | 3 | 7 | 9 | 6 |
| 433: | 7 | 4 | 4 | 2 | 2 | 1 | 0 | 0 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 481: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 489: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 497: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 545: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 553: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 561: | 1 | 1 | 3 | 2 | 1 | 0 | 1 | 4 |
| 569: | 2 | 0 | 2 | 0 | 1 | 3 | 3 | 1 |
| 577: | 4 | 0 | 2 | 3 | 0 | 1 | 1 | 2 |
| 585: | 3 | 5 | 3 | 3 | 11 | 5 | 6 | 4 |
| 593: | 9 | 9 | 10 | 9 | 10 | 13 | 8 | 7 |
| 601: | 7 | 6 | 7 | 15 | 13 | 11 | 12 | 13 |
| 609: | 10 | 16 | 17 | 17 | 11 | 25 | 11 | 20 |
| 617: | 13 | 19 | 9 | 7 | 2 | 2 | 0 | 0 |
| 625: | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 16

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KCB
10/28/15

Apex-Alpha™

Sample Description: CP5006S14-15
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 17
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_046
 Chamber Serial Number: 04026482B
 Detector Serial Number: 58762
 Env. Background: System Bkgd 132591
 Reagent Blank: <not performed>

Sample Size: 1.591E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:31 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.652 mL
 Effective Efficiency: 0.1886 +/- 0.0105
 Counting Efficiency: 0.1776 +/- 0.0031 on 10/25/2014 3:20:08 PM
 Chem. Recovery Factor: 1.0616 +/- 0.0622

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.286 | 387.15 | 9.97 | 0.85 | 0.00E+000 | 21.4 |
| U-234 | 4.733 | 121.32 | 17.85 | 0.68 | 0.00E+000 | 8.6 |
| U-235 | 4.386 | 9.32 | 66.89 | 0.68 | 0.00E+000 | 4.5 |
| U-238 | 4.157 | 130.15 | 17.25 | 0.85 | 0.00E+000 | 3.8 |

T = Tracer Peak used for Effective Efficiency

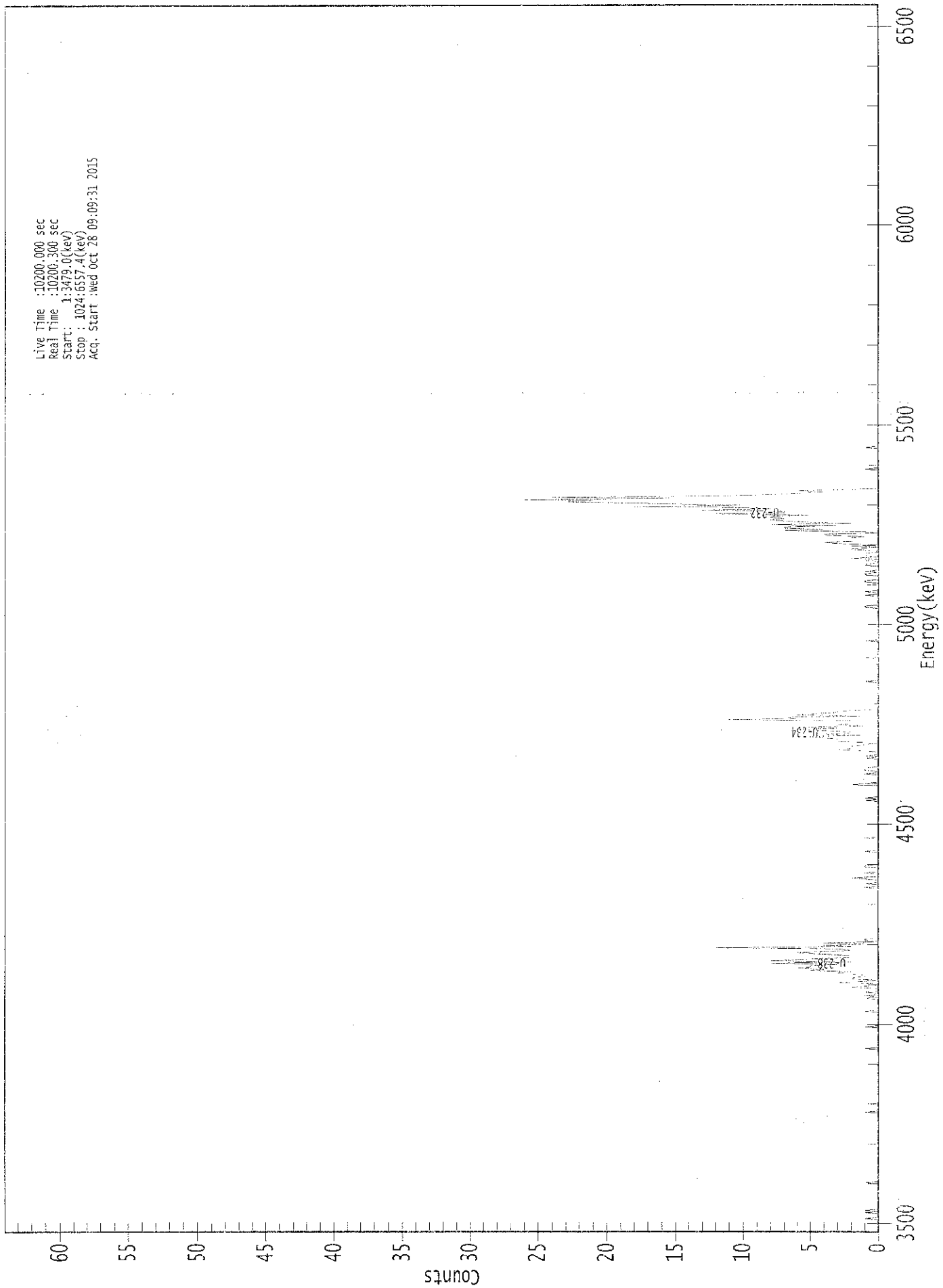
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.998 | 5302.50* | 3.43E+000 +/- 3.75E-001 | 5.30E-002 +/- 5.80E-003 |
| U-234 | 0.994 | 4761.50* | 1.07E+000 +/- 2.25E-001 | 4.99E-002 +/- 5.47E-003 |
| U-235 | 1.000 | 4385.50* | 1.02E-001 +/- 6.90E-002 | 6.16E-002 +/- 6.74E-003 |
| U-238 | 0.995 | 4184.40* | 1.15E+000 +/- 2.34E-001 | 5.28E-002 +/- 5.78E-003 |

AG
 10/28/15

0000132487.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start : 1:3479.0(keV)
Stop : 1024:6557.4(keV)
Acq. Start :Wed Oct 28 09:09:31 2015



: 00172

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 17

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|----|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 17: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 201: | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| 209: | 3 | 1 | 0 | 2 | 2 | 1 | 1 | 2 | 2 |
| 217: | 3 | 2 | 5 | 4 | 6 | 5 | 5 | 3 | 3 |
| 225: | 8 | 2 | 8 | 6 | 4 | 2 | 2 | 3 | 3 |
| 233: | 5 | 6 | 3 | 2 | 3 | 12 | 2 | 4 | 4 |
| 241: | 1 | 4 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 289: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 2 |
| 297: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 305: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 361: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

369: 0 0 0 0 2 1 0 0

Sample Title: 17

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 385: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 393: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 401: | 1 | 3 | 2 | 2 | 2 | 1 | 1 | 1 |
| 409: | 3 | 3 | 3 | 4 | 6 | 1 | 4 | 2 |
| 417: | 2 | 4 | 6 | 3 | 6 | 1 | 3 | 2 |
| 425: | 2 | 2 | 11 | 6 | 7 | 1 | 6 | 5 |
| 433: | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 457: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 545: | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 553: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 561: | 0 | 2 | 0 | 1 | 1 | 1 | 0 | 0 |
| 569: | 2 | 2 | 0 | 2 | 0 | 3 | 4 | 2 |
| 577: | 2 | 2 | 2 | 1 | 4 | 4 | 0 | 1 |
| 585: | 7 | 4 | 7 | 7 | 3 | 8 | 2 | 5 |
| 593: | 7 | 8 | 7 | 8 | 8 | 5 | 12 | 7 |
| 601: | 7 | 13 | 8 | 9 | 18 | 10 | 14 | 18 |
| 609: | 23 | 21 | 26 | 15 | 24 | 11 | 8 | 6 |
| 617: | 4 | 6 | 3 | 0 | 0 | 0 | 0 | 0 |
| 625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 633: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 17

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

2015
10/28/15

Apex-Alpha™

Sample Description: CP5006S17-18
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 18
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_047
 Chamber Serial Number: 02030596A
 Detector Serial Number: 91086
 Env. Background: System Bkgd 132592
 Reagent Blank: <not performed>

Sample Size: 1.518E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:34 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.654 mL
 Effective Efficiency: 0.1270 +/- 0.0084
 Counting Efficiency: 0.1650 +/- 0.0029 on 10/25/2014 3:23:35 PM
 Chem. Recovery Factor: 0.7697 +/- 0.0527

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.252 | 261.32 | 12.14 | 0.68 | 0.00E+000 | 8.9 |
| U-234 | 4.711 | 83.00 | 21.64 | 0.00 | 0.00E+000 | 3.7 |
| U-235 | 4.409 | 20.49 | 43.93 | 0.51 | 0.00E+000 | 4.5 |
| U-238 | 4.110 | 89.66 | 20.75 | 0.34 | 0.00E+000 | 3.5 |

T = Tracer Peak used for Effective Efficiency

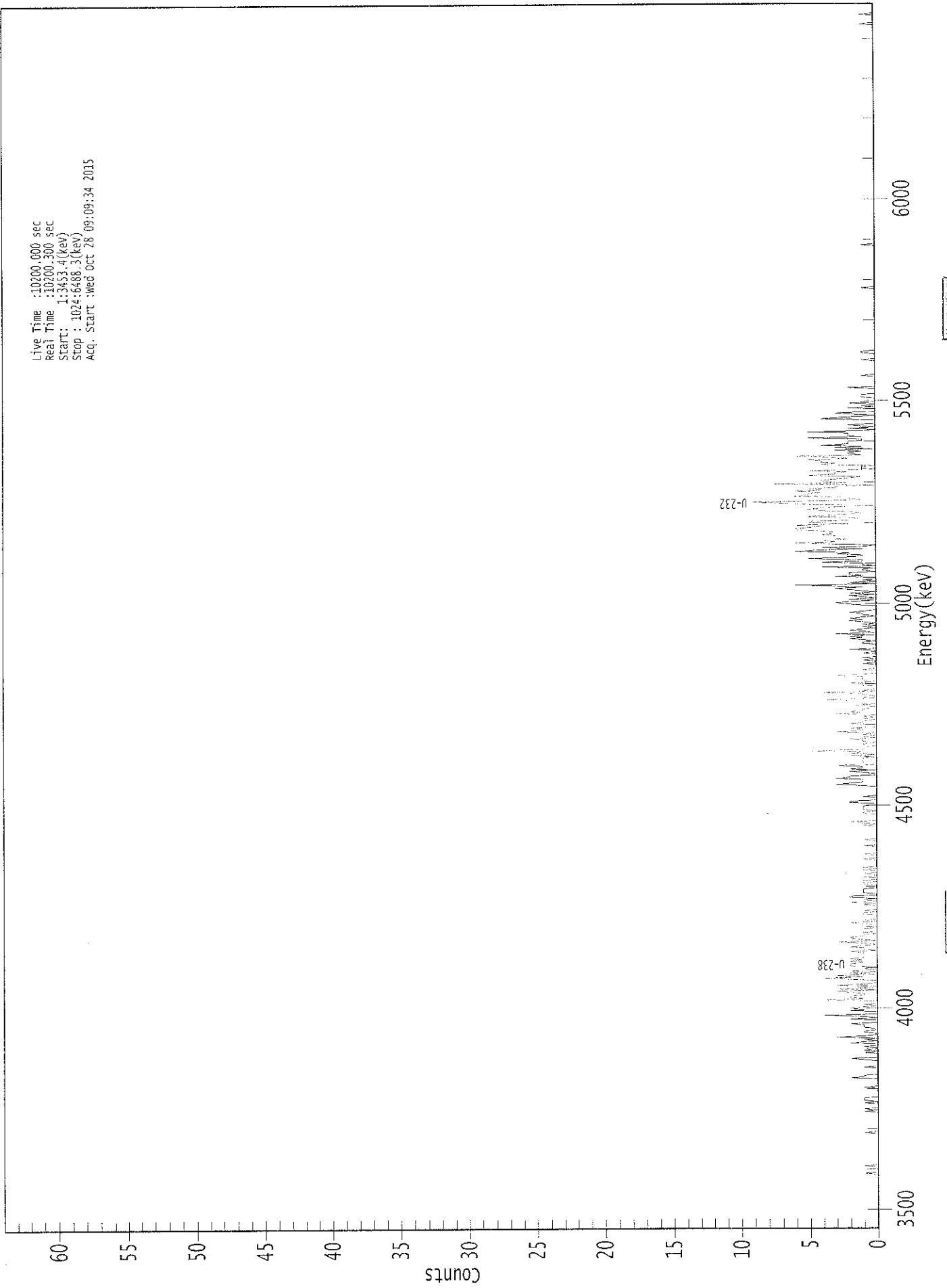
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.982 | 5302.50* | 3.60E+000 +/- 4.66E-001 | 7.77E-002 +/- 1.01E-002 |
| U-234 | 0.982 | 4761.50* | 1.14E+000 +/- 2.88E-001 | 8.26E-002 +/- 1.07E-002 |
| U-235 | 0.996 | 4385.50* | 3.48E-001 +/- 1.59E-001 | 8.91E-002 +/- 1.15E-002 |
| U-238 | 0.961 | 4184.40* | 1.23E+000 +/- 3.01E-001 | 6.55E-002 +/- 8.49E-003 |

AG
 10/28/15

0000132496.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start : 1:3453.4(kev)
Stop : 1024:6488.3(kev)
Acq. Start :Wed Oct 28 09:09:34 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 18

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 49: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 105: | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 129: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 137: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| 145: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 153: | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 |
| 161: | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 169: | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 2 |
| 177: | 0 | 1 | 4 | 0 | 0 | 0 | 2 | 1 |
| 185: | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 4 |
| 193: | 1 | 2 | 2 | 1 | 1 | 2 | 3 | 0 |
| 201: | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 0 |
| 209: | 2 | 4 | 1 | 3 | 0 | 2 | 0 | 2 |
| 217: | 0 | 1 | 0 | 2 | 2 | 2 | 1 | 2 |
| 225: | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 |
| 233: | 0 | 1 | 1 | 2 | 1 | 0 | 1 | 3 |
| 241: | 0 | 1 | 2 | 2 | 1 | 1 | 0 | 1 |
| 249: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| 257: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 265: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 273: | 2 | 0 | 1 | 0 | 2 | 2 | 0 | 0 |
| 281: | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| 289: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 297: | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 313: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 321: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| 353: | 1 | 0 | 0 | 2 | 2 | 0 | 0 | 0 |
| 361: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

369: 0 1 3 2 1 1 1 3

Sample Title: 18

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 377: | 2 | 2 | 0 | 0 | 1 | 2 | 0 | 2 | |
| 385: | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 1 |
| 393: | 1 | 0 | 2 | 0 | 2 | 1 | 5 | 1 | 1 |
| 401: | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| 409: | 2 | 0 | 1 | 0 | 1 | 0 | 3 | 1 | 1 |
| 417: | 1 | 2 | 0 | 0 | 0 | 2 | 1 | 1 | 1 |
| 425: | 0 | 1 | 0 | 1 | 0 | 3 | 1 | 2 | |
| 433: | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 2 | |
| 441: | 2 | 4 | 0 | 1 | 0 | 1 | 1 | 4 | |
| 449: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | |
| 457: | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 0 | |
| 465: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 473: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | |
| 481: | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | |
| 489: | 1 | 1 | 0 | 1 | 2 | 1 | 2 | 0 | |
| 497: | 3 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | |
| 505: | 1 | 0 | 1 | 2 | 1 | 2 | 1 | 0 | |
| 513: | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | |
| 521: | 1 | 2 | 3 | 2 | 0 | 2 | 0 | 1 | |
| 529: | 2 | 0 | 2 | 0 | 1 | 2 | 3 | 1 | |
| 537: | 3 | 6 | 0 | 2 | 0 | 1 | 0 | 0 | |
| 545: | 3 | 1 | 2 | 2 | 0 | 1 | 1 | 0 | |
| 553: | 4 | 0 | 1 | 1 | 4 | 1 | 1 | 5 | |
| 561: | 3 | 1 | 1 | 3 | 2 | 6 | 4 | 1 | |
| 569: | 4 | 1 | 0 | 3 | 6 | 3 | 4 | 2 | |
| 577: | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 6 | |
| 585: | 6 | 5 | 4 | 6 | 2 | 5 | 5 | 2 | |
| 593: | 2 | 1 | 5 | 4 | 2 | 1 | 2 | 4 | |
| 601: | 5 | 4 | 3 | 0 | 5 | 7 | 9 | 4 | |
| 609: | 1 | 2 | 2 | 6 | 5 | 5 | 4 | 6 | |
| 617: | 4 | 5 | 3 | 3 | 0 | 8 | 2 | 4 | |
| 625: | 4 | 3 | 2 | 1 | 5 | 3 | 3 | 2 | |
| 633: | 5 | 0 | 1 | 1 | 0 | 4 | 3 | 4 | |
| 641: | 4 | 5 | 2 | 3 | 6 | 1 | 2 | 2 | |
| 649: | 1 | 3 | 0 | 3 | 1 | 4 | 2 | 2 | |
| 657: | 2 | 1 | 1 | 5 | 1 | 2 | 2 | 2 | |
| 665: | 5 | 1 | 0 | 2 | 0 | 1 | 2 | 0 | |
| 673: | 0 | 0 | 0 | 4 | 3 | 1 | 0 | 2 | |
| 681: | 3 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | |
| 689: | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | |
| 697: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 721: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 729: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 785: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

801: 0 0 0 0 0 0 0 0

Sample Title: 18

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

KB
01/28/15

Sample Description: CP5006S19-20
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 19
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_048
 Chamber Serial Number: 02030596B
 Detector Serial Number: 83111
 Env. Background: System Bkgd 132593
 Reagent Blank: <not performed>

Sample Size: 1.535E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:37 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.653 mL
 Effective Efficiency: 0.1670 +/- 0.0098
 Counting Efficiency: 0.1700 +/- 0.0030 on 10/25/2014 3:27:02 PM
 Chem. Recovery Factor: 0.9823 +/- 0.0602

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.259 | 343.49 | 10.58 | 0.51 | 0.00E+000 | 7.5 |
| U-234 | 4.719 | 115.15 | 18.34 | 0.85 | 0.00E+000 | 3.7 |
| U-235 | 4.409 | 3.15 | 126.67 | 0.85 | 0.00E+000 | 3.0 |
| U-238 | 4.125 | 134.15 | 16.98 | 0.85 | 0.00E+000 | 12.1 |

T = Tracer Peak used for Effective Efficiency

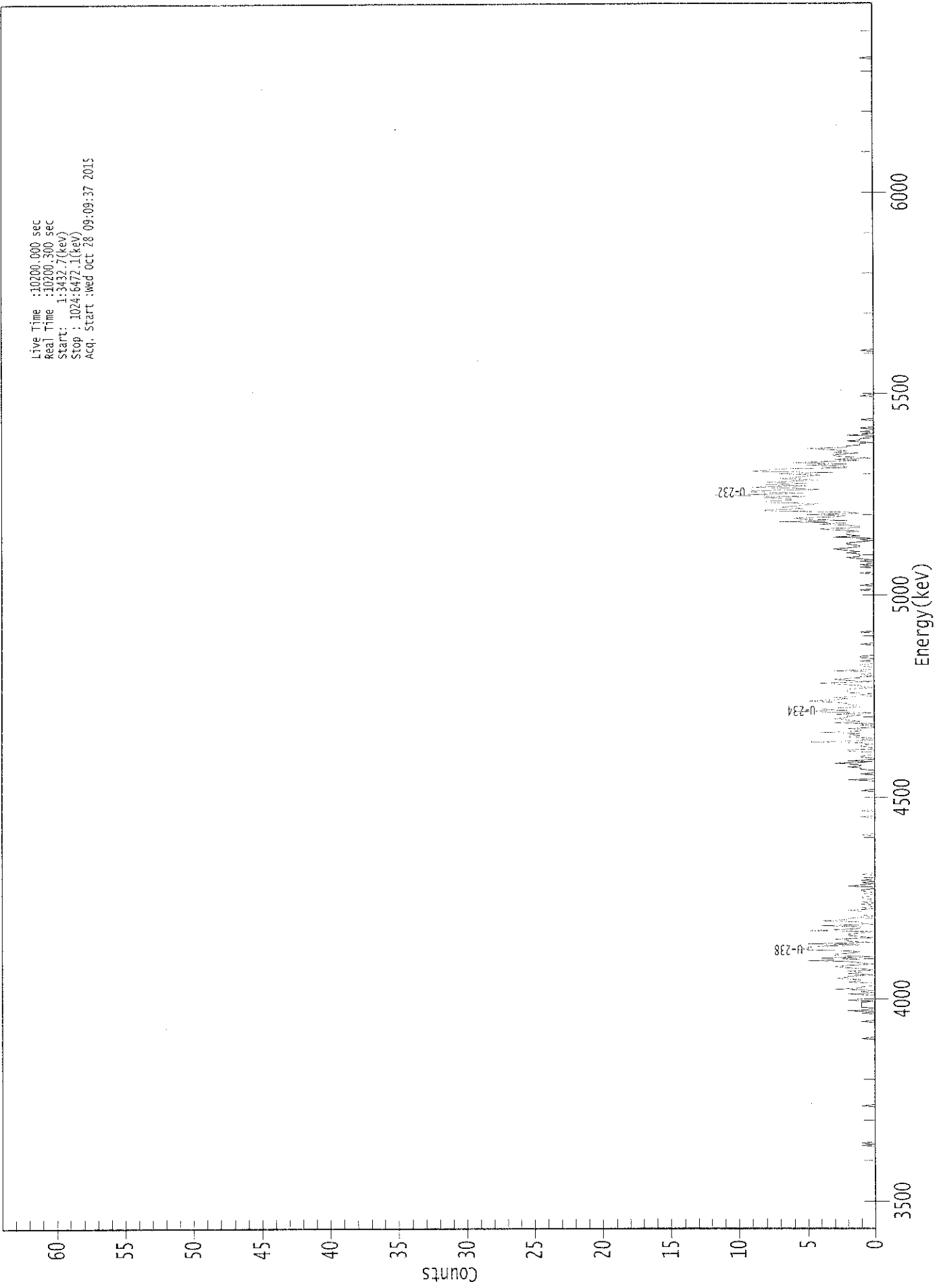
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.986 | 5302.50* | 3.56E+000 +/- 4.10E-001 | 5.44E-002 +/- 6.26E-003 |
| U-234 | 0.987 | 4761.50* | 1.19E+000 +/- 2.58E-001 | 6.20E-002 +/- 7.13E-003 |
| U-235 | 0.996 | 4385.50* | 4.02E-002 +/- 5.12E-002 | 7.65E-002 +/- 8.80E-003 |
| U-238 | 0.975 | 4184.40* | 1.38E+000 +/- 2.84E-001 | 6.17E-002 +/- 7.10E-003 |

AG
10/28/15

0000132497.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start : 1:3432.7(keV)
Stop : 1024:6472.1(keV)
Acq. Start :Wed Oct 28 09:09:37 2015



: 00182

ROI Type: 1
ROI Type: 3

***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 19

Elapsed Live time: 10200
Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 |
| 185: | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 1 |
| 193: | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 3 |
| 201: | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 1 | 1 |
| 209: | 3 | 2 | 2 | 0 | 2 | 1 | 2 | 2 | 0 |
| 217: | 1 | 2 | 3 | 2 | 0 | 1 | 2 | 2 | 5 |
| 225: | 1 | 4 | 0 | 3 | 3 | 2 | 1 | 1 | 2 |
| 233: | 6 | 5 | 5 | 4 | 1 | 5 | 0 | 0 | 2 |
| 241: | 2 | 3 | 0 | 1 | 2 | 2 | 1 | 1 | 0 |
| 249: | 5 | 2 | 1 | 1 | 4 | 0 | 1 | 1 | 1 |
| 257: | 4 | 2 | 2 | 1 | 0 | 1 | 1 | 1 | 1 |
| 265: | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 273: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 281: | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| 289: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 345: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

369: 0 0 0 0 0 0 0 2 0

Sample Title: 19

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 385: | 1 | 2 | 1 | 1 | 3 | 0 | 2 | 0 |
| 393: | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 2 |
| 401: | 0 | 0 | 1 | 1 | 0 | 1 | 5 | 0 |
| 409: | 1 | 0 | 2 | 1 | 2 | 1 | 4 | 1 |
| 417: | 1 | 2 | 0 | 0 | 1 | 0 | 3 | 1 |
| 425: | 2 | 3 | 2 | 2 | 1 | 3 | 0 | 6 |
| 433: | 2 | 4 | 3 | 1 | 1 | 2 | 2 | 3 |
| 441: | 5 | 3 | 2 | 3 | 0 | 1 | 0 | 2 |
| 449: | 2 | 2 | 2 | 0 | 1 | 1 | 3 | 4 |
| 457: | 0 | 2 | 3 | 1 | 1 | 0 | 1 | 0 |
| 465: | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 0 |
| 473: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 537: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 553: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 2 |
| 561: | 1 | 1 | 1 | 2 | 1 | 2 | 3 | 2 |
| 569: | 1 | 1 | 2 | 2 | 1 | 0 | 1 | 0 |
| 577: | 3 | 1 | 2 | 2 | 2 | 1 | 3 | 4 |
| 585: | 1 | 1 | 2 | 4 | 2 | 7 | 2 | 5 |
| 593: | 6 | 3 | 2 | 5 | 1 | 2 | 8 | 8 |
| 601: | 5 | 7 | 6 | 5 | 4 | 8 | 8 | 6 |
| 609: | 6 | 8 | 5 | 12 | 8 | 5 | 9 | 9 |
| 617: | 4 | 6 | 9 | 5 | 8 | 5 | 8 | 6 |
| 625: | 4 | 7 | 6 | 5 | 4 | 7 | 3 | 9 |
| 633: | 8 | 7 | 2 | 2 | 5 | 2 | 6 | 4 |
| 641: | 1 | 3 | 0 | 2 | 3 | 3 | 1 | 3 |
| 649: | 2 | 3 | 5 | 2 | 2 | 1 | 1 | 0 |
| 657: | 2 | 1 | 1 | 0 | 0 | 2 | 0 | 0 |
| 665: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0

Sample Title: 19

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

10/28/15

Sample Description: CP5006S22-23
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001324
 Batch Identification: 1510085A-UU
 Sample Identification: 20
 Sample Geometry: Shelf 2
 Procedure Description: U iso

Detector Name: Alpha_049
 Chamber Serial Number: 10006121A
 Detector Serial Number: 49
 Env. Background: System Bkgd 132594
 Reagent Blank: <not performed>

Sample Size: 1.519E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 6:49:13 AM
 Acquisition Date/Time: 10/28/2015 9:09:39 AM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: U232_UU-10A
 Tracer Quantity: 0.652 mL
 Effective Efficiency: 0.1698 +/- 0.0099
 Counting Efficiency: 0.1525 +/- 0.0027 on 12/13/2014 2:45:02 PM
 Chem. Recovery Factor: 1.1132 +/- 0.0679

Peak Match Tolerance: 0.150 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|---------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| U-232 | T 5.289 | 348.66 | 10.50 | 0.34 | 0.00E+000 | 42.0 |
| U-234 | 4.738 | 149.00 | 16.11 | 0.00 | 0.00E+000 | 3.9 |
| U-235 | 4.396 | 7.00 | 79.20 | 0.00 | 0.00E+000 | 3.0 |
| U-238 | 4.161 | 157.81 | 15.67 | 1.19 | 0.00E+000 | 4.9 |

T = Tracer Peak used for Effective Efficiency

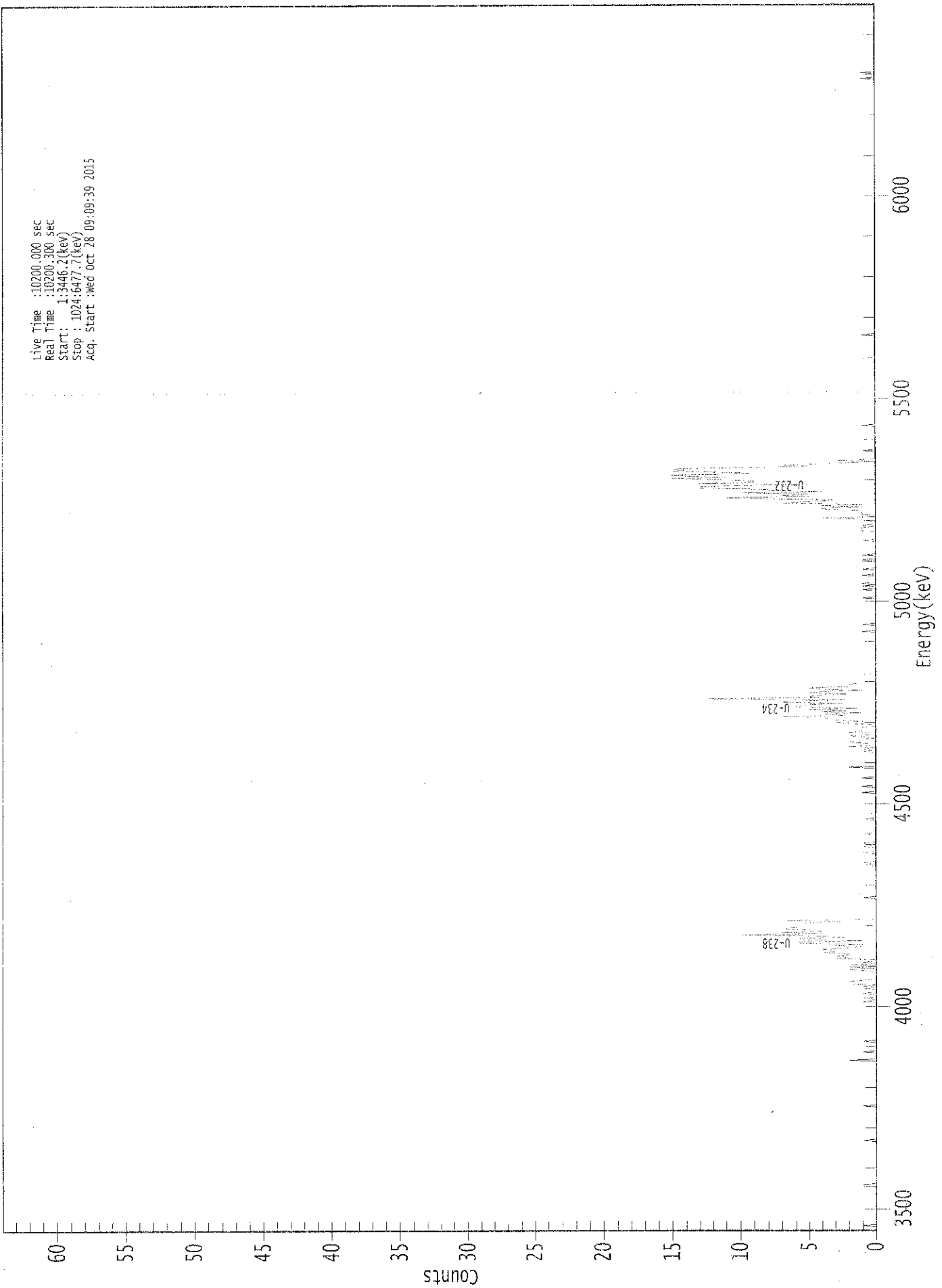
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| U-232 | 0.999 | 5302.50* | 3.59E+000 +/- 4.10E-001 | 4.92E-002 +/- 5.63E-003 |
| U-234 | 0.996 | 4761.50* | 1.53E+000 +/- 3.03E-001 | 6.17E-002 +/- 7.05E-003 |
| U-235 | 0.999 | 4385.50* | 8.89E-002 +/- 7.11E-002 | 7.61E-002 +/- 8.70E-003 |
| U-238 | 0.996 | 4184.40* | 1.62E+000 +/- 3.14E-001 | 6.75E-002 +/- 7.72E-003 |

10/28/15

0000132478.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3446.2(keV)
Stop : 1024.6477.7(keV)
Acq. Start : Wed Oct 28 09:09:39 2015



18100 :

ROI Type: 1
ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T * * * * *

Sample Title: 20

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 193: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 201: | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 2 |
| 209: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 1 | 2 | 0 | 2 | 0 | 2 | 0 |
| 225: | 1 | 0 | 0 | 3 | 2 | 3 | 2 | 2 |
| 233: | 4 | 3 | 3 | 4 | 2 | 1 | 3 | 1 |
| 241: | 6 | 6 | 1 | 6 | 6 | 2 | 4 | 10 |
| 249: | 4 | 7 | 4 | 5 | 7 | 6 | 6 | 6 |
| 257: | 6 | 5 | 2 | 7 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 321: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

369: 0 0 1 0 0 0 0 0 0

Sample Title: 20

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|----|----|----|----|----|----|----|----|----|
| 377: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 393: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 401: | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 2 | 2 |
| 409: | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 2 | 2 |
| 417: | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 3 | 3 |
| 425: | 1 | 3 | 3 | 4 | 7 | 2 | 4 | 1 | 1 |
| 433: | 4 | 2 | 5 | 1 | 6 | 6 | 5 | 2 | 2 |
| 441: | 7 | 7 | 2 | 13 | 4 | 5 | 4 | 2 | 2 |
| 449: | 5 | 4 | 1 | 4 | 5 | 2 | 2 | 2 | 2 |
| 457: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 497: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 505: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 537: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 561: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 585: | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 593: | 1 | 1 | 4 | 0 | 0 | 1 | 1 | 1 | 1 |
| 601: | 1 | 4 | 4 | 1 | 4 | 1 | 7 | 6 | 6 |
| 609: | 4 | 3 | 8 | 11 | 5 | 7 | 5 | 10 | 10 |
| 617: | 4 | 8 | 8 | 13 | 13 | 11 | 5 | 13 | 13 |
| 625: | 9 | 9 | 11 | 15 | 11 | 14 | 15 | 9 | 9 |
| 633: | 10 | 15 | 14 | 15 | 10 | 5 | 7 | 4 | 4 |
| 641: | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0

Sample Title: 20

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



QA SUMMARY REPORT

Review Of QA Results - Pulser Check

Date : 10/28/2015
Time : 5:50:32 AM

| CHAMBER | DEVICE | PARAMETER | FLAG | DATE |
|-----------|--------------------|-------------|----------|-----------------------|
| Alpha 001 | 21f | ALL | Not Done | |
| Alpha 002 | 21f | ALL | Not Done | |
| Alpha 003 | 21f | ALL | Passed | 10/28/2015 5:25:05 AM |
| Alpha 004 | 21f | ALL | Passed | 10/28/2015 5:25:06 AM |
| Alpha 005 | 21f | ALL | Not Done | |
| Alpha 006 | 21f | ALL | Not Done | |
| Alpha 007 | 21f | ALL | Not Done | |
| Alpha 008 | 21f | ALL | Not Done | |
| Alpha 009 | 21f | ALL | Not Done | |
| Alpha 010 | 21f | ALL | Passed | 10/28/2015 5:25:06 AM |
| Alpha 011 | 21f | ALL | Passed | 10/28/2015 5:25:07 AM |
| Alpha 012 | 21f | ALL | Passed | 10/28/2015 5:25:08 AM |
| Alpha 013 | 21f | ALL | Not Done | |
| Alpha 014 | 21f | ALL | Passed | 10/28/2015 5:25:09 AM |
| Alpha 015 | 21f | ALL | Passed | 10/28/2015 5:25:10 AM |
| Alpha 016 | 21f | ALL | Not Done | |
| Alpha 033 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:11 AM |
| Alpha 034 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:13 AM |
| Alpha 035 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:15 AM |
| Alpha 036 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:16 AM |
| Alpha 037 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:18 AM |
| Alpha 038 | Alpha Analyst100DC | Peak Energy | Action | 10/28/2015 5:25:20 AM |
| Alpha 039 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:21 AM |
| Alpha 040 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:24 AM |
| Alpha 041 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:26 AM |
| Alpha 042 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:28 AM |
| Alpha 043 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:31 AM |
| Alpha 044 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:33 AM |
| Alpha 045 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:35 AM |
| Alpha 046 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:38 AM |
| Alpha 047 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:40 AM |
| Alpha 048 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:43 AM |
| Alpha 049 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:45 AM |
| Alpha 050 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:48 AM |
| Alpha 051 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:50 AM |
| Alpha 052 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:53 AM |
| Alpha 053 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:56 AM |
| Alpha 054 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:58 AM |
| Alpha 055 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:26:01 AM |
| Alpha 056 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:26:04 AM |
| Alpha 057 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:26:07 AM |
| Alpha 058 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:26:09 AM |

 ***** LIBRARY LISTING REPORT *****

Nuclide Library Title: Uranium

Nuclide Library Description: U-232,-234,-235,-238

| Nuclide Name | Half-Life (Seconds) | Energy (keV) | Energy Uncert. (keV) | Yield (%) | Yield Uncert. (Abs.+/-) |
|--------------|---------------------|--------------|----------------------|-----------|-------------------------|
| U-232 | 2.174E+009 | 5302.500* | 0.000 | 99.8000 | 0.0000 |
| U-234 | 7.731E+012 | 4761.500* | 0.000 | 99.8000 | 0.0000 |
| U-235 | 2.221E+016 | 4385.500* | 0.000 | 80.9000 | 0.0000 |
| U-238 | 1.410E+017 | 4184.400* | 0.000 | 100.2300 | 0.0000 |

* = key line

TOTALS: 4 Nuclides 4 Energy Lines

SECTION IX
ANALYTICAL DATA (ISOTOPIC THORIUM)

| | |
|----------------------|---------------------------|
| Work Order | 15-10085 |
| Analysis Code | ThISO |
| Run | 1 |
| Date Received | 10/14/2015 |
| Lab Deadline | 11/6/2015 |
| Client | Auxier & Associates, Inc. |
| Project | PAP-KAN |
| Report Level | 4 |
| Activity Units | pCi |
| Aliquot Units | g |
| Matrix | SO |
| Method | EML Th-01 Modified |
| Instrument Type | Alpha Spectroscopy |
| Radiometric Tracer | Th-229 |
| Radiometric Soft# | Th-18a |
| Tracer Act (dpm/g) | 22.46 |
| Carrier | |
| Carrier Conc (mg/ml) | |
| | |
| | |

| Internal Fraction | Sample Desc | Client ID | Login CPM | Sample Date | Sample Aliquot |
|-------------------|-------------|--------------|-----------|----------------|----------------|
| 01 | LCS | LCS | | 10/14/15 00:00 | 1.0000E+00 |
| 02 | MBL | BLANK | | 10/14/15 00:00 | 1.5000E+00 |
| 03 | DUP | CP5007S01-02 | 39 | 10/07/15 14:20 | 1.5538E+00 |
| 04 | DO | CP5007S01-02 | 39 | 10/07/15 14:20 | 1.5666E+00 |
| 05 | TRG | CP5007S03-04 | 34 | 10/07/15 14:30 | 1.5411E+00 |
| 06 | TRG | CP5007S06-07 | 32 | 10/07/15 14:40 | 1.5224E+00 |
| 07 | TRG | CP5007S08-09 | 33 | 10/07/15 14:50 | 1.5194E+00 |
| 08 | TRG | CP5007S11-12 | 36 | 10/07/15 15:10 | 1.5205E+00 |
| 09 | TRG | CP5007S13-14 | 34 | 10/07/15 15:20 | 1.5516E+00 |
| 10 | TRG | CP5007S16-17 | 34 | 10/07/15 15:30 | 1.5051E+00 |
| 11 | TRG | CP5006S01-02 | 34 | 10/07/15 16:00 | 1.5532E+00 |
| 12 | TRG | CP5006S03-04 | 32 | 10/07/15 16:10 | 1.5728E+00 |
| 13 | TRG | CP5006S04-05 | 38 | 10/07/15 16:20 | 1.5239E+00 |
| 14 | TRG | CP5006S07-08 | 37 | 10/07/15 16:30 | 1.5337E+00 |
| 15 | TRG | CP5006S09-10 | 36 | 10/07/15 16:40 | 1.5049E+00 |
| 16 | TRG | CP5006S12-13 | 36 | 10/07/15 16:50 | 1.5490E+00 |
| 17 | TRG | CP5006S14-15 | 36 | 10/07/15 17:00 | 1.5368E+00 |
| 18 | TRG | CP5006S17-18 | 34 | 10/07/15 17:10 | 1.5954E+00 |
| 19 | TRG | CP5006S19-20 | 33 | 10/07/15 17:20 | 1.5231E+00 |
| 20 | TRG | CP5006S22-23 | 35 | 10/07/15 17:30 | 1.5716E+00 |

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

| Internal Fraction | Sample Desc | Tracer Aliquot (g) | Tracer Total ACT (dpm) | Radiometric Tracer (pCi) | Radiometric % Rec | Grav Carrier Added (ml) | Grav Filter Tare (g) | Grav Filter Final (g) | Grav Filter Net (g) | Grav % Rec | Mean % Rec | SAF 1* | SAF 2* |
|-------------------|-------------|--------------------|------------------------|--------------------------|-------------------|-------------------------|----------------------|-----------------------|---------------------|------------|------------|--------|--------|
| 01 | LCS | 0.4471 | 10.0 | | 0.00 | | | | | | | | |
| 02 | MBL | 0.2252 | 5.1 | | 0.00 | | | | | | | | |
| 03 | DUP | 0.2240 | 5.0 | | 0.00 | | | | | | | | |
| 04 | DO | 0.2249 | 5.1 | | 0.00 | | | | | | | | |
| 05 | TRG | 0.2243 | 5.0 | | 0.00 | | | | | | | | |
| 06 | TRG | 0.2252 | 5.1 | | 0.00 | | | | | | | | |
| 07 | TRG | 0.2249 | 5.1 | | 0.00 | | | | | | | | |
| 08 | TRG | 0.2250 | 5.1 | | 0.00 | | | | | | | | |
| 09 | TRG | 0.2245 | 5.0 | | 0.00 | | | | | | | | |
| 10 | TRG | 0.2248 | 5.0 | | 0.00 | | | | | | | | |
| 11 | TRG | 0.2243 | 5.0 | | 0.00 | | | | | | | | |
| 12 | TRG | 0.2242 | 5.0 | | 0.00 | | | | | | | | |
| 13 | TRG | 0.2251 | 5.1 | | 0.00 | | | | | | | | |
| 14 | TRG | 0.2246 | 5.0 | | 0.00 | | | | | | | | |
| 15 | TRG | 0.2251 | 5.1 | | 0.00 | | | | | | | | |
| 16 | TRG | 0.2251 | 5.1 | | 0.00 | | | | | | | | |
| 17 | TRG | 0.2246 | 5.0 | | 0.00 | | | | | | | | |
| 18 | TRG | 0.2250 | 5.1 | | 0.00 | | | | | | | | |
| 19 | TRG | 0.2250 | 5.1 | | 0.00 | | | | | | | | |
| 20 | TRG | 0.2244 | 5.0 | | 0.00 | | | | | | | | |

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.

** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

151085

| Internal Fraction | Sample Desc | Rough Prep Date | Rough Prep By | Prep Date | Prep By | Sep t0 Date/Time | Sep t0 By | Sep t1 Date/Time | Sep t1 By |
|-------------------|-------------|-----------------|---------------|----------------|-----------|------------------|-----------|------------------|-----------|
| 01 | LCS | | | 10/16/15 09:32 | JPACHELLA | | | | |
| 02 | MBL | | | 10/16/15 09:32 | JPACHELLA | | | | |
| 03 | DUP | | | 10/16/15 09:32 | JPACHELLA | | | | |
| 04 | DO | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 05 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 06 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 07 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 08 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 09 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 10 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 11 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 12 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 13 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 14 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 15 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 16 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 17 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 18 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 19 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |
| 20 | TRG | 10/16/15 07:29 | KSALLINGS | 10/16/15 09:32 | JPACHELLA | | | | |

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

10/28/15

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LCS Known | LCS %R | LCS Flag | RPD Flag | MDA Flag | Blank Flag |
|--------------|---------|-------------|-----------------------|----------------|----------|----------------|----------|-----------|--------|----------|----------|----------|------------|
| 01 | TH-228 | LCS | LCS | pCi/g | 5.17E+00 | 8.15E-01 | 7.95E-02 | 4.72E+00 | 109.49 | OK | | OK | |
| 02 | TH-228 | MBL | BLANK | pCi/g | 5.50E-02 | 5.74E-02 | 7.18E-02 | | | | | OK | OK |
| 03 | TH-228 | DUP | CP5007S01-02 | pCi/g | 1.12E+00 | 2.78E-01 | 8.25E-02 | | | | OK | OK | |
| 04 | TH-228 | DO | CP5007S01-02 | pCi/g | 1.16E+00 | 2.65E-01 | 4.89E-02 | | | | | OK | |
| 05 | TH-228 | TRG | CP5007S03-04 | pCi/g | 1.17E+00 | 2.62E-01 | 5.62E-02 | | | | | OK | |
| 06 | TH-228 | TRG | CP5007S06-07 | pCi/g | 1.44E+00 | 3.29E-01 | 5.26E-02 | | | | | OK | |
| 07 | TH-228 | TRG | CP5007S08-09 | pCi/g | 1.17E+00 | 2.83E-01 | 6.39E-02 | | | | | OK | |
| 08 | TH-228 | TRG | CP5007S11-12 | pCi/g | 1.12E+00 | 2.64E-01 | 4.86E-02 | | | | | OK | |
| 09 | TH-228 | TRG | CP5007S13-14 | pCi/g | 1.02E+00 | 2.56E-01 | 6.76E-02 | | | | | OK | |
| 10 | TH-228 | TRG | CP5007S16-17 | pCi/g | 1.60E+00 | 3.80E-01 | 7.53E-02 | | | | | OK | |
| 11 | TH-228 | TRG | CP5006S01-02 | pCi/g | 8.58E-01 | 2.47E-01 | 6.65E-02 | | | | | OK | |
| 12 | TH-228 | TRG | CP5006S03-04 | pCi/g | 1.27E+00 | 3.18E-01 | 6.18E-02 | | | | | OK | |
| 13 | TH-228 | TRG | CP5006S04-05 | pCi/g | 1.54E+00 | 4.16E-01 | 8.16E-02 | | | | | OK | |
| 14 | TH-228 | TRG | CP5006S07-08 | pCi/g | 1.47E+00 | 3.95E-01 | 1.00E-01 | | | | | OK | |
| 15 | TH-228 | TRG | CP5006S09-10 | pCi/g | 1.35E+00 | 3.30E-01 | 1.11E-01 | | | | | OK | |
| 16 | TH-228 | TRG | CP5006S12-13 | pCi/g | 1.70E+00 | 4.13E-01 | 7.22E-02 | | | | | OK | |
| 17 | TH-228 | TRG | CP5006S14-15 | pCi/g | 1.47E+00 | 3.51E-01 | 7.25E-02 | | | | | OK | |
| 18 | TH-228 | TRG | CP5006S17-18 | pCi/g | 1.31E+00 | 3.19E-01 | 7.26E-02 | | | | | OK | |
| 19 | TH-228 | TRG | CP5006S19-20 | pCi/g | 1.39E+00 | 3.45E-01 | 6.88E-02 | | | | | OK | |
| 20 | TH-228 | TRG | CP5006S22-23 | pCi/g | 1.17E+00 | 2.98E-01 | 7.99E-02 | | | | | OK | |

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|---|-----------------|-------------------------------|---|--|
|  | 1 Run | THISO Analysis Code | 15-10085 Eberline Services Work Order | Auxier & Associates, Inc. Client |
|---|-----------------|-------------------------------|---|--|

15-10085

| | | |
|---|---------------------------|---|
|  | Run | 1 |
| Analysis Code | THISO | |
| Eberline Services Work Order | 15-10085 | |
| Client | Auxier & Associates, Inc. | |

| Lab Fraction | Nuclide | Sample Desc | Sample Date | Sample Aliquot | Radiometric % Rec | Grav % Rec | Mean % Rec | SAF | Sep 10 Date/Time | Sep 11 Date/Time |
|--------------|---------|-------------|----------------|----------------|-------------------|------------|------------|-----|------------------|------------------|
| 01 | TH-228 | LCS | 10/14/15 00:00 | 1.00E+00 | 116.84 | 0.00 | 0.00 | | | |
| 02 | TH-228 | MBL | 10/14/15 00:00 | 1.50E+00 | 86.03 | 0.00 | 0.00 | | | |
| 03 | TH-228 | DUP | 10/07/15 14:20 | 1.55E+00 | 95.58 | 0.00 | 0.00 | | | |
| 04 | TH-228 | DO | 10/07/15 14:20 | 1.57E+00 | 114.10 | 0.00 | 0.00 | | | |
| 05 | TH-228 | TRG | 10/07/15 14:30 | 1.54E+00 | 118.53 | 0.00 | 0.00 | | | |
| 06 | TH-228 | TRG | 10/07/15 14:40 | 1.52E+00 | 109.88 | 0.00 | 0.00 | | | |
| 07 | TH-228 | TRG | 10/07/15 14:50 | 1.52E+00 | 95.66 | 0.00 | 0.00 | | | |
| 08 | TH-228 | TRG | 10/07/15 15:10 | 1.52E+00 | 112.48 | 0.00 | 0.00 | | | |
| 09 | TH-228 | TRG | 10/07/15 15:20 | 1.55E+00 | 107.69 | 0.00 | 0.00 | | | |
| 10 | TH-228 | TRG | 10/07/15 15:30 | 1.51E+00 | 95.63 | 0.00 | 0.00 | | | |
| 11 | TH-228 | TRG | 10/07/15 16:00 | 1.55E+00 | 95.03 | 0.00 | 0.00 | | | |
| 12 | TH-228 | TRG | 10/07/15 16:10 | 1.57E+00 | 98.09 | 0.00 | 0.00 | | | |
| 13 | TH-228 | TRG | 10/07/15 16:20 | 1.52E+00 | 85.42 | 0.00 | 0.00 | | | |
| 14 | TH-228 | TRG | 10/07/15 16:30 | 1.53E+00 | 93.66 | 0.00 | 0.00 | | | |
| 15 | TH-228 | TRG | 10/07/15 16:40 | 1.50E+00 | 115.89 | 0.00 | 0.00 | | | |
| 16 | TH-228 | TRG | 10/07/15 16:50 | 1.55E+00 | 94.97 | 0.00 | 0.00 | | | |
| 17 | TH-228 | TRG | 10/07/15 17:00 | 1.54E+00 | 118.73 | 0.00 | 0.00 | | | |
| 18 | TH-228 | TRG | 10/07/15 17:10 | 1.60E+00 | 118.24 | 0.00 | 0.00 | | | |
| 19 | TH-228 | TRG | 10/07/15 17:20 | 1.52E+00 | 104.05 | 0.00 | 0.00 | | | |
| 20 | TH-228 | TRG | 10/07/15 17:30 | 1.57E+00 | 104.98 | 0.00 | 0.00 | | | |

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|---|---------------------------|-------|
|  | Run | 1 |
| Eberline Services Work Order | Analysis Code | THISO |
| Client | Auxier & Associates, Inc. | |

| Lab Fraction | Nuclide | Sample Desc | Counting Date/Time | Half-life (days) | Detect | Carrier | Count Time | Counts | Bkg CPM | Eff |
|--------------|---------|-------------|--------------------|------------------|--------|-----------|------------|-----------|-----------|------|
| 01 | TH-228 | LCS | 10/28/15 12:08 | | A_Spec | Alpha_037 | 170 | 3.89 E+02 | 5.00 E-03 | 17.1 |
| 02 | TH-228 | MBL | 10/28/15 12:08 | | A_Spec | Alpha_038 | 170 | 4.32 E+00 | 4.00 E-03 | 16.2 |
| 03 | TH-228 | DUP | 10/28/15 12:08 | | A_Spec | Alpha_039 | 170 | 1.19 E+02 | 1.70 E-02 | 19.3 |
| 04 | TH-228 | DO | 10/28/15 12:08 | | A_Spec | Alpha_040 | 170 | 1.42 E+02 | 5.00 E-03 | 18.6 |
| 05 | TH-228 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_041 | 170 | 1.47 E+02 | 9.00 E-03 | 18.7 |
| 06 | TH-228 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_042 | 170 | 1.54 E+02 | 4.00 E-03 | 17.4 |
| 07 | TH-228 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_043 | 170 | 1.26 E+02 | 8.00 E-03 | 20 |
| 08 | TH-228 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_044 | 170 | 1.30 E+02 | 4.00 E-03 | 18.4 |
| 09 | TH-228 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_045 | 170 | 1.11 E+02 | 1.00 E-02 | 17.6 |
| 10 | TH-228 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_046 | 170 | 1.51 E+02 | 9.00 E-03 | 17.8 |
| 11 | TH-228 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_047 | 170 | 7.72 E+01 | 5.00 E-03 | 16.5 |
| 12 | TH-228 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_048 | 170 | 1.23 E+02 | 5.00 E-03 | 17 |
| 13 | TH-228 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_049 | 170 | 1.13 E+02 | 5.00 E-03 | 15.3 |
| 14 | TH-228 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_050 | 170 | 1.11 E+02 | 1.10 E-02 | 14.3 |
| 15 | TH-228 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_051 | 170 | 1.33 E+02 | 3.10 E-02 | 15.2 |
| 16 | TH-228 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_052 | 170 | 1.48 E+02 | 6.00 E-03 | 16.1 |
| 17 | TH-228 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_053 | 170 | 1.44 E+02 | 9.00 E-03 | 14.6 |
| 18 | TH-228 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_054 | 170 | 1.32 E+02 | 1.00 E-02 | 14.5 |
| 19 | TH-228 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_055 | 170 | 1.27 E+02 | 6.00 E-03 | 15.6 |
| 20 | TH-228 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_056 | 170 | 1.14 E+02 | 1.20 E-02 | 16 |

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|---|---|
|  | 1 Run |
| THISO Analysis Code | 15-10085 Eberline Services Work Order |
| Auxier & Associates, Inc. Client | THISO-1 Client Identification |

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LCS Known | LCS %R | LCS Flag | RPD Flag | MDA Flag | Blank Flag |
|--------------|---------|-------------|-----------------------|----------------|----------|----------------|----------|-----------|--------|----------|----------|----------|------------|
| 01 | TH-230 | LCS | LCS | pCi/g | 6.15E+00 | 9.38E-01 | 6.98E-02 | 5.37E+00 | 114.57 | OK | | OK | |
| 02 | TH-230 | MBL | BLANK | pCi/g | 8.05E-02 | 6.83E-02 | 7.18E-02 | | | | | OK | OK |
| 03 | TH-230 | DUP | CP5007S01-02 | pCi/g | 3.56E+00 | 6.98E-01 | 8.41E-02 | | | | OK | OK | |
| 04 | TH-230 | DO | CP5007S01-02 | pCi/g | 3.04E+00 | 5.69E-01 | 4.20E-02 | | | | | OK | |
| 05 | TH-230 | TRG | CP5007S03-04 | pCi/g | 1.15E+00 | 2.57E-01 | 4.38E-02 | | | | | OK | |
| 06 | TH-230 | TRG | CP5007S06-07 | pCi/g | 1.44E+00 | 3.27E-01 | 3.81E-02 | | | | | OK | |
| 07 | TH-230 | TRG | CP5007S08-09 | pCi/g | 1.09E+00 | 2.66E-01 | 4.80E-02 | | | | | OK | |
| 08 | TH-230 | TRG | CP5007S11-12 | pCi/g | 1.54E+00 | 3.33E-01 | 4.43E-02 | | | | | OK | |
| 09 | TH-230 | TRG | CP5007S13-14 | pCi/g | 1.16E+00 | 2.78E-01 | 5.40E-02 | | | | | OK | |
| 10 | TH-230 | TRG | CP5007S16-17 | pCi/g | 1.35E+00 | 3.31E-01 | 6.84E-02 | | | | | OK | |
| 11 | TH-230 | TRG | CP5006S01-02 | pCi/g | 1.55E+00 | 3.77E-01 | 4.55E-02 | | | | | OK | |
| 12 | TH-230 | TRG | CP5006S03-04 | pCi/g | 2.85E+00 | 6.03E-01 | 5.31E-02 | | | | | OK | |
| 13 | TH-230 | TRG | CP5006S04-05 | pCi/g | 1.78E+00 | 4.62E-01 | 8.02E-02 | | | | | OK | |
| 14 | TH-230 | TRG | CP5006S07-08 | pCi/g | 1.95E+00 | 4.88E-01 | 7.30E-02 | | | | | OK | |
| 15 | TH-230 | TRG | CP5006S09-10 | pCi/g | 1.62E+00 | 3.74E-01 | 7.99E-02 | | | | | OK | |
| 16 | TH-230 | TRG | CP5006S12-13 | pCi/g | 1.61E+00 | 3.95E-01 | 6.33E-02 | | | | | OK | |
| 17 | TH-230 | TRG | CP5006S14-15 | pCi/g | 1.65E+00 | 3.81E-01 | 6.30E-02 | | | | | OK | |
| 18 | TH-230 | TRG | CP5006S17-18 | pCi/g | 1.46E+00 | 3.44E-01 | 4.04E-02 | | | | | OK | |
| 19 | TH-230 | TRG | CP5006S19-20 | pCi/g | 1.55E+00 | 3.74E-01 | 7.06E-02 | | | | | OK | |
| 20 | TH-230 | TRG | CP5006S22-23 | pCi/g | 1.52E+00 | 3.61E-01 | 6.33E-02 | | | | | OK | |

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|---|---------------------------|---|
|  | Run | 1 |
| Analysis Code | THISO | |
| Eberline Services Work Order | 15-10085 | |
| Client | Auxier & Associates, Inc. | |

| Lab Fraction | Nuclide | Sample Desc | Sample Date | Sample Aliquot | Radiometric % Rec | Grav % Rec | Mean % Rec | SAF | Sep 10 Date/Time | Sep 11 Date/Time |
|--------------|---------|-------------|----------------|----------------|-------------------|------------|------------|-----|------------------|------------------|
| 01 | TH-230 | LCS | 10/14/15 00:00 | 1.00E+00 | 116.84 | 0.00 | 0.00 | | | |
| 02 | TH-230 | MBL | 10/14/15 00:00 | 1.50E+00 | 86.03 | 0.00 | 0.00 | | | |
| 03 | TH-230 | DUP | 10/07/15 14:20 | 1.55E+00 | 95.58 | 0.00 | 0.00 | | | |
| 04 | TH-230 | DO | 10/07/15 14:20 | 1.57E+00 | 114.10 | 0.00 | 0.00 | | | |
| 05 | TH-230 | TRG | 10/07/15 14:30 | 1.54E+00 | 118.53 | 0.00 | 0.00 | | | |
| 06 | TH-230 | TRG | 10/07/15 14:40 | 1.52E+00 | 109.88 | 0.00 | 0.00 | | | |
| 07 | TH-230 | TRG | 10/07/15 14:50 | 1.52E+00 | 95.66 | 0.00 | 0.00 | | | |
| 08 | TH-230 | TRG | 10/07/15 15:10 | 1.52E+00 | 112.48 | 0.00 | 0.00 | | | |
| 09 | TH-230 | TRG | 10/07/15 15:20 | 1.55E+00 | 107.69 | 0.00 | 0.00 | | | |
| 10 | TH-230 | TRG | 10/07/15 15:30 | 1.51E+00 | 95.63 | 0.00 | 0.00 | | | |
| 11 | TH-230 | TRG | 10/07/15 16:00 | 1.55E+00 | 95.03 | 0.00 | 0.00 | | | |
| 12 | TH-230 | TRG | 10/07/15 16:10 | 1.57E+00 | 98.09 | 0.00 | 0.00 | | | |
| 13 | TH-230 | TRG | 10/07/15 16:20 | 1.52E+00 | 85.42 | 0.00 | 0.00 | | | |
| 14 | TH-230 | TRG | 10/07/15 16:30 | 1.53E+00 | 93.66 | 0.00 | 0.00 | | | |
| 15 | TH-230 | TRG | 10/07/15 16:40 | 1.50E+00 | 115.89 | 0.00 | 0.00 | | | |
| 16 | TH-230 | TRG | 10/07/15 16:50 | 1.55E+00 | 94.97 | 0.00 | 0.00 | | | |
| 17 | TH-230 | TRG | 10/07/15 17:00 | 1.54E+00 | 118.73 | 0.00 | 0.00 | | | |
| 18 | TH-230 | TRG | 10/07/15 17:10 | 1.60E+00 | 118.24 | 0.00 | 0.00 | | | |
| 19 | TH-230 | TRG | 10/07/15 17:20 | 1.52E+00 | 104.05 | 0.00 | 0.00 | | | |
| 20 | TH-230 | TRG | 10/07/15 17:30 | 1.57E+00 | 104.98 | 0.00 | 0.00 | | | |

Preliminary Data Report & Analytical Calculations
Work Order: 15-10085-THISO-1

| | | |
|---|---------------------------|---|
|  | Run | 1 |
| Client | Auxier & Associates, Inc. | |
| Eberline Services Work Order | 15-10085 | |
| Analysis Code | THISO | |

| Lab Fraction | Nuclide | Sample Desc | Counting Date/Time | Half-life (days) | Detect | Carrier | Count Time | Counts | Bkg CPM | Eff |
|--------------|---------|-------------|--------------------|------------------|--------|-----------|------------|-----------|-----------|------|
| 01 | TH-230 | LCS | 10/28/15 12:08 | | A_Spec | Alpha_037 | 170 | 4.62 E+02 | 3.00 E-03 | 17.1 |
| 02 | TH-230 | MBL | 10/28/15 12:08 | | A_Spec | Alpha_038 | 170 | 6.32 E+00 | 4.00 E-03 | 16.2 |
| 03 | TH-230 | DUP | 10/28/15 12:08 | | A_Spec | Alpha_039 | 170 | 3.86 E+02 | 1.90 E-02 | 19.3 |
| 04 | TH-230 | DO | 10/28/15 12:08 | | A_Spec | Alpha_040 | 170 | 3.80 E+02 | 3.00 E-03 | 18.6 |
| 05 | TH-230 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_041 | 170 | 1.48 E+02 | 4.00 E-03 | 18.7 |
| 06 | TH-230 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_042 | 170 | 1.58 E+02 | 1.00 E-03 | 17.4 |
| 07 | TH-230 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_043 | 170 | 1.19 E+02 | 3.00 E-03 | 20 |
| 08 | TH-230 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_044 | 170 | 1.82 E+02 | 3.00 E-03 | 18.4 |
| 09 | TH-230 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_045 | 170 | 1.28 E+02 | 5.00 E-03 | 17.6 |
| 10 | TH-230 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_046 | 170 | 1.30 E+02 | 7.00 E-03 | 17.8 |
| 11 | TH-230 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_047 | 170 | 1.42 E+02 | 1.00 E-03 | 16.5 |
| 12 | TH-230 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_048 | 170 | 2.81 E+02 | 3.00 E-03 | 17 |
| 13 | TH-230 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_049 | 170 | 1.33 E+02 | 0.00 E+00 | 15.3 |
| 14 | TH-230 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_050 | 170 | 1.50 E+02 | 4.00 E-03 | 14.3 |
| 15 | TH-230 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_051 | 170 | 1.62 E+02 | 1.30 E-02 | 15.2 |
| 16 | TH-230 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_052 | 170 | 1.43 E+02 | 4.00 E-03 | 16.1 |
| 17 | TH-230 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_053 | 170 | 1.65 E+02 | 6.00 E-03 | 14.6 |
| 18 | TH-230 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_054 | 170 | 1.51 E+02 | 1.00 E-03 | 14.5 |
| 19 | TH-230 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_055 | 170 | 1.45 E+02 | 7.00 E-03 | 15.6 |
| 20 | TH-230 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_056 | 170 | 1.51 E+02 | 6.00 E-03 | 16 |

| | | |
|---|---------------------------|-------|
|  | Run | 1 |
| | Analysis Code | THISO |
| Client | Auxier & Associates, Inc. | |
| Eberline Services Work Order | 15-10085 | |

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LCS Known | LCS %R | LCS Flag | RPD Flag | MDA Flag | Blank Flag |
|--------------|---------|-------------|-----------------------|----------------|-----------|----------------|----------|-----------|--------|----------|----------|----------|------------|
| 01 | TH-232 | LCS | LCS | pCi/g | 5.45E+00 | 8.51E-01 | 7.96E-02 | 4.72E+00 | 115.55 | OK | | OK | |
| 02 | TH-232 | MBL | BLANK | pCi/g | -6.48E-03 | 2.60E-02 | 6.67E-02 | | | | | OK | OK |
| 03 | TH-232 | DUP | CP5007S01-02 | pCi/g | 1.06E+00 | 2.66E-01 | 7.74E-02 | | | | OK | OK | |
| 04 | TH-232 | DO | CP5007S01-02 | pCi/g | 1.03E+00 | 2.40E-01 | 4.51E-02 | | | | | OK | |
| 05 | TH-232 | TRG | CP5007S03-04 | pCi/g | 9.58E-01 | 2.27E-01 | 7.05E-02 | | | | | OK | |
| 06 | TH-232 | TRG | CP5007S06-07 | pCi/g | 1.37E+00 | 3.15E-01 | 4.78E-02 | | | | | OK | |
| 07 | TH-232 | TRG | CP5007S08-09 | pCi/g | 1.18E+00 | 2.82E-01 | 5.15E-02 | | | | | OK | |
| 08 | TH-232 | TRG | CP5007S11-12 | pCi/g | 1.11E+00 | 2.60E-01 | 4.43E-02 | | | | | OK | |
| 09 | TH-232 | TRG | CP5007S13-14 | pCi/g | 9.11E-01 | 2.35E-01 | 7.89E-02 | | | | | OK | |
| 10 | TH-232 | TRG | CP5007S16-17 | pCi/g | 1.10E+00 | 2.86E-01 | 7.37E-02 | | | | | OK | |
| 11 | TH-232 | TRG | CP5006S01-02 | pCi/g | 7.96E-01 | 2.33E-01 | 6.51E-02 | | | | | OK | |
| 12 | TH-232 | TRG | CP5006S03-04 | pCi/g | 1.09E+00 | 2.82E-01 | 6.36E-02 | | | | | OK | |
| 13 | TH-232 | TRG | CP5006S04-05 | pCi/g | 1.32E+00 | 3.68E-01 | 7.99E-02 | | | | | OK | |
| 14 | TH-232 | TRG | CP5006S07-08 | pCi/g | 1.39E+00 | 3.76E-01 | 6.18E-02 | | | | | OK | |
| 15 | TH-232 | TRG | CP5006S09-10 | pCi/g | 1.51E+00 | 3.54E-01 | 4.77E-02 | | | | | OK | |
| 16 | TH-232 | TRG | CP5006S12-13 | pCi/g | 1.42E+00 | 3.58E-01 | 5.36E-02 | | | | | OK | |
| 17 | TH-232 | TRG | CP5006S14-15 | pCi/g | 1.49E+00 | 3.52E-01 | 4.77E-02 | | | | | OK | |
| 18 | TH-232 | TRG | CP5006S17-18 | pCi/g | 1.03E+00 | 2.64E-01 | 5.80E-02 | | | | | OK | |
| 19 | TH-232 | TRG | CP5006S19-20 | pCi/g | 1.22E+00 | 3.12E-01 | 6.73E-02 | | | | | OK | |
| 20 | TH-232 | TRG | CP5006S22-23 | pCi/g | 1.29E+00 | 3.19E-01 | 6.32E-02 | | | | | OK | |

092000

| | | |
|---|--|---|
|  | | 1 Run |
| THISO Analysis Code | | 15-10085 Eberline Services Work Order |
| Client | | Auxier & Associates, Inc. |

| Lab Fraction | Nuclide | Sample Desc | Sample Date | Sample Aliquot | Radiometric % Rec | Grav % Rec | Mean % Rec | SAF | Sep 10 Date/Time | Sep 11 Date/Time |
|--------------|---------|-------------|----------------|----------------|-------------------|------------|------------|-----|------------------|------------------|
| 01 | TH-232 | LCS | 10/14/15 00:00 | 1.00E+00 | 116.84 | 0.00 | 0.00 | | | |
| 02 | TH-232 | MBL | 10/14/15 00:00 | 1.50E+00 | 86.03 | 0.00 | 0.00 | | | |
| 03 | TH-232 | DJP | 10/07/15 14:20 | 1.55E+00 | 95.58 | 0.00 | 0.00 | | | |
| 04 | TH-232 | DO | 10/07/15 14:20 | 1.57E+00 | 114.10 | 0.00 | 0.00 | | | |
| 05 | TH-232 | TRG | 10/07/15 14:30 | 1.54E+00 | 118.53 | 0.00 | 0.00 | | | |
| 06 | TH-232 | TRG | 10/07/15 14:40 | 1.52E+00 | 109.88 | 0.00 | 0.00 | | | |
| 07 | TH-232 | TRG | 10/07/15 14:50 | 1.52E+00 | 95.66 | 0.00 | 0.00 | | | |
| 08 | TH-232 | TRG | 10/07/15 15:10 | 1.52E+00 | 112.48 | 0.00 | 0.00 | | | |
| 09 | TH-232 | TRG | 10/07/15 15:20 | 1.55E+00 | 107.69 | 0.00 | 0.00 | | | |
| 10 | TH-232 | TRG | 10/07/15 15:30 | 1.51E+00 | 95.63 | 0.00 | 0.00 | | | |
| 11 | TH-232 | TRG | 10/07/15 16:00 | 1.55E+00 | 95.03 | 0.00 | 0.00 | | | |
| 12 | TH-232 | TRG | 10/07/15 16:10 | 1.57E+00 | 98.09 | 0.00 | 0.00 | | | |
| 13 | TH-232 | TRG | 10/07/15 16:20 | 1.52E+00 | 85.42 | 0.00 | 0.00 | | | |
| 14 | TH-232 | TRG | 10/07/15 16:30 | 1.53E+00 | 93.66 | 0.00 | 0.00 | | | |
| 15 | TH-232 | TRG | 10/07/15 16:40 | 1.50E+00 | 115.89 | 0.00 | 0.00 | | | |
| 16 | TH-232 | TRG | 10/07/15 16:50 | 1.55E+00 | 94.97 | 0.00 | 0.00 | | | |
| 17 | TH-232 | TRG | 10/07/15 17:00 | 1.54E+00 | 118.73 | 0.00 | 0.00 | | | |
| 18 | TH-232 | TRG | 10/07/15 17:10 | 1.60E+00 | 118.24 | 0.00 | 0.00 | | | |
| 19 | TH-232 | TRG | 10/07/15 17:20 | 1.52E+00 | 104.05 | 0.00 | 0.00 | | | |
| 20 | TH-232 | TRG | 10/07/15 17:30 | 1.57E+00 | 104.98 | 0.00 | 0.00 | | | |

Preliminary Data Report & Analytical Calculations
Work Order: 15-10085-THISO-1

| | | |
|---|---------------------------|-------|
|  | Run | 1 |
| Eberline Services Work Order | Analysis Code | THISO |
| Client | Auxier & Associates, Inc. | |

| Lab Fraction | Nuclide | Sample Desc | Counting Date/Time | Half-life (days) | Detect | Carrier | Count Time | Counts | Bkg CPM | Eff |
|--------------|---------|-------------|--------------------|------------------|--------|-----------|------------|------------|-----------|------|
| 01 | TH-232 | LCS | 10/28/15 12:08 | | A_Spec | Alpha_037 | 170 | 4.11 E+02 | 0.00 E+00 | 17.1 |
| 02 | TH-232 | MBL | 10/28/15 12:08 | | A_Spec | Alpha_038 | 170 | -5.10 E-01 | 3.00 E-03 | 16.2 |
| 03 | TH-232 | DUP | 10/28/15 12:08 | | A_Spec | Alpha_039 | 170 | 1.15 E+02 | 1.50 E-02 | 19.3 |
| 04 | TH-232 | DO | 10/28/15 12:08 | | A_Spec | Alpha_040 | 170 | 1.28 E+02 | 4.00 E-03 | 18.6 |
| 05 | TH-232 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_041 | 170 | 1.24 E+02 | 1.90 E-02 | 18.7 |
| 06 | TH-232 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_042 | 170 | 1.50 E+02 | 3.00 E-03 | 17.4 |
| 07 | TH-232 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_043 | 170 | 1.29 E+02 | 4.00 E-03 | 20 |
| 08 | TH-232 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_044 | 170 | 1.31 E+02 | 3.00 E-03 | 18.4 |
| 09 | TH-232 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_045 | 170 | 1.01 E+02 | 1.70 E-02 | 17.6 |
| 10 | TH-232 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_046 | 170 | 1.06 E+02 | 9.00 E-03 | 17.8 |
| 11 | TH-232 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_047 | 170 | 7.32 E+01 | 5.00 E-03 | 16.5 |
| 12 | TH-232 | TRG | 10/28/15 12:08 | | A_Spec | Alpha_048 | 170 | 1.08 E+02 | 6.00 E-03 | 17 |
| 13 | TH-232 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_049 | 170 | 9.92 E+01 | 5.00 E-03 | 15.3 |
| 14 | TH-232 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_050 | 170 | 1.08 E+02 | 2.00 E-03 | 14.3 |
| 15 | TH-232 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_051 | 170 | 1.52 E+02 | 2.00 E-03 | 15.2 |
| 16 | TH-232 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_052 | 170 | 1.27 E+02 | 2.00 E-03 | 16.1 |
| 17 | TH-232 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_053 | 170 | 1.50 E+02 | 2.00 E-03 | 14.6 |
| 18 | TH-232 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_054 | 170 | 1.06 E+02 | 0.00 E+00 | 14.5 |
| 19 | TH-232 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_055 | 170 | 1.14 E+02 | 6.00 E-03 | 15.6 |
| 20 | TH-232 | TRG | 10/28/15 12:09 | | A_Spec | Alpha_056 | 170 | 1.29 E+02 | 6.00 E-03 | 16 |

54-10-15

| Internal Fraction | Sample Desc | Client ID | Sample Date | Sample Aliquot | Tracer Aliquot (g) | Tracer ACT (dpm) | Radiometric Tracer (pCi) | Radiometric % Rec | SAF 1* | SAF 2* |
|-------------------|-------------|--------------|----------------|----------------|--------------------|------------------|--------------------------|-------------------|--------|--------|
| 01 | LCS | LCS | 10/14/15 00:00 | 1.0000 | 0.4471 | 10.0419 | | 0.00 | | |
| 02 | MBL | BLANK | 10/14/15 00:00 | 1.5000 | 0.2252 | 5.0580 | | 0.00 | | |
| 03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 1.5538 | 0.2240 | 5.0310 | | 0.00 | | |
| 04 | DO | CP5007S01-02 | 10/07/15 14:20 | 1.5666 | 0.2249 | 5.0513 | | 0.00 | | |
| 05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 1.5411 | 0.2243 | 5.0378 | | 0.00 | | |
| 06 | TRG | CP5007S06-07 | 10/07/15 14:40 | 1.5224 | 0.2252 | 5.0580 | | 0.00 | | |
| 07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 1.5194 | 0.2249 | 5.0513 | | 0.00 | | |
| 08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 1.5205 | 0.2250 | 5.0535 | | 0.00 | | |
| 09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 1.5516 | 0.2245 | 5.0423 | | 0.00 | | |
| 10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 1.5051 | 0.2248 | 5.0490 | | 0.00 | | |
| 11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 1.5532 | 0.2243 | 5.0378 | | 0.00 | | |
| 12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 1.5728 | 0.2242 | 5.0355 | | 0.00 | | |
| 13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 1.5239 | 0.2251 | 5.0557 | | 0.00 | | |
| 14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 1.5337 | 0.2246 | 5.0445 | | 0.00 | | |
| 15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 1.5049 | 0.2251 | 5.0557 | | 0.00 | | |
| 16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 1.5490 | 0.2251 | 5.0557 | | 0.00 | | |
| 17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 1.5368 | 0.2246 | 5.0445 | | 0.00 | | |
| 18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 1.5954 | 0.2250 | 5.0535 | | 0.00 | | |
| 19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 1.5231 | 0.2250 | 5.0535 | | 0.00 | | |
| 20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 1.5716 | 0.2244 | 5.0400 | | 0.00 | | |

Spike and Tracer Worksheet

| Internal Work Order 15-10085 | Run 1 | Analysis Code ThISO | Date 10/16/2015 9:20 | Technician JPACHELLA | Technician Initials <i>JPM</i> | Witness Initials | | | | | | | | |
|--|-----------------|-------------------------------|--------------------------------|--------------------------------|-----------------------------------|--------------------|---------------------|---------------------|---------------|--------------|--------------------|-------------------|---------------|--------------------|
| LCS & Matrix Spikes | | | | | | | | | | | | | | |
| Isotope | Sol # | Activity dpm/g | Solution Date | Approx Addition | LCS Volume Used (g) | MS Volume Used (g) | LCS Volume Used (g) | MSD Volume Used (g) | LCS Known pCi | MS Added pCi | LCS Error Estimate | MS Error Estimate | MSD Added pCi | MSD Error Estimate |
| Th-228 | Th-8b | 103.560 | 10/16/2015 | 0.100 | 0.1012 | | 4.72 | 0.170 | 0.00 | 0.00 | 0.000 | 0.000 | 0.00 | 0.000 |
| Th-230 | Th-1b | 23.920 | 10/16/2015 | 0.500 | 0.5066 | | 5.37 | 0.145 | 0.00 | 0.00 | 0.000 | 0.000 | 0.00 | 0.000 |
| Th-232 | Th-8b | 103.560 | 10/16/2015 | 0.100 | 0.1012 | | 4.72 | 0.170 | 0.00 | 0.00 | 0.000 | 0.000 | 0.00 | 0.000 |

IC-99 MS | C-2a | 22043.636 | 7/5/2014 | U-1

| Tracers | | | | | | | | | | Balance Printer Tapes | | | | |
|----------|---------|--------|----------------|---------------|-----------------|-----------------|---------------------|--|--|-----------------------|--|--|--|--|
| fraction | isotope | Sol # | Activity dpm/g | Solution Date | Volume Used (g) | Approx Addition | Tracer | | | LCS | | | | |
| 01 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.4471 | 0.2200 | | | | | | | | |
| 02 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2252 | 0.2200 | | | | | | | | |
| 03 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2240 | 0.2200 | | | | | | | | |
| 04 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2249 | 0.2200 | | | | | | | | |
| 05 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2243 | 0.2200 | | | | | | | | |
| 06 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2252 | 0.2200 | | | | | | | | |
| 07 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2249 | 0.2200 | | | | | | | | |
| 08 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2250 | 0.2200 | | | | | | | | |
| 09 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2245 | 0.2200 | | | | | | | | |
| 10 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2248 | 0.2200 | | | | | | | | |
| 11 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2243 | 0.2200 | | | | | | | | |
| 12 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2242 | 0.2200 | | | | | | | | |
| 13 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2251 | 0.2200 | | | | | | | | |
| 14 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2246 | 0.2200 | | | | | | | | |
| 15 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2251 | 0.2200 | | | | | | | | |
| 16 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2251 | 0.2200 | | | | | | | | |
| 17 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2246 | 0.2200 | | | | | | | | |
| 18 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2250 | 0.2200 | | | | | | | | |
| 19 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2250 | 0.2200 | | | | | | | | |
| 20 | Th-229 | Th-18a | 22.460 | 10/16/2015 | 0.2244 | 0.2200 | | | | | | | | |
| | | | | | | | Matrix Spike | | | | | | | |

Aliquot Worksheet

| | | | | | | | |
|-----------------|--|----------|---------------|--------------|------------------|------------------|--|
| Work Order | | Run | Analysis Code | Rpt Units | Lab Deadline | Technician | |
| 15-10085 | | 1 | THISO | grams | 11/6/2015 | JPACHELLA | |

| Lab Fraction | Auxier & Associates, Inc. | | Muffle Data | | Dilution Data | | | Aliquot Data | | MS Aliquot Data | | H-3 Solids Only | |
|--------------|---------------------------|-------------|----------------|--------------|---------------|-------|------------|--------------|---------|-----------------|------------------|-----------------|--|
| | Client ID | Sample Type | Ratio Post/Pre | No. of Dilis | Dil Factor | Ratio | Aliquot | Net Equiv | Aliquot | Net Equiv | Water Added (ml) | H3 Dist Aliq | |
| 01 | LCS | LCS | | | | | 1.0000E+00 | 1.0000E+00 | | | | | |
| 02 | BLANK | MBL | | | | | 1.5000E+00 | 1.5000E+00 | | | | | |
| 03 | CP5007S01-02 | DUP | | | | | 1.5538E+00 | 1.5538E+00 | | | | | |
| 04 | CP5007S01-02 | DO | | | | | 1.5666E+00 | 1.5666E+00 | | | | | |
| 05 | CP5007S03-04 | TRG | | | | | 1.5411E+00 | 1.5411E+00 | | | | | |
| 06 | CP5007S06-07 | TRG | | | | | 1.5224E+00 | 1.5224E+00 | | | | | |
| 07 | CP5007S08-09 | TRG | | | | | 1.5194E+00 | 1.5194E+00 | | | | | |
| 08 | CP5007S11-12 | TRG | | | | | 1.5205E+00 | 1.5205E+00 | | | | | |
| 09 | CP5007S13-14 | TRG | | | | | 1.5516E+00 | 1.5516E+00 | | | | | |
| 10 | CP5007S16-17 | TRG | | | | | 1.5051E+00 | 1.5051E+00 | | | | | |
| 11 | CP5006S01-02 | TRG | | | | | 1.5532E+00 | 1.5532E+00 | | | | | |
| 12 | CP5006S03-04 | TRG | | | | | 1.5728E+00 | 1.5728E+00 | | | | | |
| 13 | CP5006S04-05 | TRG | | | | | 1.5239E+00 | 1.5239E+00 | | | | | |
| 14 | CP5006S07-08 | TRG | | | | | 1.5337E+00 | 1.5337E+00 | | | | | |
| 15 | CP5006S09-10 | TRG | | | | | 1.5049E+00 | 1.5049E+00 | | | | | |
| 16 | CP5006S12-13 | TRG | | | | | 1.5490E+00 | 1.5490E+00 | | | | | |
| 17 | CP5006S14-15 | TRG | | | | | 1.5368E+00 | 1.5368E+00 | | | | | |
| 18 | CP5006S17-18 | TRG | | | | | 1.5954E+00 | 1.5954E+00 | | | | | |
| 19 | CP5006S19-20 | TRG | | | | | 1.5231E+00 | 1.5231E+00 | | | | | |
| 20 | CP5006S22-23 | TRG | | | | | 1.5716E+00 | 1.5716E+00 | | | | | |

| |
|----------|
| Comments |
|----------|

Technician: JPachella Date: 10/16/15 ^{9:01 AM}

**Rough Sample Preparation
 Log Book**

| | | | | | |
|-------------------|---------------------|------------------------------|--------------------|----------------------|-------------------|
| Work Order | Lab Deadline | Date Received in Prep | Date Sealed | Date Returned | Technician |
| 15-10085 | 11/6/2015 | 10/15/2015 | 10/16/2015 | 10/17/2015 | KSALLINGS |

| Eberline Fraction | Client ID | Tare (g) | | Gross (g) | | Net (g) | | Percent | | Gamma | | Special Info |
|-------------------|--------------|----------|-----------|-----------|-----------|-----------|--------|---------|--------|--------|--------|--------------|
| | | Pan Wt | Wet Wt | Dry Wt | Wet Wt | Dry Wt | Wet Wt | Dry Wt | Liquid | Solid | Dry Wt |  | LEPS Wt |
| 04 | CP5007S01-02 | 14.6200 | 1146.9400 | 970.6800 | 1132.3200 | 956.0600 | 15.57% | 84.43% | 0.0000 | 0.0000 | | |
| 05 | CP5007S03-04 | 14.5900 | 1008.9800 | 832.5400 | 994.3900 | 817.9500 | 17.74% | 82.26% | 0.0000 | 0.0000 | | |
| 06 | CP5007S06-07 | 14.6100 | 929.4600 | 770.0900 | 914.8500 | 755.4800 | 17.42% | 82.58% | 0.0000 | 0.0000 | | |
| 07 | CP5007S08-09 | 14.6800 | 953.6600 | 765.9100 | 938.9800 | 751.2300 | 20.00% | 80.00% | 0.0000 | 0.0000 | | |
| 08 | CP5007S11-12 | 14.6500 | 1203.9000 | 936.5800 | 1189.2500 | 921.9300 | 22.48% | 77.52% | 0.0000 | 0.0000 | | |
| 09 | CP5007S13-14 | 14.6400 | 1124.9400 | 870.5400 | 1110.3000 | 855.9000 | 22.91% | 77.09% | 0.0000 | 0.0000 | | |
| 10 | CP5007S16-17 | 14.6100 | 1398.1400 | 1066.9400 | 1383.5300 | 1052.3300 | 23.94% | 76.06% | 0.0000 | 0.0000 | | |
| 11 | CP5006S01-02 | 14.6800 | 676.1800 | 602.4100 | 661.5000 | 587.7300 | 11.15% | 88.85% | 0.0000 | 0.0000 | | |
| 12 | CP5006S03-04 | 14.7900 | 1107.3400 | 893.0800 | 1092.5500 | 878.2900 | 19.61% | 80.39% | 0.0000 | 0.0000 | | |
| 13 | CP5006S04-05 | 14.6400 | 699.8200 | 552.2100 | 685.1800 | 537.5700 | 21.54% | 78.46% | 0.0000 | 0.0000 | | |
| 14 | CP5006S07-08 | 14.6200 | 698.0300 | 554.4800 | 683.4100 | 539.8600 | 21.00% | 79.00% | 0.0000 | 0.0000 | | |
| 15 | CP5006S09-10 | 14.6000 | 813.6800 | 621.1100 | 799.0800 | 606.5100 | 24.10% | 75.90% | 0.0000 | 0.0000 | | |
| 16 | CP5006S12-13 | 14.6300 | 757.3200 | 591.5100 | 742.6900 | 576.8800 | 22.33% | 77.67% | 0.0000 | 0.0000 | | |
| 17 | CP5006S14-15 | 14.1800 | 988.2000 | 773.1000 | 974.0200 | 758.9200 | 22.08% | 77.92% | 0.0000 | 0.0000 | | |
| 18 | CP5006S17-18 | 14.1900 | 1043.0600 | 828.2200 | 1028.8700 | 814.0300 | 20.88% | 79.12% | 0.0000 | 0.0000 | | |
| 19 | CP5006S19-20 | 14.1800 | 1205.0800 | 936.1600 | 1190.9000 | 921.9800 | 22.58% | 77.42% | 0.0000 | 0.0000 | | |
| 20 | CP5006S22-23 | 14.1600 | 966.6800 | 747.5100 | 952.5200 | 733.3500 | 23.01% | 76.99% | 0.0000 | 0.0000 | | |

| |
|---|
| Comments |
| Special Codes |
| H: Hot, O: Organic Hazard, P: PCB Hazard, R: Rush, T: Other (see comments) |

Technician: *Kerry Seay*

000000

KB
10/28/15

Apex-Alpha™

Sample Description: SPIKE
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 01
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_037
 Chamber Serial Number: 04026478A
 Detector Serial Number: 91133
 Env. Background: System Bkgd 132582
 Reagent Blank: <not performed>

Sample Size: 1.000E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/28/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:16 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.447 mL
 Effective Efficiency: 0.1996 +/- 0.0125
 Counting Efficiency: 0.1709 +/- 0.0030 on 10/25/2014 2:46:09 PM
 Chem. Recovery Factor: 1.1684 +/- 0.0758

Control Certificate Name: NatTh_Th-8
 Chem. Recov. of Control: TH-232 1.155475 +/- 0.098288
 Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.818 | 14.83 | 51.24 | 0.17 | 0.00E+000 | 3.0 |
| TH-228 | 5.350 | 389.15 | 9.95 | 0.85 | 0.00E+000 | 11.7 |
| TH-229 T | 4.856 | 340.83 | 10.62 | 0.17 | 0.00E+000 | 9.8 |
| TH-230 | 4.619 | 462.49 | 9.12 | 0.51 | 0.00E+000 | 5.5 |
| TH-232 | 3.949 | 411.00 | 9.68 | 0.00 | 0.00E+000 | 41.5 |

T = Tracer Peak used for Effective Efficiency

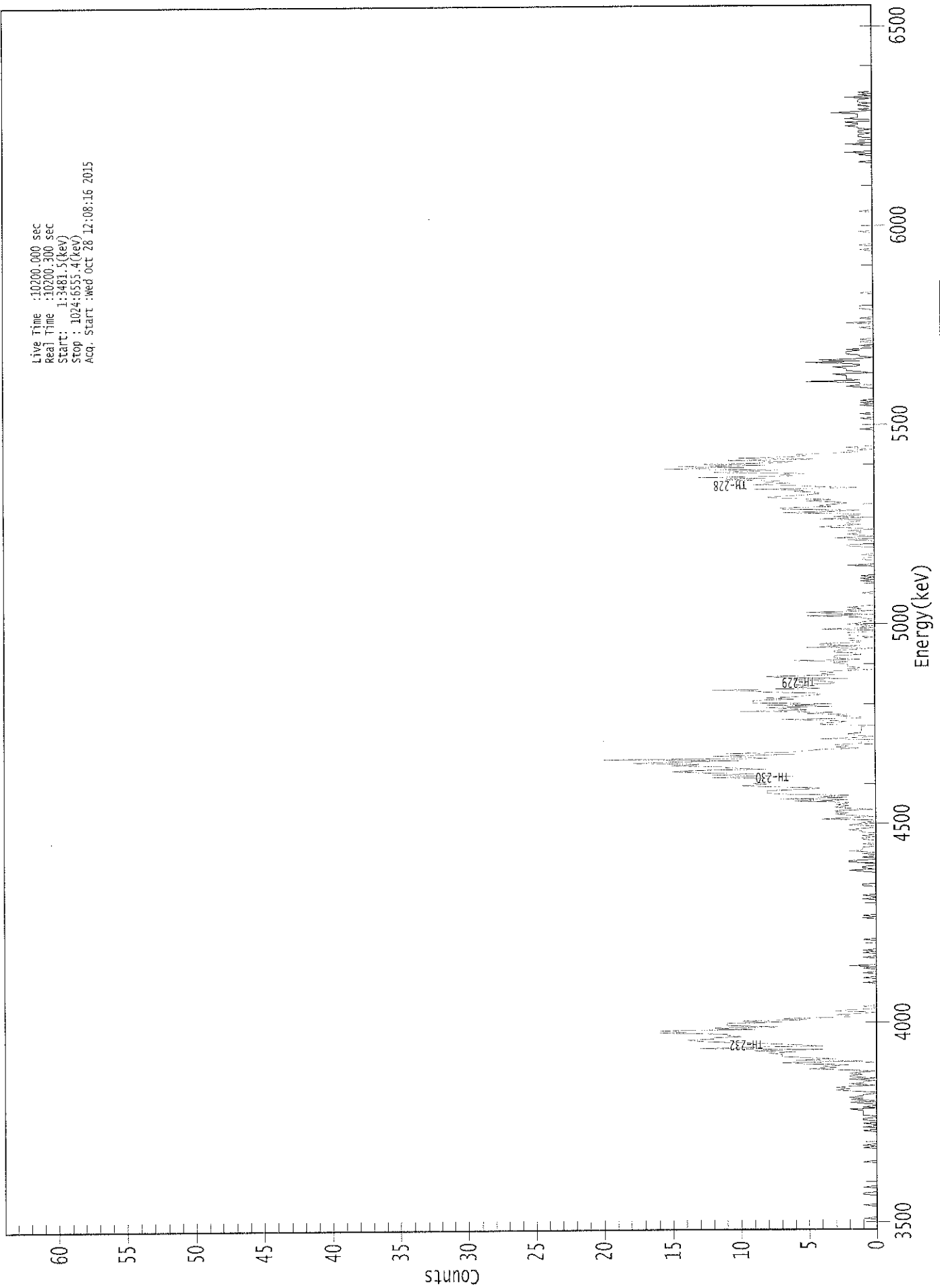
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.995 | 5850.00* | 2.02E-001 +/- 1.06E-001 | 5.68E-002 +/- 6.95E-003 |
| TH-228 | 0.987 | 5400.00* | 5.17E+000 +/- 8.15E-001 | 7.95E-002 +/- 9.73E-003 |
| TH-229 | 0.999 | 4872.00* | 4.55E+000 +/- 5.56E-001 | 5.57E-002 +/- 6.81E-003 |
| TH-230 | 0.985 | 4672.00* | 6.15E+000 +/- 9.38E-001 | 6.98E-002 +/- 8.54E-003 |
| TH-232 | 0.988 | 3997.00* | 5.45E+000 +/- 8.51E-001 | 7.96E-002 +/- 9.74E-003 |

AG
10/29/15

0000132504.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start: 1:3481.5(keV)
Stop : 1024:6555.4(keV)
Acq. Start :Wed Oct 28 12:08:16 2015



11200

ROI Type: 1

ROI Type: 3

369: 5 4 8 10 8 9 8 8

Sample Title: 01

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 8 | 8 | 12 | 6 | 12 | 9 | 13 | 15 |
| 385: | 13 | 8 | 11 | 11 | 15 | 13 | 18 | 15 |
| 393: | 10 | 20 | 8 | 10 | 12 | 6 | 11 | 6 |
| 401: | 5 | 4 | 1 | 3 | 2 | 3 | 1 | 1 |
| 409: | 0 | 0 | 4 | 1 | 0 | 2 | 2 | 1 |
| 417: | 1 | 1 | 1 | 1 | 1 | 0 | 4 | 4 |
| 425: | 2 | 3 | 7 | 1 | 1 | 3 | 2 | 5 |
| 433: | 3 | 10 | 5 | 6 | 8 | 3 | 8 | 3 |
| 441: | 9 | 9 | 9 | 6 | 8 | 6 | 5 | 4 |
| 449: | 4 | 8 | 9 | 12 | 4 | 6 | 5 | 6 |
| 457: | 3 | 3 | 4 | 6 | 2 | 7 | 8 | 3 |
| 465: | 4 | 3 | 4 | 0 | 2 | 1 | 2 | 2 |
| 473: | 2 | 3 | 2 | 6 | 1 | 3 | 3 | 3 |
| 481: | 1 | 1 | 3 | 3 | 2 | 0 | 5 | 1 |
| 489: | 4 | 4 | 1 | 1 | 2 | 2 | 0 | 1 |
| 497: | 2 | 2 | 2 | 0 | 0 | 4 | 0 | 1 |
| 505: | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 1 |
| 513: | 5 | 0 | 3 | 5 | 0 | 2 | 1 | 2 |
| 521: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 545: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 |
| 561: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 |
| 577: | 0 | 3 | 0 | 1 | 2 | 1 | 1 | 2 |
| 585: | 0 | 1 | 4 | 3 | 1 | 2 | 2 | 1 |
| 593: | 1 | 4 | 0 | 3 | 1 | 1 | 7 | 4 |
| 601: | 1 | 7 | 7 | 3 | 4 | 3 | 2 | 3 |
| 609: | 5 | 3 | 6 | 8 | 7 | 5 | 4 | 4 |
| 617: | 6 | 5 | 9 | 1 | 4 | 6 | 9 | 6 |
| 625: | 8 | 7 | 11 | 8 | 13 | 6 | 7 | 5 |
| 633: | 12 | 9 | 7 | 16 | 9 | 15 | 8 | 13 |
| 641: | 7 | 6 | 11 | 4 | 10 | 6 | 5 | 6 |
| 649: | 3 | 1 | 2 | 0 | 1 | 2 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 681: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 705: | 2 | 1 | 1 | 1 | 5 | 1 | 2 | 2 |
| 713: | 2 | 2 | 3 | 0 | 1 | 2 | 2 | 2 |
| 721: | 3 | 1 | 1 | 2 | 5 | 1 | 4 | 1 |
| 729: | 0 | 1 | 1 | 2 | 2 | 2 | 1 | 2 |
| 737: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| 761: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 01

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 897: | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 |
| 913: | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| 921: | 1 | 2 | 1 | 1 | 2 | 0 | 0 | 2 |
| 929: | 1 | 1 | 1 | 1 | 3 | 1 | 0 | 1 |
| 937: | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| 945: | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

LCB
10/28/15

Sample Description: BLANK
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 02
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_038
 Chamber Serial Number: 04026478B
 Detector Serial Number: 91134
 Env. Background: System Bkgd 132583
 Reagent Blank: <not performed>

Sample Size: 1.500E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/28/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:18 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1390 +/- 0.0135
 Counting Efficiency: 0.1615 +/- 0.0029 on 10/25/2014 2:50:18 PM
 Chem. Recovery Factor: 0.8603 +/- 0.0847

Peak Match Tolerance: 0.175 MeV

| ----- PEAK AREA REPORT ----- | | | | | | |
|------------------------------------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
| TH-227 | 5.766 | 7.83 | 70.93 | 0.17 | 0.00E+000 | 3.0 |
| TH-228 | 5.405 | 4.32 | 102.62 | 0.68 | 0.00E+000 | 3.0 |
| TH-229 T | 4.880 | 119.49 | 17.98 | 0.51 | 0.00E+000 | 4.0 |
| TH-230 | 4.672 | 6.32 | 82.73 | 0.68 | 0.00E+000 | 3.0 |
| TH-232 | 3.949 | -0.51 | 400.63 | 0.51 | 0.00E+000 | 0.0 |

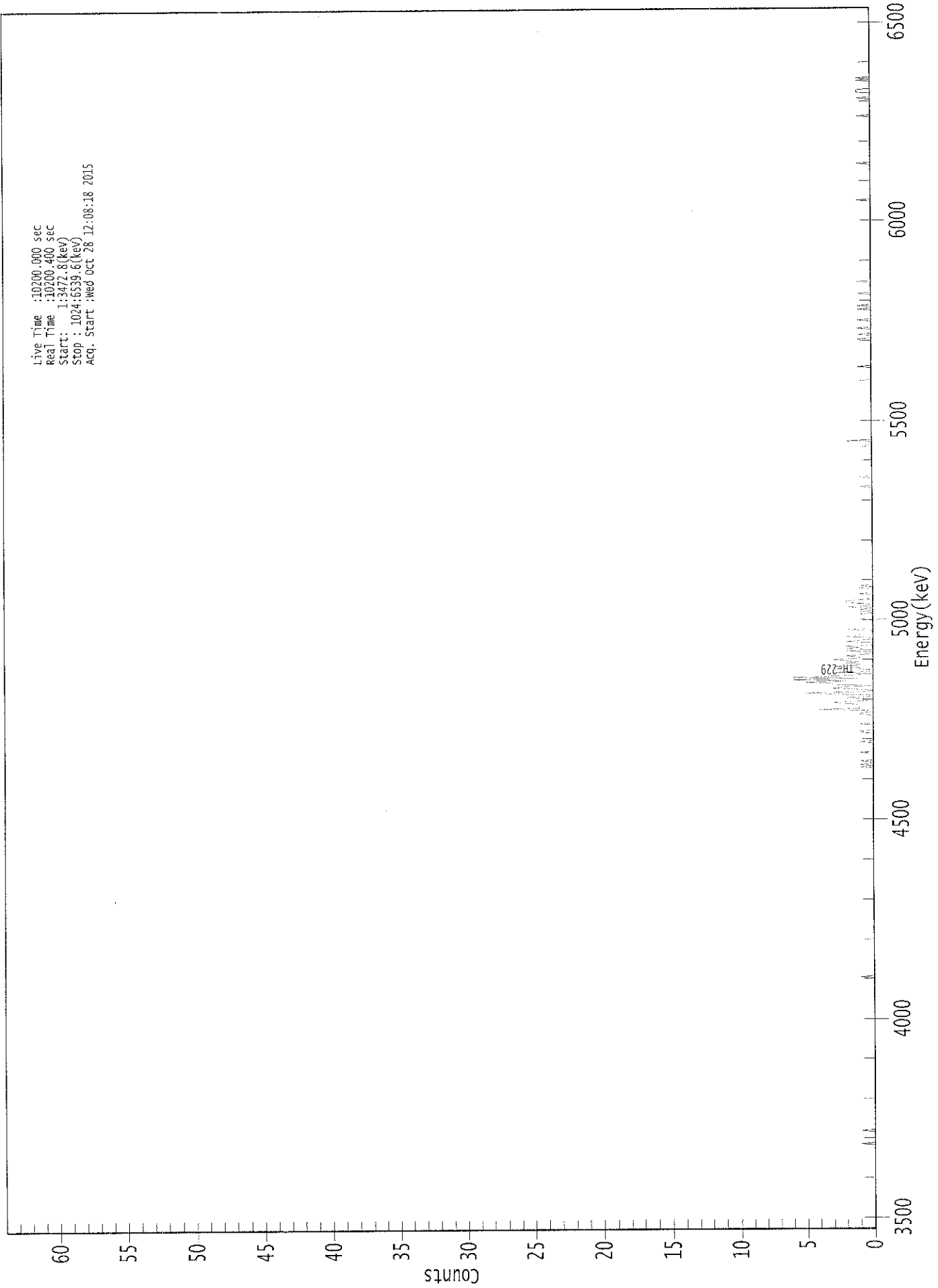
T = Tracer Peak used for Effective Efficiency

| ----- NUCLIDE ANALYSIS RESULTS ----- | | | | | | |
|--|----------|--------------|--------------------------|-------------------------|--|--|
| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) | | |
| TH-227 | 0.964 | 5850.00* | 1.02E-001 +/- 7.50E-002 | 5.44E-002 +/- 1.03E-002 | | |
| TH-228 | 1.000 | 5400.00* | 5.50E-002 +/- 5.74E-002 | 7.18E-002 +/- 1.36E-002 | | |
| TH-229 | 1.000 | 4872.00* | 1.53E+000 +/- 2.90E-001 | 6.70E-002 +/- 1.27E-002 | | |
| TH-230 | 1.000 | 4672.00* | 8.05E-002 +/- 6.83E-002 | 7.18E-002 +/- 1.36E-002 | | |
| TH-232 | 0.988 | 3997.00* | -6.48E-003 +/- 2.60E-002 | 6.67E-002 +/- 1.27E-002 | | |

AG
10/29/15

0000132505.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:34:2.8(keV)
Stop : 1024:6539.6(keV)
Acq. Start : Wed Oct 28 12:08:18 2015



ROI Type: 1

ROI Type: 3

01298

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 02

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---------|---|---|---|---|---|---|---|---|
| 1: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

369: 0 0 0 0 0 0 0 0 0

Sample Title: 02

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 393: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 417: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 425: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 433: | 0 | 0 | 4 | 1 | 1 | 1 | 1 | 2 |
| 441: | 3 | 1 | 0 | 1 | 2 | 0 | 0 | 3 |
| 449: | 5 | 1 | 0 | 1 | 3 | 2 | 0 | 3 |
| 457: | 3 | 5 | 2 | 6 | 1 | 6 | 3 | 1 |
| 465: | 0 | 3 | 0 | 0 | 1 | 1 | 3 | 1 |
| 473: | 1 | 2 | 1 | 2 | 3 | 1 | 1 | 2 |
| 481: | 1 | 0 | 0 | 2 | 0 | 2 | 1 | 2 |
| 489: | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 2 |
| 497: | 1 | 1 | 1 | 0 | 0 | 2 | 0 | 0 |
| 505: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 513: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 521: | 2 | 0 | 0 | 1 | 2 | 2 | 1 | 0 |
| 529: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 537: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 617: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 625: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 657: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 753: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 761: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0

Sample Title: 02

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 953: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KP
10/29/15

Apex-Alpha™

Sample Description: CP5007S01-02-DUP
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 03
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_039
 Chamber Serial Number: 06027396A
 Detector Serial Number: 83109
 Env. Background: System Bkgd 132584
 Reagent Blank: <not performed>

Sample Size: 1.554E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:20 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.1849 +/- 0.0159
 Counting Efficiency: 0.1934 +/- 0.0034 on 10/25/2014 2:53:34 PM
 Chem. Recovery Factor: 0.9558 +/- 0.0837

Peak Match Tolerance: 0.175 MeV

 ----- PEAK AREA REPORT -----

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.900 | 19.77 | 48.11 | 3.23 | 0.00E+000 | 3.0 |
| TH-228 | 5.376 | 119.11 | 18.21 | 2.89 | 0.00E+000 | 17.3 |
| TH-229 T | 4.879 | 158.13 | 15.69 | 1.87 | 0.00E+000 | 7.4 |
| TH-230 | 4.639 | 385.77 | 10.03 | 3.23 | 0.00E+000 | 16.4 |
| TH-232 | 3.966 | 115.45 | 18.48 | 2.55 | 0.00E+000 | 11.0 |

T = Tracer Peak used for Effective Efficiency

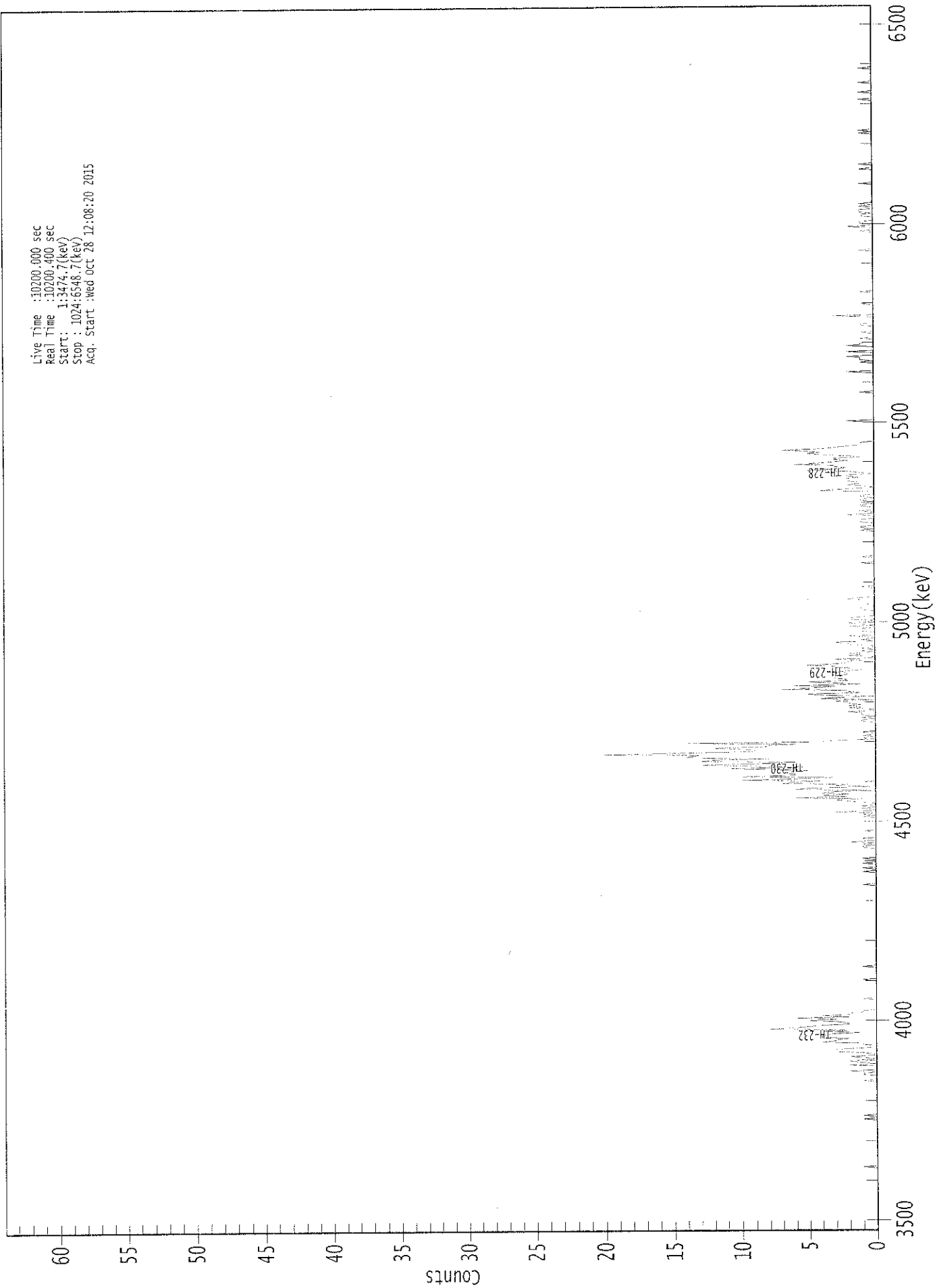
 ----- NUCLIDE ANALYSIS RESULTS -----

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.987 | 5850.00* | 1.87E-001 +/- 9.55E-002 | 8.63E-002 +/- 1.45E-002 |
| TH-228 | 0.997 | 5400.00* | 1.12E+000 +/- 2.78E-001 | 8.25E-002 +/- 1.39E-002 |
| TH-229 | 1.000 | 4872.00* | 1.47E+000 +/- 2.47E-001 | 7.02E-002 +/- 1.18E-002 |
| TH-230 | 0.994 | 4672.00* | 3.56E+000 +/- 6.98E-001 | 8.41E-002 +/- 1.42E-002 |
| TH-232 | 0.995 | 3997.00* | 1.06E+000 +/- 2.66E-001 | 7.74E-002 +/- 1.30E-002 |

AG
 10/29/15

0000132510.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:3474.71(keV)
Stop : 1024:6548.71(keV)
Acq. Start : Wed Oct 28 12:08:20 2015



ROI Type: 1

ROI Type: 3

132510

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 03

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 97: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 129: | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 |
| 137: | 0 | 0 | 2 | 0 | 1 | 2 | 1 | 0 | 0 |
| 145: | 1 | 2 | 0 | 0 | 1 | 3 | 3 | 3 | 3 |
| 153: | 1 | 0 | 0 | 1 | 1 | 4 | 3 | 3 | 3 |
| 161: | 2 | 4 | 4 | 4 | 3 | 1 | 4 | 2 | 2 |
| 169: | 8 | 6 | 5 | 4 | 2 | 2 | 3 | 5 | 5 |
| 177: | 3 | 6 | 2 | 4 | 2 | 2 | 1 | 1 | 1 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 305: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 321: | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 1 |
| 329: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0 |
| 353: | 1 | 0 | 1 | 0 | 0 | 1 | 2 | 3 | 3 |
| 361: | 1 | 6 | 2 | 4 | 2 | 4 | 3 | 0 | 0 |

369: 6 5 0 3 2 7 6 4

Sample Title: 03

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 10 | 6 | 3 | 10 | 6 | 6 | 7 | 6 |
| 385: | 5 | 8 | 11 | 5 | 10 | 13 | 8 | 6 |
| 393: | 13 | 12 | 8 | 14 | 14 | 13 | 20 | 14 |
| 401: | 9 | 9 | 10 | 12 | 8 | 8 | 6 | 14 |
| 409: | 4 | 3 | 0 | 1 | 0 | 1 | 0 | 0 |
| 417: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 425: | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
| 433: | 1 | 2 | 0 | 0 | 2 | 1 | 2 | 1 |
| 441: | 2 | 2 | 3 | 0 | 4 | 3 | 0 | 4 |
| 449: | 5 | 1 | 2 | 2 | 7 | 5 | 3 | 6 |
| 457: | 1 | 3 | 5 | 2 | 2 | 3 | 3 | 3 |
| 465: | 2 | 2 | 3 | 2 | 1 | 1 | 3 | 3 |
| 473: | 5 | 3 | 2 | 2 | 1 | 3 | 0 | 0 |
| 481: | 2 | 1 | 2 | 0 | 1 | 0 | 1 | 0 |
| 489: | 0 | 2 | 2 | 3 | 0 | 1 | 0 | 0 |
| 497: | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 505: | 2 | 0 | 1 | 2 | 0 | 0 | 2 | 2 |
| 513: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 521: | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 2 |
| 529: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 561: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 585: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 593: | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| 601: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 609: | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| 617: | 0 | 4 | 3 | 1 | 0 | 1 | 2 | 1 |
| 625: | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 0 |
| 633: | 1 | 2 | 5 | 3 | 2 | 3 | 3 | 6 |
| 641: | 4 | 3 | 2 | 3 | 3 | 1 | 2 | 4 |
| 649: | 5 | 4 | 5 | 7 | 4 | 3 | 2 | 1 |
| 657: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 729: | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 0 |
| 737: | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 |
| 745: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 753: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 03

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 841: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 849: | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 857: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 889: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

*KB
10/28/15*

Sample Description: CP5007S01-02
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 04
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_040
 Chamber Serial Number: 06027396B
 Detector Serial Number: 91135
 Env. Background: System Bkgd 132585
 Reagent Blank: <not performed>

Sample Size: 1.567E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:22 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.2117 +/- 0.0170
 Counting Efficiency: 0.1856 +/- 0.0032 on 10/25/2014 2:57:14 PM
 Chem. Recovery Factor: 1.1410 +/- 0.0939

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.874 | 30.66 | 35.63 | 0.34 | 0.00E+000 | 3.0 |
| TH-228 | 5.378 | 142.15 | 16.50 | 0.85 | 0.00E+000 | 4.4 |
| TH-229 T | 4.858 | 181.83 | 14.54 | 0.17 | 0.00E+000 | 4.4 |
| TH-230 | 4.627 | 380.49 | 10.06 | 0.51 | 0.00E+000 | 5.3 |
| TH-232 | 3.957 | 128.32 | 17.36 | 0.68 | 0.00E+000 | 4.6 |

T = Tracer Peak used for Effective Efficiency

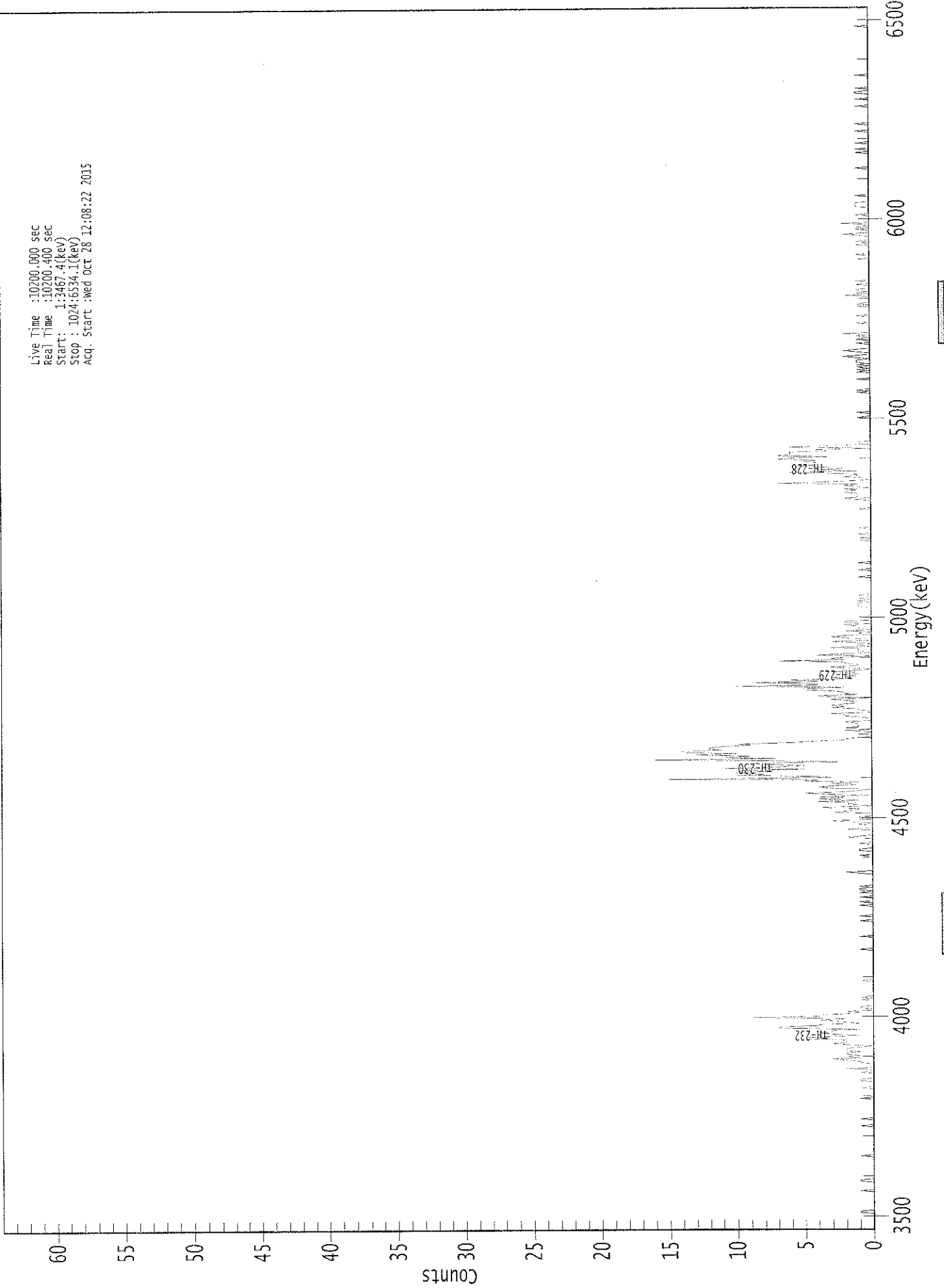
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.997 | 5850.00* | 2.52E-001 +/- 9.80E-002 | 3.92E-002 +/- 6.19E-003 |
| TH-228 | 0.997 | 5400.00* | 1.16E+000 +/- 2.65E-001 | 4.89E-002 +/- 7.70E-003 |
| TH-229 | 0.999 | 4872.00* | 1.46E+000 +/- 2.30E-001 | 3.35E-002 +/- 5.28E-003 |
| TH-230 | 0.989 | 4672.00* | 3.04E+000 +/- 5.69E-001 | 4.20E-002 +/- 6.62E-003 |
| TH-232 | 0.992 | 3997.00* | 1.03E+000 +/- 2.40E-001 | 4.51E-002 +/- 7.10E-003 |

*AG
10/29/15*

0000132511.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3467.4(kev)
Stop : 1074:6534.1(kev)
Acq. Start :Wed Oct 28 12:08:22 2015



ROI Type: 1

ROI Type: 3

0000132511

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 04

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 |
| 137: | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 1 |
| 145: | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 |
| 153: | 1 | 0 | 2 | 3 | 2 | 2 | 2 | 2 | 5 |
| 161: | 5 | 3 | 1 | 3 | 4 | 3 | 3 | 3 | 1 |
| 169: | 7 | 7 | 4 | 4 | 4 | 1 | 2 | 3 | 4 |
| 177: | 2 | 9 | 4 | 4 | 2 | 1 | 1 | 2 | 0 |
| 185: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 273: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 281: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 321: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 329: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 337: | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 0 |
| 345: | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 2 | 1 |
| 353: | 1 | 4 | 0 | 0 | 1 | 2 | 1 | 4 | 1 |
| 361: | 4 | 2 | 4 | 0 | 0 | 3 | 5 | 2 | 1 |

369: 0 3 4 3 1 3 1 5

Sample Title: 04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 4 | 15 | 3 | 4 | 10 | 8 | 10 | 8 |
| 385: | 10 | 5 | 11 | 7 | 5 | 8 | 9 | 2 |
| 393: | 7 | 16 | 7 | 11 | 9 | 13 | 10 | 14 |
| 401: | 14 | 11 | 12 | 12 | 11 | 9 | 10 | 6 |
| 409: | 5 | 2 | 2 | 1 | 0 | 0 | 1 | 0 |
| 417: | 0 | 2 | 0 | 2 | 1 | 1 | 1 | 1 |
| 425: | 2 | 0 | 0 | 0 | 1 | 2 | 2 | 3 |
| 433: | 0 | 0 | 1 | 1 | 3 | 2 | 3 | 2 |
| 441: | 1 | 1 | 2 | 3 | 0 | 3 | 4 | 1 |
| 449: | 2 | 2 | 3 | 5 | 5 | 2 | 10 | 4 |
| 457: | 4 | 9 | 4 | 6 | 2 | 3 | 1 | 2 |
| 465: | 1 | 1 | 3 | 1 | 0 | 2 | 3 | 1 |
| 473: | 1 | 2 | 2 | 7 | 2 | 3 | 2 | 0 |
| 481: | 4 | 2 | 0 | 1 | 1 | 1 | 3 | 0 |
| 489: | 1 | 0 | 1 | 3 | 0 | 0 | 2 | 3 |
| 497: | 2 | 0 | 1 | 0 | 2 | 0 | 1 | 1 |
| 505: | 1 | 2 | 0 | 2 | 2 | 0 | 0 | 0 |
| 513: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| 529: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 553: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 577: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 585: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 601: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 609: | 0 | 0 | 1 | 2 | 1 | 1 | 1 | 1 |
| 617: | 2 | 2 | 1 | 2 | 0 | 1 | 2 | 1 |
| 625: | 7 | 3 | 1 | 0 | 0 | 2 | 1 | 1 |
| 633: | 3 | 6 | 1 | 4 | 2 | 3 | 6 | 4 |
| 641: | 4 | 4 | 5 | 4 | 7 | 6 | 3 | 7 |
| 649: | 6 | 6 | 6 | 3 | 4 | 0 | 6 | 4 |
| 657: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 681: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 713: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 721: | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 |
| 729: | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 |
| 737: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 745: | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 761: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 785: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 793: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0

Sample Title: 04

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 825: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 833: | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 841: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 857: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 865: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 905: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 921: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 945: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 953: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KB
10/23/15

Apex-Alpha™

Sample Description: CP5007S03-04
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 05
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_041
 Chamber Serial Number: 05026930A
 Detector Serial Number: 91087
 Env. Background: System Bkgd 132586
 Reagent Blank: <not performed>

Sample Size: 1.541E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:24 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.2220 +/- 0.0175
 Counting Efficiency: 0.1873 +/- 0.0033 on 10/25/2014 3:00:28 PM
 Chem. Recovery Factor: 1.1853 +/- 0.0959

Peak Match Tolerance: 0.175 MeV

 ----- PEAK AREA REPORT -----

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.809 | 14.15 | 53.90 | 0.85 | 0.00E+000 | 3.0 |
| TH-228 | 5.360 | 147.47 | 16.24 | 1.53 | 0.00E+000 | 5.0 |
| TH-229 T | 4.859 | 190.15 | 14.25 | 0.85 | 0.00E+000 | 5.4 |
| TH-230 | 4.617 | 148.32 | 16.14 | 0.68 | 0.00E+000 | 4.0 |
| TH-232 | 3.949 | 123.77 | 17.88 | 3.23 | 0.00E+000 | 5.4 |

T = Tracer Peak used for Effective Efficiency

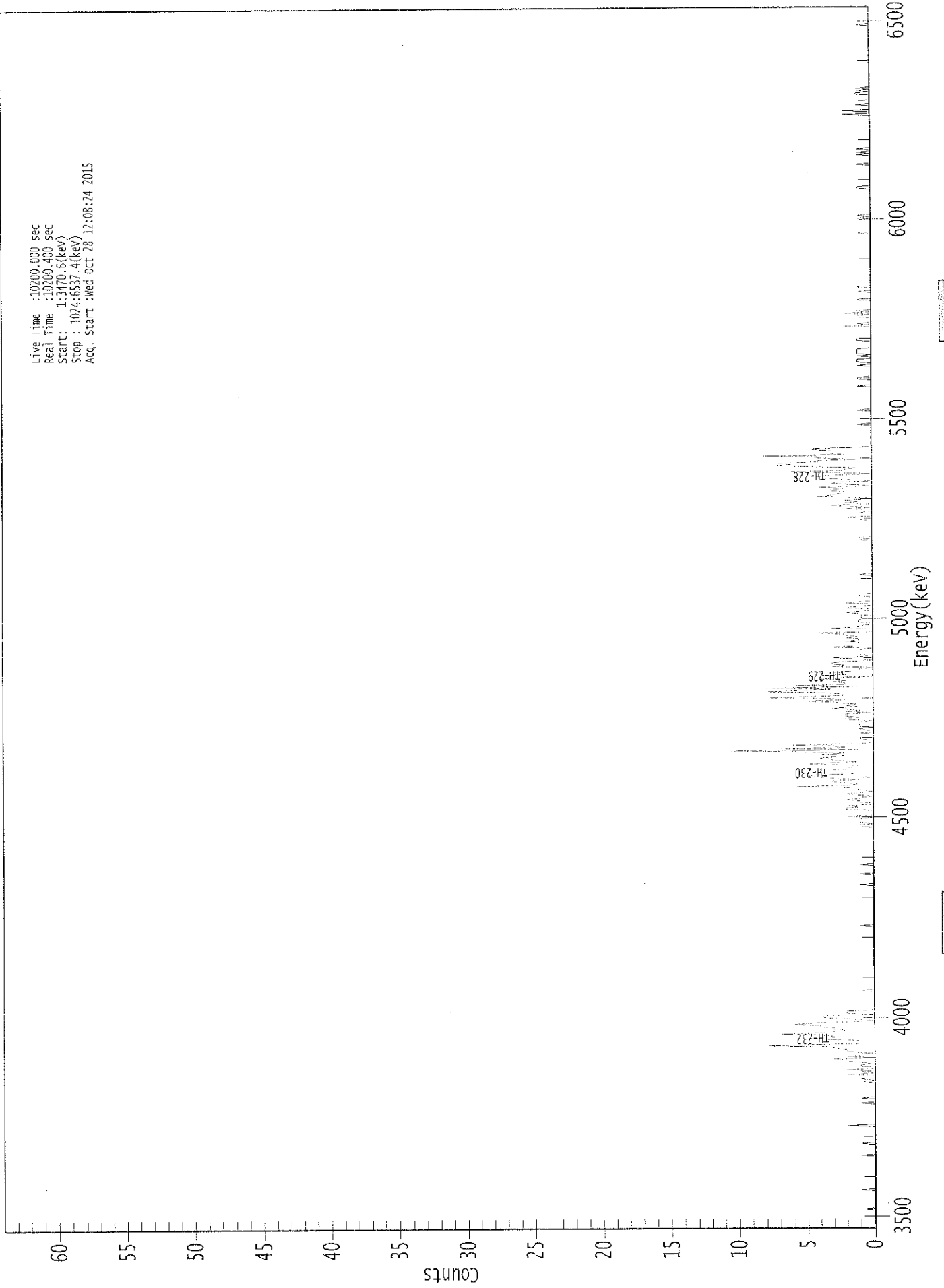
 ----- NUCLIDE ANALYSIS RESULTS -----

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.991 | 5850.00* | 1.13E-001 +/- 6.32E-002 | 4.76E-002 +/- 7.38E-003 |
| TH-228 | 0.992 | 5400.00* | 1.17E+000 +/- 2.62E-001 | 5.62E-002 +/- 8.71E-003 |
| TH-229 | 0.999 | 4872.00* | 1.48E+000 +/- 2.29E-001 | 4.66E-002 +/- 7.22E-003 |
| TH-230 | 0.984 | 4672.00* | 1.15E+000 +/- 2.57E-001 | 4.38E-002 +/- 6.78E-003 |
| TH-232 | 0.988 | 3997.00* | 9.58E-001 +/- 2.27E-001 | 7.05E-002 +/- 1.09E-002 |

AG
10/29/15

0000132508.CNF

Live Time : 10200.000 Sec
Real Time : 10200.400 Sec
Start : 1:3470.6(keV)
Stop : 1024:5537.4(keV)
Acq. Start : Wed Oct 28 12:08:24 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 05

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 129: | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 0 |
| 137: | 1 | 1 | 0 | 1 | 2 | 2 | 3 | 0 | 0 |
| 145: | 2 | 1 | 1 | 0 | 2 | 2 | 2 | 3 | 3 |
| 153: | 3 | 8 | 4 | 1 | 1 | 1 | 2 | 5 | 5 |
| 161: | 3 | 3 | 4 | 7 | 3 | 3 | 2 | 3 | 3 |
| 169: | 3 | 4 | 4 | 6 | 5 | 2 | 0 | 1 | 1 |
| 177: | 3 | 4 | 4 | 0 | 2 | 2 | 2 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| 345: | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 |
| 353: | 1 | 2 | 0 | 0 | 1 | 1 | 2 | 1 | 1 |
| 361: | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 1 | 1 |

369: 2 6 2 1 2 3 3 1

Sample Title: 05

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|----|
| 377: | 3 | 4 | 5 | 4 | 1 | 3 | 3 | 3 |
| 385: | 2 | 2 | 1 | 1 | 5 | 3 | 1 | 3 |
| 393: | 3 | 4 | 3 | 2 | 4 | 2 | 4 | 11 |
| 401: | 1 | 7 | 2 | 3 | 6 | 1 | 0 | 0 |
| 409: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 417: | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 425: | 0 | 2 | 2 | 1 | 2 | 2 | 2 | 0 |
| 433: | 2 | 1 | 2 | 3 | 1 | 2 | 1 | 2 |
| 441: | 3 | 5 | 2 | 3 | 8 | 4 | 2 | 2 |
| 449: | 4 | 8 | 5 | 3 | 8 | 1 | 6 | 2 |
| 457: | 2 | 3 | 2 | 4 | 3 | 0 | 4 | 2 |
| 465: | 2 | 3 | 1 | 1 | 1 | 0 | 3 | 2 |
| 473: | 3 | 3 | 2 | 0 | 1 | 3 | 1 | 0 |
| 481: | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 1 |
| 489: | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| 497: | 2 | 2 | 4 | 0 | 0 | 0 | 3 | 1 |
| 505: | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| 513: | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 2 |
| 521: | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| 529: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 577: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 593: | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 1 |
| 601: | 0 | 0 | 2 | 0 | 2 | 3 | 0 | 2 |
| 609: | 1 | 2 | 0 | 0 | 4 | 3 | 3 | 2 |
| 617: | 2 | 3 | 3 | 2 | 4 | 0 | 1 | 3 |
| 625: | 3 | 0 | 1 | 3 | 4 | 4 | 3 | 0 |
| 633: | 2 | 6 | 2 | 2 | 1 | 4 | 7 | 6 |
| 641: | 7 | 4 | 4 | 1 | 4 | 4 | 8 | 2 |
| 649: | 3 | 3 | 3 | 4 | 5 | 1 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 729: | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| 761: | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 1 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 785: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 05

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 937: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 953: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

KB
10/28/15

Sample Description: CP5007S06-07
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 06
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_042
 Chamber Serial Number: 05026930B
 Detector Serial Number: 84185
 Env. Background: System Bkgd 132587
 Reagent Blank: <not performed>

Sample Size: 1.522E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:27 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1909 +/- 0.0161
 Counting Efficiency: 0.1737 +/- 0.0030 on 10/25/2014 3:04:21 PM
 Chem. Recovery Factor: 1.0988 +/- 0.0945

Peak Match Tolerance: 0.175 MeV

 ----- PEAK AREA REPORT -----

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.832 | 8.32 | 71.13 | 0.68 | 0.00E+000 | 3.0 |
| TH-228 | 5.356 | 154.32 | 15.82 | 0.68 | 0.00E+000 | 6.4 |
| TH-229 T | 4.859 | 164.15 | 15.34 | 0.85 | 0.00E+000 | 3.0 |
| TH-230 | 4.622 | 157.83 | 15.61 | 0.17 | 0.00E+000 | 4.7 |
| TH-232 | 3.933 | 150.49 | 16.01 | 0.51 | 0.00E+000 | 5.0 |

T = Tracer Peak used for Effective Efficiency

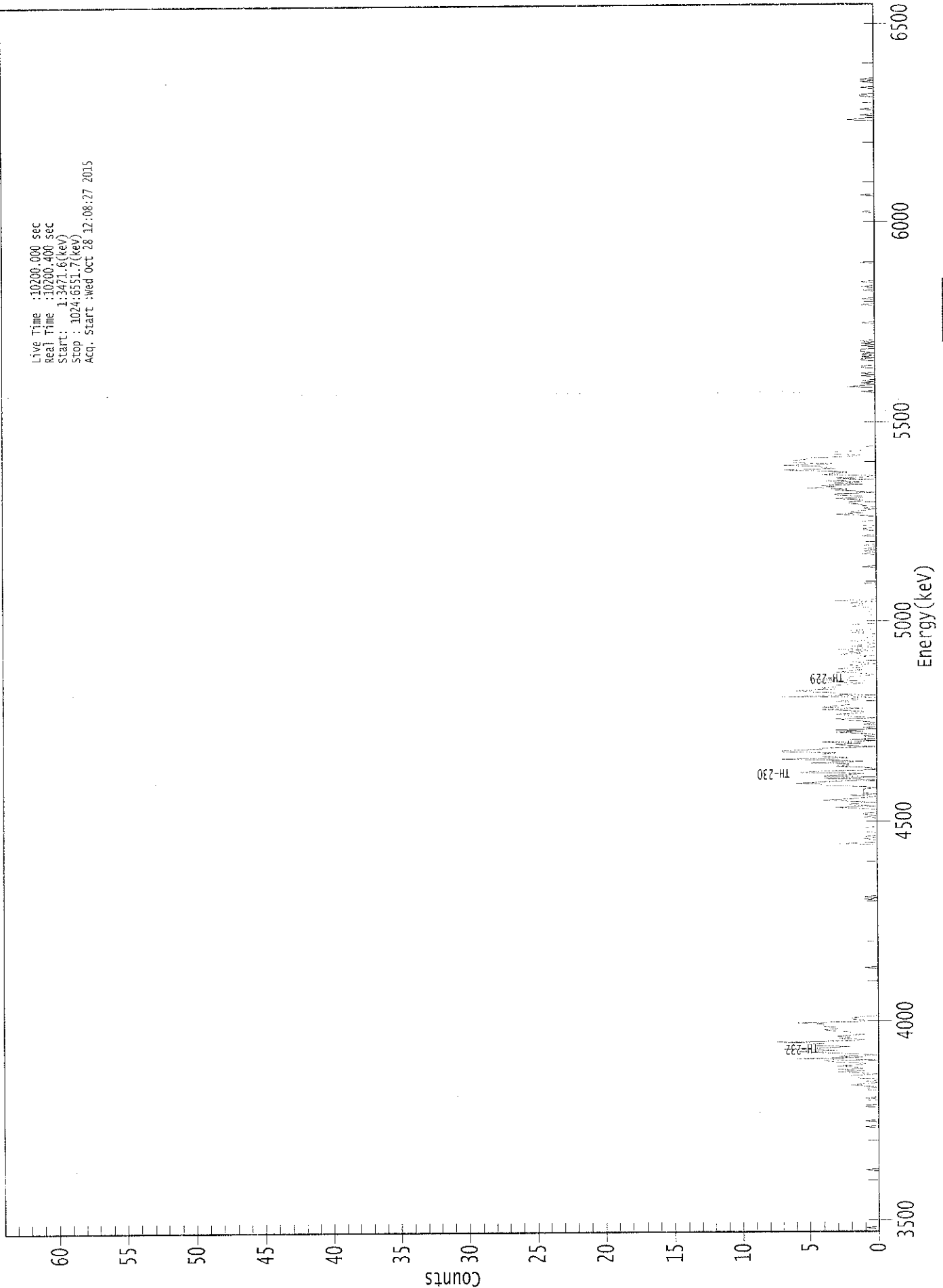
 ----- NUCLIDE ANALYSIS RESULTS -----

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.998 | 5850.00* | 7.79E-002 +/- 5.69E-002 | 5.28E-002 +/- 8.72E-003 |
| TH-228 | 0.990 | 5400.00* | 1.44E+000 +/- 3.29E-001 | 5.26E-002 +/- 8.67E-003 |
| TH-229 | 0.999 | 4872.00* | 1.50E+000 +/- 2.48E-001 | 5.48E-002 +/- 9.05E-003 |
| TH-230 | 0.987 | 4672.00* | 1.44E+000 +/- 3.27E-001 | 3.81E-002 +/- 6.29E-003 |
| TH-232 | 0.979 | 3997.00* | 1.37E+000 +/- 3.15E-001 | 4.78E-002 +/- 7.90E-003 |

AG
10/29/15

0000132509.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:34:1.6(keV)
Stop : 1024:6551.7(keV)
Acq. Start : Wed Oct 28 12:08:27 2015



ROI Type: 3

ROI Type: 1

0000132509

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 06

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 89: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 121: | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 0 |
| 129: | 2 | 2 | 2 | 0 | 1 | 3 | 1 | 3 |
| 137: | 1 | 2 | 3 | 1 | 1 | 3 | 4 | 0 |
| 145: | 6 | 1 | 3 | 0 | 2 | 4 | 6 | 3 |
| 153: | 7 | 4 | 2 | 5 | 5 | 4 | 8 | 2 |
| 161: | 1 | 3 | 2 | 3 | 1 | 2 | 2 | 3 |
| 169: | 4 | 3 | 3 | 4 | 4 | 4 | 6 | 1 |
| 177: | 1 | 2 | 2 | 1 | 0 | 0 | 0 | 0 |
| 185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 |
| 329: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 337: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 353: | 1 | 3 | 0 | 2 | 2 | 0 | 2 | 4 |
| 361: | 2 | 1 | 0 | 2 | 0 | 1 | 1 | 1 |

369: 1 0 1 4 4 6 4 2

Sample Title: 06

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 377: | 0 | 4 | 0 | 4 | 2 | 1 | 6 | 4 |
| 385: | 0 | 0 | 1 | 3 | 2 | 2 | 5 | 1 |
| 393: | 3 | 7 | 2 | 4 | 4 | 4 | 3 | 7 |
| 401: | 7 | 4 | 4 | 0 | 2 | 3 | 1 | 4 |
| 409: | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 3 |
| 417: | 1 | 3 | 0 | 1 | 0 | 0 | 1 | 0 |
| 425: | 1 | 2 | 3 | 0 | 2 | 2 | 3 | 1 |
| 433: | 1 | 2 | 4 | 1 | 4 | 3 | 2 | 2 |
| 441: | 2 | 3 | 1 | 2 | 0 | 7 | 0 | 3 |
| 449: | 3 | 5 | 6 | 3 | 4 | 3 | 3 | 2 |
| 457: | 1 | 5 | 1 | 5 | 2 | 2 | 1 | 0 |
| 465: | 1 | 3 | 2 | 1 | 3 | 1 | 1 | 2 |
| 473: | 0 | 1 | 2 | 2 | 2 | 1 | 1 | 0 |
| 481: | 3 | 1 | 2 | 0 | 3 | 1 | 0 | 2 |
| 489: | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 0 |
| 497: | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 0 |
| 505: | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| 513: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 521: | 2 | 1 | 1 | 2 | 0 | 3 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 561: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 569: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 577: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 585: | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 593: | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 2 |
| 601: | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 |
| 609: | 1 | 1 | 3 | 1 | 1 | 3 | 3 | 0 |
| 617: | 1 | 3 | 2 | 5 | 3 | 4 | 1 | 3 |
| 625: | 1 | 4 | 0 | 3 | 1 | 0 | 4 | 3 |
| 633: | 2 | 4 | 7 | 3 | 4 | 4 | 7 | 3 |
| 641: | 6 | 6 | 6 | 5 | 5 | 2 | 1 | 3 |
| 649: | 3 | 3 | 1 | 1 | 1 | 1 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 705: | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 713: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 721: | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 729: | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 737: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 777: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 785: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 1 0

Sample Title: 06

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| 929: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 953: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

10/28/15

Apex-Alpha™

Sample Description: CP5007S08-09
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 07
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_043
 Chamber Serial Number: 04026481A
 Detector Serial Number: 91088
 Env. Background: System Bkgd 132588
 Reagent Blank: <not performed>

Sample Size: 1.519E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:29 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1912 +/- 0.0161
 Counting Efficiency: 0.1998 +/- 0.0035 on 10/25/2014 3:08:45 PM
 Chem. Recovery Factor: 0.9566 +/- 0.0822

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.841 | 13.32 | 55.28 | 0.68 | 0.00E+000 | 3.0 |
| TH-228 | 5.368 | 125.64 | 17.60 | 1.36 | 0.00E+000 | 6.1 |
| TH-229 T | 4.872 | 164.15 | 15.34 | 0.85 | 0.00E+000 | 4.6 |
| TH-230 | 4.627 | 119.49 | 17.98 | 0.51 | 0.00E+000 | 5.3 |
| TH-232 | 3.951 | 129.32 | 17.29 | 0.68 | 0.00E+000 | 4.7 |

T = Tracer Peak used for Effective Efficiency

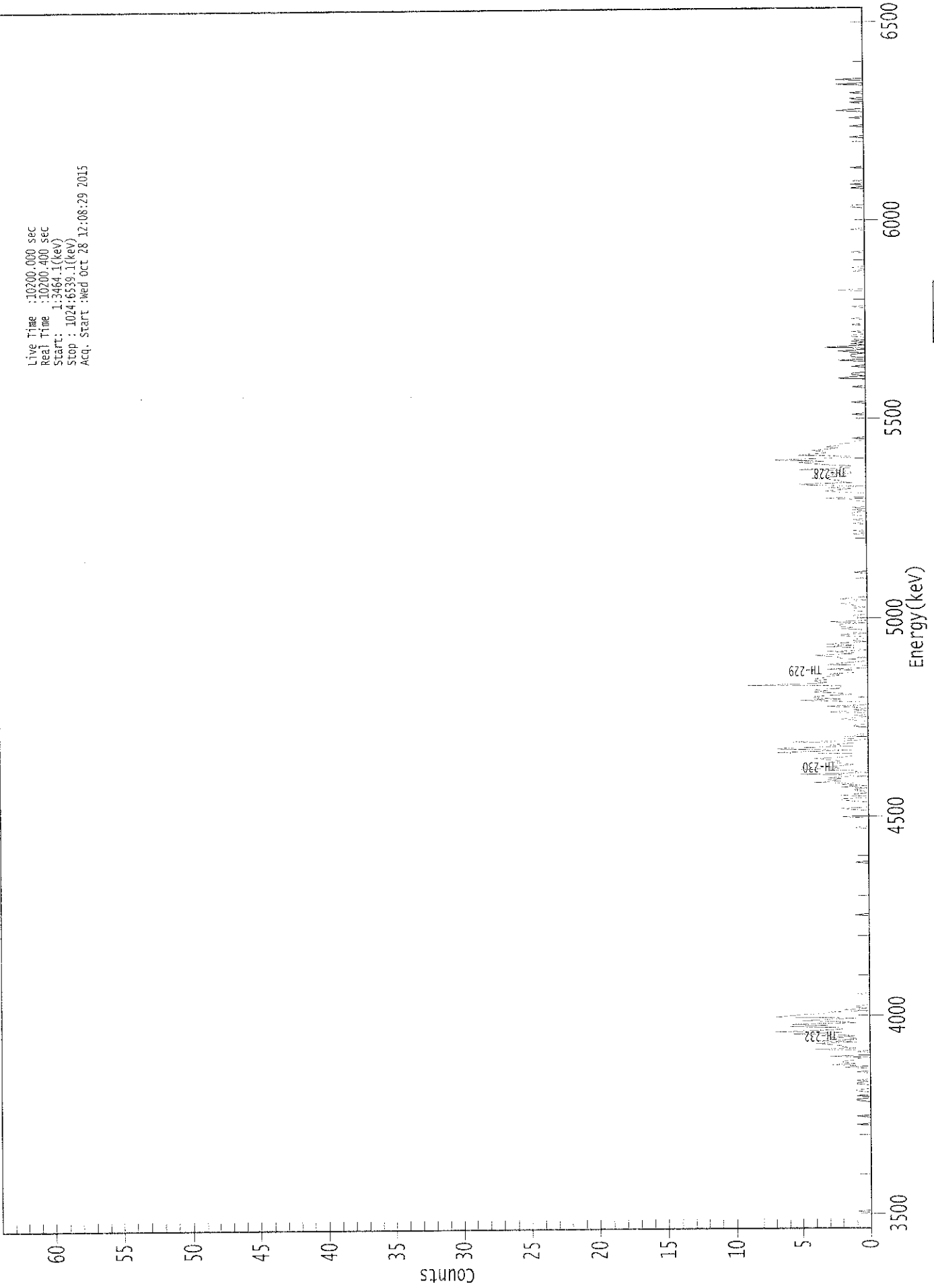
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 1.000 | 5850.00* | 1.25E-001 +/- 7.20E-002 | 5.29E-002 +/- 8.73E-003 |
| TH-228 | 0.995 | 5400.00* | 1.17E+000 +/- 2.83E-001 | 6.39E-002 +/- 1.05E-002 |
| TH-229 | 1.000 | 4872.00* | 1.50E+000 +/- 2.48E-001 | 5.49E-002 +/- 9.06E-003 |
| TH-230 | 0.989 | 4672.00* | 1.09E+000 +/- 2.66E-001 | 4.80E-002 +/- 7.92E-003 |
| TH-232 | 0.989 | 3997.00* | 1.18E+000 +/- 2.82E-001 | 5.15E-002 +/- 8.49E-003 |

AG
 10/24/15

0000132512.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:3464.1(keV)
Stop : 1024:6539.1(keV)
Acq. Start : Wed Oct 28 12:08:29 2015



ROI Type: 3

ROI Type: 1

369: 0 2 0 2 1 4 2 3

Sample Title: 07

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 377: | 2 | 3 | 1 | 1 | 5 | 0 | 1 | 1 |
| 385: | 5 | 2 | 3 | 2 | 1 | 2 | 3 | 2 |
| 393: | 3 | 4 | 2 | 1 | 1 | 1 | 7 | 4 |
| 401: | 1 | 7 | 6 | 1 | 3 | 2 | 1 | 6 |
| 409: | 1 | 0 | 2 | 2 | 0 | 1 | 0 | 0 |
| 417: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 425: | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 0 |
| 433: | 3 | 0 | 1 | 0 | 1 | 3 | 0 | 0 |
| 441: | 0 | 2 | 5 | 2 | 4 | 4 | 3 | 1 |
| 449: | 2 | 4 | 3 | 4 | 2 | 2 | 2 | 9 |
| 457: | 4 | 3 | 4 | 3 | 4 | 3 | 3 | 2 |
| 465: | 3 | 1 | 1 | 1 | 3 | 0 | 0 | 0 |
| 473: | 3 | 2 | 1 | 0 | 0 | 2 | 2 | 3 |
| 481: | 4 | 1 | 1 | 3 | 0 | 1 | 1 | 3 |
| 489: | 1 | 3 | 2 | 0 | 1 | 1 | 0 | 0 |
| 497: | 2 | 2 | 0 | 1 | 0 | 0 | 2 | 1 |
| 505: | 2 | 2 | 2 | 0 | 3 | 0 | 0 | 0 |
| 513: | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 521: | 0 | 1 | 1 | 2 | 1 | 1 | 0 | 2 |
| 529: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 577: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 585: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 593: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 601: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 609: | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 0 |
| 617: | 2 | 3 | 2 | 1 | 3 | 0 | 4 | 5 |
| 625: | 1 | 2 | 2 | 3 | 4 | 2 | 3 | 2 |
| 633: | 1 | 1 | 2 | 5 | 1 | 2 | 1 | 3 |
| 641: | 4 | 5 | 3 | 7 | 4 | 1 | 1 | 5 |
| 649: | 4 | 3 | 3 | 4 | 3 | 2 | 3 | 2 |
| 657: | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 713: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 721: | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| 729: | 0 | 1 | 1 | 1 | 0 | 1 | 2 | 0 |
| 737: | 0 | 3 | 1 | 0 | 1 | 0 | 1 | 0 |
| 745: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 753: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 761: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 1 0 0 1 0 0 0

Sample Title: 07

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 857: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 873: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 937: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 945: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 961: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

KD
10/29/15

Sample Description: CP5007S11-12
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 08
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_044
 Chamber Serial Number: 04026481E
 Detector Serial Number: 84168
 Env. Background: System Bkgd 132589
 Reagent Blank: <not performed>

Sample Size: 1.520E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:31 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.2066 +/- 0.0168
 Counting Efficiency: 0.1837 +/- 0.0032 on 10/25/2014 3:13:11 PM
 Chem. Recovery Factor: 1.1248 +/- 0.0936

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.802 | 15.66 | 50.15 | 0.34 | 0.00E+000 | 4.5 |
| TH-228 | 5.373 | 130.32 | 17.22 | 0.68 | 0.00E+000 | 20.0 |
| TH-229 T | 4.884 | 177.49 | 14.74 | 0.51 | 0.00E+000 | 4.2 |
| TH-230 | 4.635 | 182.49 | 14.53 | 0.51 | 0.00E+000 | 16.0 |
| TH-232 | 3.954 | 131.49 | 17.13 | 0.51 | 0.00E+000 | 4.8 |

T = Tracer Peak used for Effective Efficiency

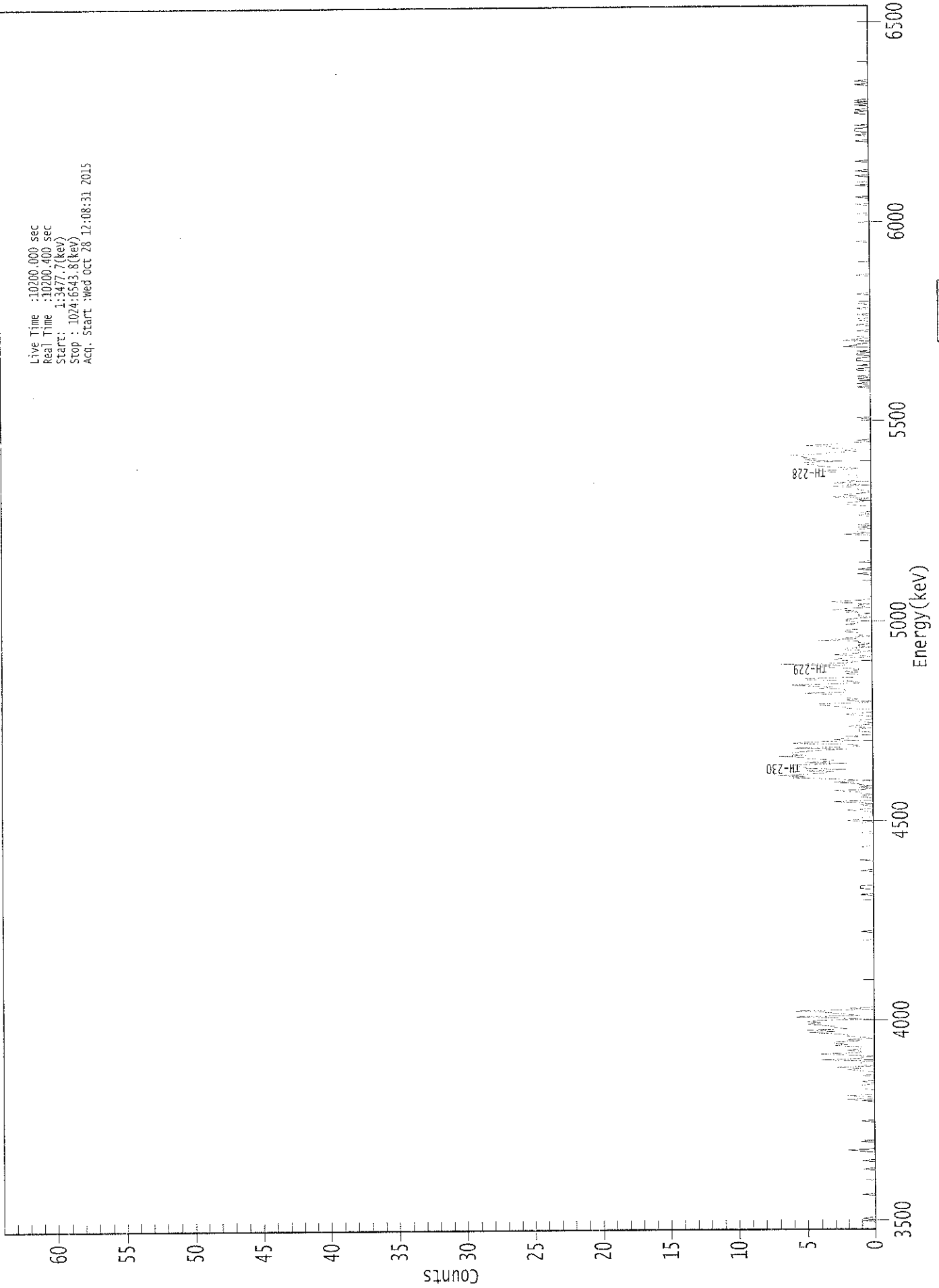
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.988 | 5850.00* | 1.36E-001 +/- 7.14E-002 | 4.14E-002 +/- 6.61E-003 |
| TH-228 | 0.996 | 5400.00* | 1.12E+000 +/- 2.64E-001 | 4.86E-002 +/- 7.75E-003 |
| TH-229 | 0.999 | 4872.00* | 1.50E+000 +/- 2.40E-001 | 4.45E-002 +/- 7.09E-003 |
| TH-230 | 0.993 | 4672.00* | 1.54E+000 +/- 3.33E-001 | 4.43E-002 +/- 7.07E-003 |
| TH-232 | 0.990 | 3997.00* | 1.11E+000 +/- 2.60E-001 | 4.43E-002 +/- 7.06E-003 |

AG
10/29/15

0000132513.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3477.7(keV)
Stop : 1024:6543.8(keV)
Acq. Start :Wed Oct 28 12:08:31 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 08

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 9: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 |
| 113: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 121: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 129: | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 3 | 3 |
| 137: | 0 | 1 | 1 | 1 | 0 | 4 | 1 | 1 | 1 |
| 145: | 0 | 2 | 4 | 1 | 1 | 2 | 1 | 1 | 1 |
| 153: | 1 | 3 | 2 | 3 | 3 | 1 | 2 | 0 | 0 |
| 161: | 1 | 2 | 2 | 3 | 5 | 3 | 5 | 2 | 2 |
| 169: | 3 | 3 | 4 | 5 | 4 | 5 | 4 | 0 | 0 |
| 177: | 3 | 6 | 1 | 2 | 3 | 4 | 6 | 0 | 0 |
| 185: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 281: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 1 |
| 345: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 |
| 353: | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 |
| 361: | 0 | 1 | 1 | 0 | 1 | 1 | 3 | 1 | 1 |

369: 0 1 0 1 1 3 2 1

Sample Title: 08

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 377: | 3 | 6 | 5 | 7 | 5 | 4 | 3 | 5 | |
| 385: | 2 | 5 | 5 | 6 | 6 | 2 | 5 | 3 | |
| 393: | 3 | 5 | 5 | 7 | 5 | 6 | 6 | 5 | |
| 401: | 4 | 2 | 6 | 1 | 1 | 2 | 6 | 5 | |
| 409: | 1 | 3 | 2 | 1 | 2 | 0 | 0 | 0 | |
| 417: | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | |
| 425: | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | |
| 433: | 0 | 0 | 0 | 2 | 2 | 3 | 4 | 4 | |
| 441: | 0 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | |
| 449: | 5 | 2 | 2 | 2 | 4 | 3 | 5 | 6 | |
| 457: | 1 | 1 | 2 | 5 | 5 | 1 | 1 | 1 | |
| 465: | 2 | 1 | 2 | 1 | 1 | 3 | 4 | 2 | |
| 473: | 7 | 2 | 1 | 2 | 3 | 2 | 0 | 1 | |
| 481: | 3 | 1 | 1 | 0 | 2 | 2 | 0 | 1 | |
| 489: | 1 | 0 | 1 | 1 | 4 | 1 | 2 | 0 | |
| 497: | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | |
| 505: | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 0 | |
| 513: | 1 | 1 | 0 | 2 | 1 | 3 | 2 | 0 | |
| 521: | 1 | 1 | 0 | 2 | 3 | 1 | 0 | 0 | |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 545: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | |
| 553: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 577: | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | |
| 585: | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | |
| 593: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | |
| 601: | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 | |
| 609: | 0 | 1 | 0 | 3 | 1 | 2 | 1 | 0 | |
| 617: | 0 | 1 | 1 | 1 | 3 | 0 | 2 | 3 | |
| 625: | 0 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | |
| 633: | 3 | 4 | 2 | 1 | 3 | 4 | 4 | 5 | |
| 641: | 5 | 2 | 5 | 4 | 5 | 5 | 6 | 4 | |
| 649: | 3 | 1 | 2 | 1 | 3 | 3 | 5 | 3 | |
| 657: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 673: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 705: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 713: | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | |
| 721: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | |
| 729: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | |
| 737: | 0 | 2 | 1 | 1 | 0 | 0 | 2 | 1 | |
| 745: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 753: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | |
| 761: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 769: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 777: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 793: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 08

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 913: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 921: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 937: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KB
10/29/15

Apex-Alpha™

Sample Description: CP5007S13-14
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 09
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_045
 Chamber Serial Number: 04026482A
 Detector Serial Number: 91131
 Env. Background: System Bkgd 132590
 Reagent Blank: <not performed>

Sample Size: 1.552E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:34 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1896 +/- 0.0160
 Counting Efficiency: 0.1760 +/- 0.0031 on 10/25/2014 3:16:42 PM
 Chem. Recovery Factor: 1.0769 +/- 0.0929

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.806 | 16.98 | 49.21 | 1.02 | 0.00E+000 | 4.5 |
| TH-228 | 5.358 | 111.30 | 18.74 | 1.70 | 0.00E+000 | 4.4 |
| TH-229 T | 4.861 | 162.49 | 15.40 | 0.51 | 0.00E+000 | 4.4 |
| TH-230 | 4.616 | 128.15 | 17.38 | 0.85 | 0.00E+000 | 6.2 |
| TH-232 | 3.949 | 101.11 | 19.82 | 2.89 | 0.00E+000 | 5.2 |

T = Tracer Peak used for Effective Efficiency

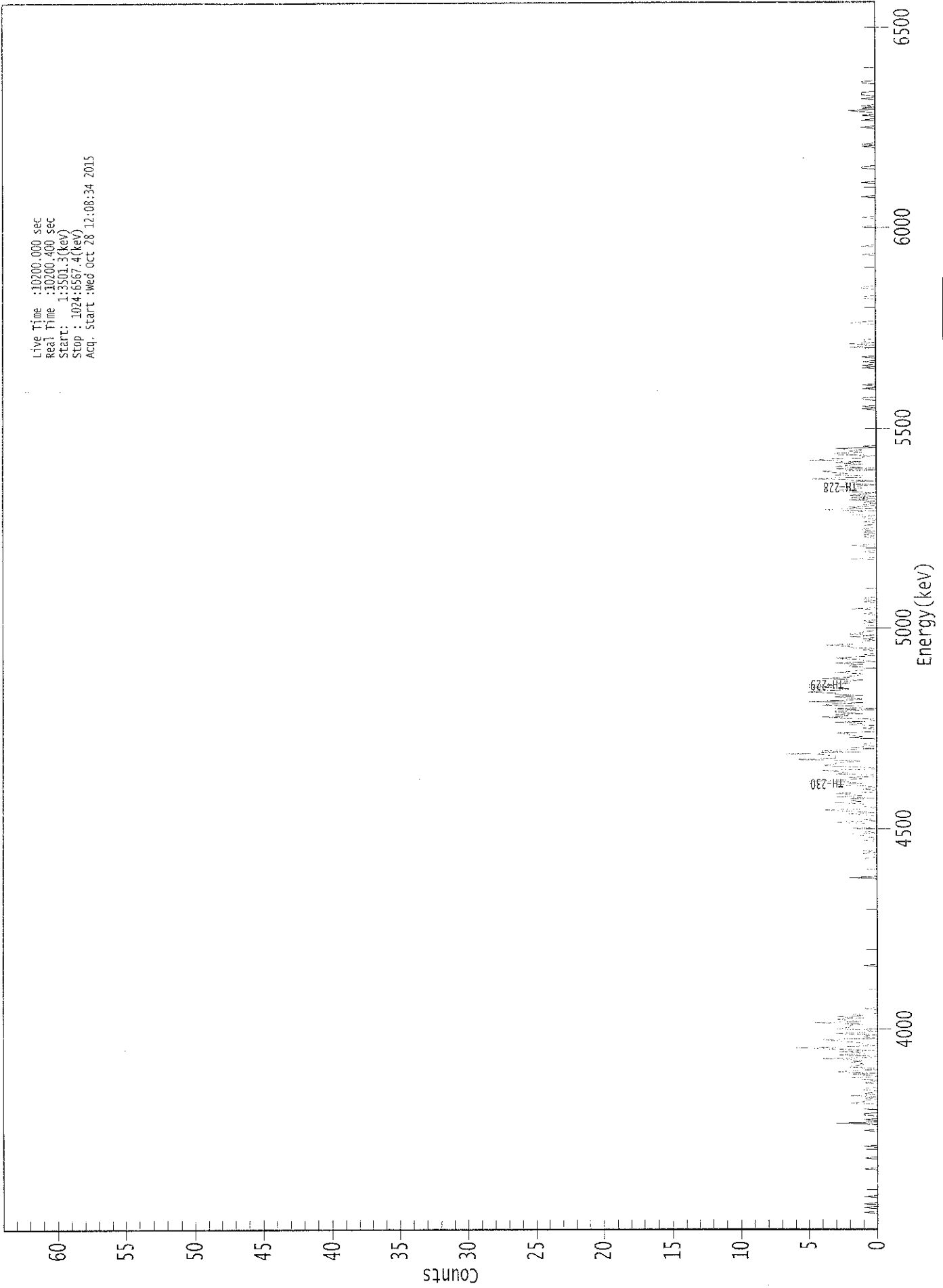
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.990 | 5850.00* | 1.57E-001 +/- 8.16E-002 | 5.83E-002 +/- 9.66E-003 |
| TH-228 | 0.991 | 5400.00* | 1.02E+000 +/- 2.56E-001 | 6.76E-002 +/- 1.12E-002 |
| TH-229 | 0.999 | 4872.00* | 1.47E+000 +/- 2.44E-001 | 4.75E-002 +/- 7.87E-003 |
| TH-230 | 0.984 | 4672.00* | 1.16E+000 +/- 2.78E-001 | 5.40E-002 +/- 8.95E-003 |
| TH-232 | 0.988 | 3997.00* | 9.11E-001 +/- 2.35E-001 | 7.89E-002 +/- 1.31E-002 |

AG
 10/29/15

0000132506.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3501.3(kev)
Stop : 1024:5567.4(kev)
Acq. Start :Wed Oct 28 12:08:34 2015



ROI Type: 1

ROI Type: 3

369: 0 1 3 1 2 5 2 1

Sample Title: 09

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 377: | 2 | 0 | 0 | 3 | 2 | 3 | 4 | 0 |
| 385: | 0 | 2 | 4 | 3 | 3 | 2 | 1 | 6 |
| 393: | 3 | 3 | 3 | 4 | 7 | 1 | 4 | 2 |
| 401: | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| 409: | 0 | 2 | 1 | 2 | 2 | 3 | 0 | 0 |
| 417: | 0 | 1 | 0 | 0 | 2 | 1 | 3 | 0 |
| 425: | 0 | 2 | 4 | 2 | 3 | 1 | 3 | 3 |
| 433: | 0 | 3 | 1 | 1 | 4 | 3 | 1 | 5 |
| 441: | 2 | 1 | 2 | 3 | 1 | 3 | 3 | 5 |
| 449: | 4 | 2 | 2 | 5 | 3 | 5 | 2 | 3 |
| 457: | 2 | 1 | 4 | 2 | 2 | 1 | 1 | 3 |
| 465: | 2 | 1 | 1 | 0 | 2 | 2 | 1 | 3 |
| 473: | 0 | 1 | 1 | 3 | 2 | 0 | 1 | 0 |
| 481: | 0 | 0 | 1 | 0 | 2 | 2 | 4 | 1 |
| 489: | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 2 |
| 497: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 505: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 513: | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 521: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 561: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 569: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 577: | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| 585: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 593: | 1 | 1 | 0 | 2 | 2 | 2 | 0 | 4 |
| 601: | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 2 |
| 609: | 0 | 2 | 0 | 2 | 1 | 0 | 2 | 3 |
| 617: | 2 | 1 | 3 | 1 | 0 | 4 | 2 | 0 |
| 625: | 2 | 5 | 1 | 1 | 3 | 2 | 3 | 4 |
| 633: | 0 | 3 | 1 | 3 | 2 | 1 | 3 | 1 |
| 641: | 5 | 4 | 1 | 1 | 0 | 3 | 3 | 1 |
| 649: | 2 | 1 | 3 | 0 | 1 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 689: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 721: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 737: | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 777: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 785: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 09

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 921: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 929: | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 1 |
| 937: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 945: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

10/28/15

Sample Description: CP5007S16-17
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 10
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_046
 Chamber Serial Number: 04026482B
 Detector Serial Number: 58762
 Env. Background: System Bkgd 132591
 Reagent Blank: <not performed>

Sample Size: 1.505E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:37 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1698 +/- 0.0151
 Counting Efficiency: 0.1776 +/- 0.0031 on 10/25/2014 3:20:08 PM
 Chem. Recovery Factor: 0.9563 +/- 0.0869

Peak Match Tolerance: 0.175 MeV

| ----- | | | | | | |
|------------------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| ----- | | | | | | |
| PEAK AREA REPORT | | | | | | |
| ----- | | | | | | |
| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
| ----- | | | | | | |
| TH-227 | 5.817 | 13.47 | 56.84 | 1.53 | 0.00E+000 | 3.0 |
| TH-228 | 5.347 | 151.47 | 16.02 | 1.53 | 0.00E+000 | 4.0 |
| TH-229 | T 4.852 | 145.79 | 16.38 | 2.21 | 0.00E+000 | 3.0 |
| TH-230 | 4.600 | 129.81 | 17.29 | 1.19 | 0.00E+000 | 4.4 |
| TH-232 | 3.924 | 106.47 | 19.15 | 1.53 | 0.00E+000 | 6.0 |

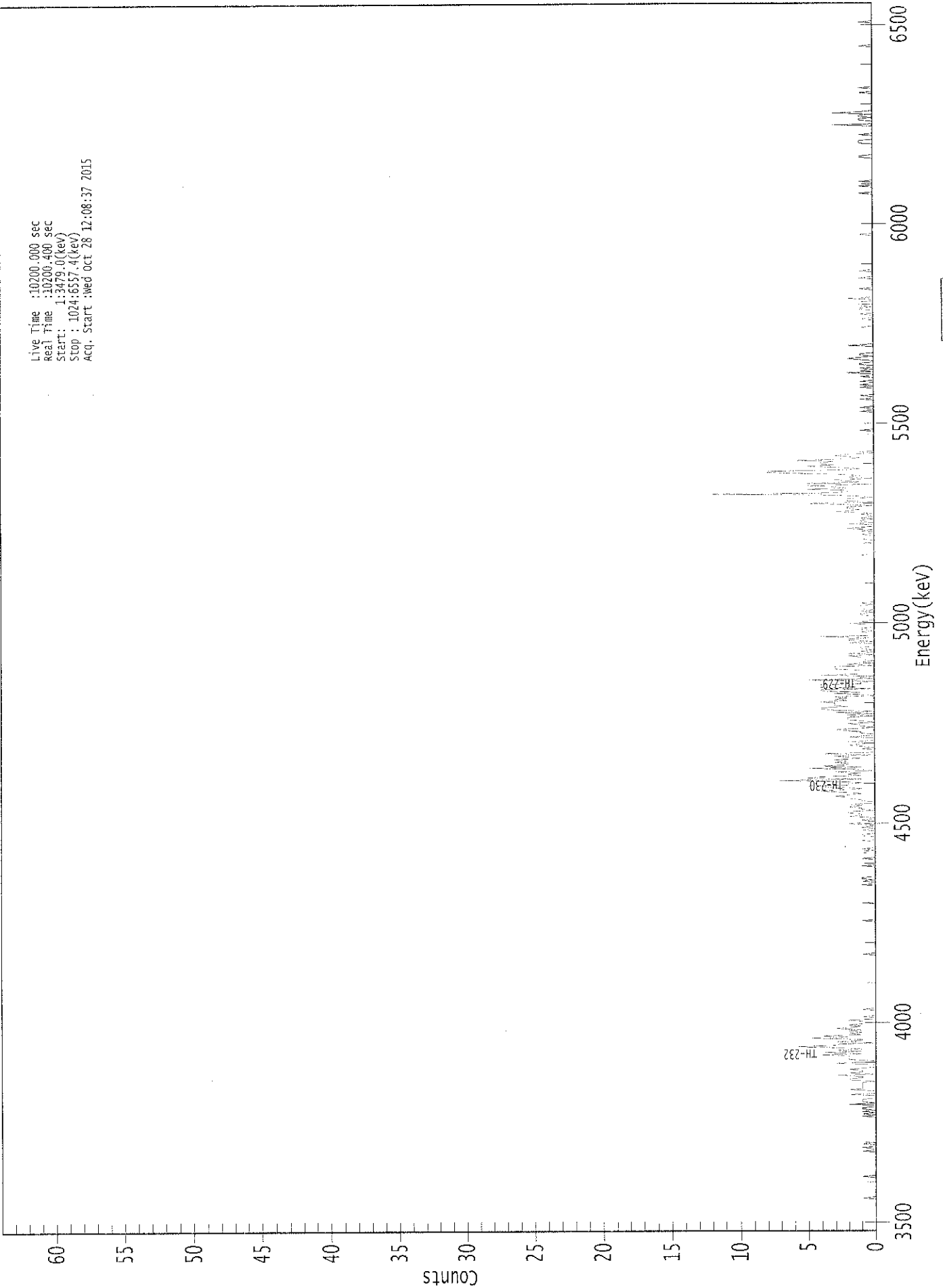
T = Tracer Peak used for Effective Efficiency

| ----- | | | | | | |
|--------------------------|----------|--------------|-------------------------|-----------------|-----|-----------|
| ----- | | | | | | |
| NUCLIDE ANALYSIS RESULTS | | | | | | |
| ----- | | | | | | |
| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) | | |
| ----- | | | | | | |
| TH-227 | 0.994 | 5850.00* | 1.43E-001 +/- 8.53E-002 | 7.57E-002 | +/- | 1.32E-002 |
| TH-228 | 0.985 | 5400.00* | 1.60E+000 +/- 3.80E-001 | 7.53E-002 | +/- | 1.32E-002 |
| TH-229 | 0.998 | 4872.00* | 1.52E+000 +/- 2.65E-001 | 8.33E-002 | +/- | 1.45E-002 |
| TH-230 | 0.973 | 4672.00* | 1.35E+000 +/- 3.31E-001 | 6.84E-002 | +/- | 1.19E-002 |
| TH-232 | 0.972 | 3997.00* | 1.10E+000 +/- 2.86E-001 | 7.37E-002 | +/- | 1.29E-002 |

AG
10/29/15

0000132507.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3479.0(kev)
Stop : 1024:6557.4(kev)
Acq. Start :Wed Oct 28 12:08:37 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 10

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 73: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 97: | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| 105: | 0 | 2 | 0 | 1 | 1 | 1 | 0 | 0 |
| 113: | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 1 |
| 121: | 1 | 1 | 1 | 1 | 0 | 2 | 2 | 1 |
| 129: | 1 | 3 | 0 | 2 | 1 | 1 | 2 | 1 |
| 137: | 0 | 0 | 0 | 3 | 1 | 0 | 2 | 2 |
| 145: | 2 | 2 | 4 | 1 | 4 | 1 | 3 | 1 |
| 153: | 3 | 6 | 3 | 3 | 0 | 3 | 1 | 1 |
| 161: | 5 | 2 | 4 | 1 | 2 | 1 | 2 | 1 |
| 169: | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 2 |
| 177: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 185: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 313: | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 329: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 337: | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 |
| 345: | 0 | 2 | 1 | 1 | 2 | 2 | 0 | 1 |
| 353: | 1 | 2 | 1 | 2 | 0 | 0 | 1 | 1 |
| 361: | 2 | 2 | 3 | 2 | 1 | 2 | 4 | 3 |

369: 1 2 5 2 2 1 3 7

Sample Title: 10

| Channel | 1 | 2 | 5 | 2 | 2 | 1 | 3 | 7 |
|---------|---|---|---|---|---|----|---|---|
| 377: | 1 | 5 | 4 | 1 | 2 | 1 | 3 | 0 |
| 385: | 1 | 5 | 1 | 4 | 2 | 2 | 3 | 2 |
| 393: | 3 | 1 | 2 | 3 | 0 | 4 | 0 | 0 |
| 401: | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 2 |
| 409: | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 |
| 417: | 2 | 3 | 1 | 0 | 1 | 1 | 2 | 0 |
| 425: | 1 | 2 | 2 | 2 | 0 | 2 | 0 | 3 |
| 433: | 0 | 3 | 4 | 4 | 2 | 3 | 3 | 3 |
| 441: | 4 | 2 | 3 | 2 | 3 | 0 | 1 | 3 |
| 449: | 1 | 4 | 4 | 0 | 4 | 4 | 4 | 1 |
| 457: | 1 | 0 | 5 | 0 | 1 | 0 | 4 | 1 |
| 465: | 1 | 1 | 1 | 3 | 3 | 3 | 0 | 2 |
| 473: | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 0 |
| 481: | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 489: | 0 | 2 | 0 | 2 | 2 | 0 | 4 | 0 |
| 497: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 505: | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 513: | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 |
| 521: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 561: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 577: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 585: | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 1 |
| 593: | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 2 |
| 601: | 1 | 2 | 2 | 0 | 2 | 5 | 0 | 2 |
| 609: | 2 | 2 | 0 | 1 | 3 | 12 | 3 | 2 |
| 617: | 2 | 5 | 2 | 3 | 5 | 0 | 5 | 1 |
| 625: | 2 | 3 | 0 | 2 | 1 | 2 | 5 | 8 |
| 633: | 8 | 2 | 1 | 3 | 5 | 3 | 4 | 4 |
| 641: | 3 | 6 | 2 | 1 | 2 | 3 | 2 | 0 |
| 649: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 665: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 705: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 713: | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 |
| 721: | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 1 |
| 729: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 737: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 761: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 769: | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| 777: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 10

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 865: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 873: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 913: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 929: | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

YB
10/28/15

Apex-Alpha™

Sample Description: CP5006S01-02
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 11
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_047
 Chamber Serial Number: 02030596A
 Detector Serial Number: 91086
 Env. Background: System Bkgd 132592
 Reagent Blank: <not performed>

Sample Size: 1.553E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:39 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.1568 +/- 0.0144
 Counting Efficiency: 0.1650 +/- 0.0029 on 10/25/2014 3:23:35 PM
 Chem. Recovery Factor: 0.9503 +/- 0.0890

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.820 | 10.83 | 60.10 | 0.17 | 0.00E+000 | 3.0 |
| TH-228 | 5.347 | 77.15 | 22.46 | 0.85 | 0.00E+000 | 4.5 |
| TH-229 T | 4.856 | 134.32 | 16.96 | 0.68 | 0.00E+000 | 10.6 |
| TH-230 | 4.610 | 141.83 | 16.47 | 0.17 | 0.00E+000 | 10.4 |
| TH-232 | 3.921 | 73.15 | 23.07 | 0.85 | 0.00E+000 | 8.9 |

T = Tracer Peak used for Effective Efficiency

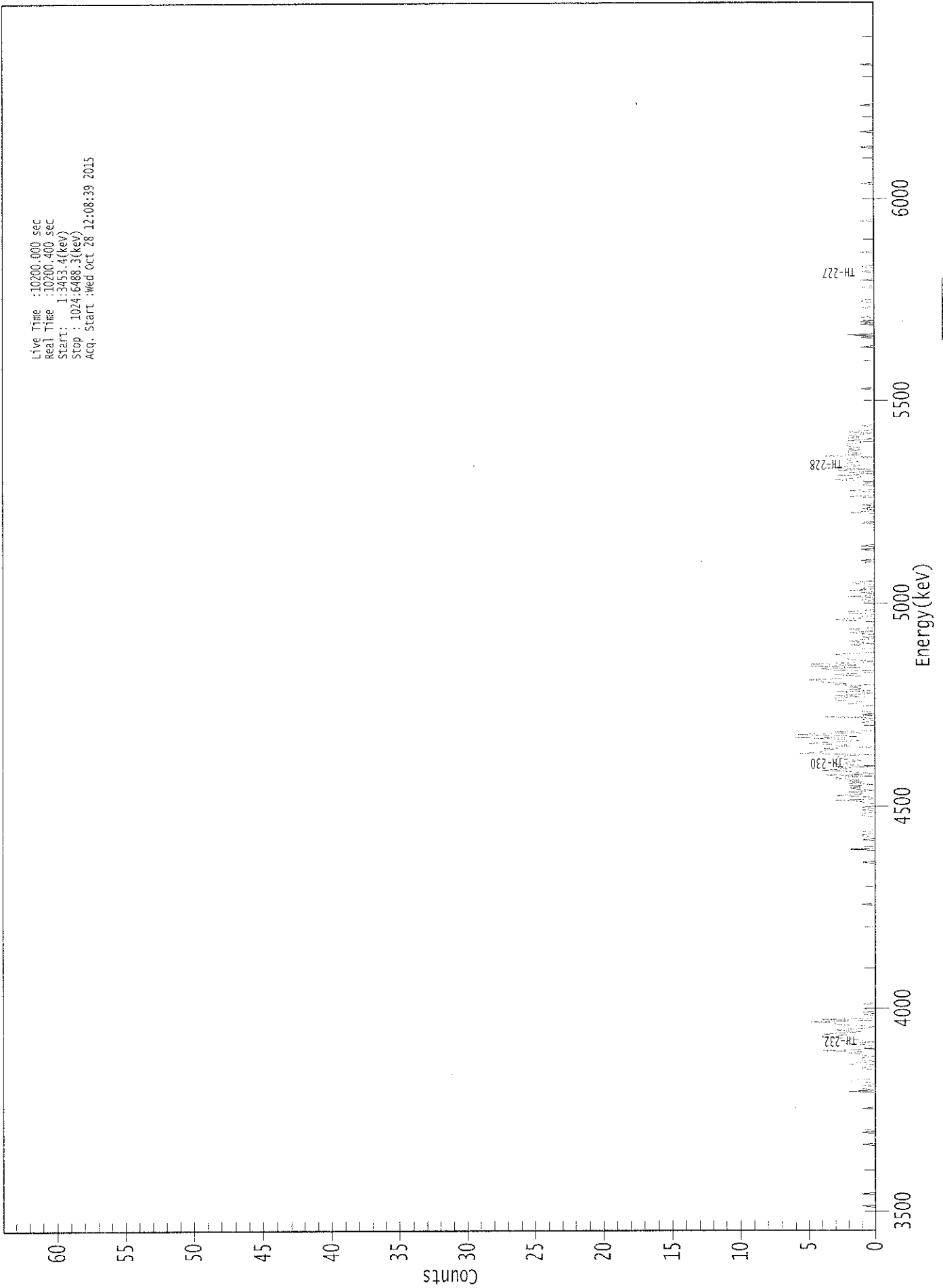
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.995 | 5850.00* | 1.21E-001 +/- 7.60E-002 | 4.66E-002 +/- 8.40E-003 |
| TH-228 | 0.986 | 5400.00* | 8.58E-001 +/- 2.47E-001 | 6.65E-002 +/- 1.20E-002 |
| TH-229 | 0.999 | 4872.00* | 1.47E+000 +/- 2.65E-001 | 6.17E-002 +/- 1.11E-002 |
| TH-230 | 0.980 | 4672.00* | 1.55E+000 +/- 3.77E-001 | 4.55E-002 +/- 8.19E-003 |
| TH-232 | 0.970 | 3997.00* | 7.96E-001 +/- 2.33E-001 | 6.51E-002 +/- 1.17E-002 |

AG
10/29/15

0000132522.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:3453.4(kev)
Stop : 1024.6488.3(kev)
Acq. Start : Wed Oct 28 12:08:39 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 11

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| 121: | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| 129: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 137: | 0 | 0 | 2 | 1 | 0 | 1 | 1 | 1 | 1 |
| 145: | 0 | 1 | 1 | 2 | 1 | 4 | 0 | 1 | 1 |
| 153: | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 2 | 2 |
| 161: | 4 | 4 | 2 | 4 | 2 | 1 | 3 | 2 | 2 |
| 169: | 0 | 0 | 2 | 3 | 3 | 5 | 0 | 4 | 4 |
| 177: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 185: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 329: | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| 353: | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 0 | 0 |
| 361: | 0 | 1 | 3 | 1 | 1 | 2 | 0 | 1 | 1 |

369: 2 1 2 0 2 1 2 1

Sample Title: 11

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 377: | 3 | 3 | 0 | 4 | 0 | 1 | 2 | 4 |
| 385: | 2 | 3 | 0 | 1 | 3 | 2 | 2 | 1 |
| 393: | 2 | 3 | 3 | 2 | 0 | 6 | 4 | 4 |
| 401: | 3 | 4 | 0 | 3 | 2 | 5 | 4 | 2 |
| 409: | 1 | 3 | 6 | 1 | 4 | 6 | 1 | 3 |
| 417: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 425: | 0 | 1 | 0 | 4 | 0 | 1 | 0 | 0 |
| 433: | 1 | 1 | 1 | 1 | 1 | 0 | 2 | 1 |
| 441: | 1 | 3 | 3 | 3 | 1 | 3 | 1 | 0 |
| 449: | 3 | 0 | 2 | 1 | 2 | 1 | 3 | 2 |
| 457: | 4 | 4 | 5 | 2 | 2 | 1 | 3 | 2 |
| 465: | 0 | 0 | 3 | 4 | 1 | 5 | 1 | 5 |
| 473: | 2 | 0 | 1 | 2 | 2 | 2 | 2 | 3 |
| 481: | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 2 |
| 489: | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 0 |
| 497: | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 0 |
| 505: | 0 | 0 | 0 | 2 | 3 | 1 | 1 | 0 |
| 513: | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 |
| 521: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 2 |
| 529: | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 |
| 537: | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 569: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 585: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 593: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 601: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 609: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 617: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 625: | 3 | 2 | 1 | 1 | 3 | 0 | 2 | 0 |
| 633: | 3 | 0 | 4 | 2 | 1 | 2 | 2 | 1 |
| 641: | 2 | 2 | 2 | 0 | 4 | 1 | 1 | 2 |
| 649: | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 1 |
| 657: | 1 | 2 | 0 | 2 | 1 | 2 | 1 | 0 |
| 665: | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 745: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 761: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

801: 0 0 1 0 0 0 0 0 0

Sample Title: 11

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

10/28/15

Sample Description: CP5006S03-04
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 12
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_048
 Chamber Serial Number: 02030596B
 Detector Serial Number: 83111
 Env. Background: System Bkgd 132593
 Reagent Blank: <not performed>

Sample Size: 1.573E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:08:42 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.1668 +/- 0.0150
 Counting Efficiency: 0.1700 +/- 0.0030 on 10/25/2014 3:27:02 PM
 Chem. Recovery Factor: 0.9809 +/- 0.0899

Peak Match Tolerance: 0.175 MeV

| ----- ----- PEAK AREA REPORT ----- ----- | | | | | | |
|--|--------------|-------------|-----------------|-----------------|-----------------|------------|
| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
| TH-227 | 5.886 | 12.49 | 56.77 | 0.51 | 0.00E+000 | 3.0 |
| TH-228 | 5.347 | 123.15 | 17.73 | 0.85 | 0.00E+000 | 3.6 |
| TH-229 T | 4.854 | 142.79 | 16.55 | 2.21 | 0.00E+000 | 4.0 |
| TH-230 | 4.609 | 281.49 | 11.69 | 0.51 | 0.00E+000 | 6.4 |
| TH-232 | 3.932 | 107.98 | 18.97 | 1.02 | 0.00E+000 | 3.7 |

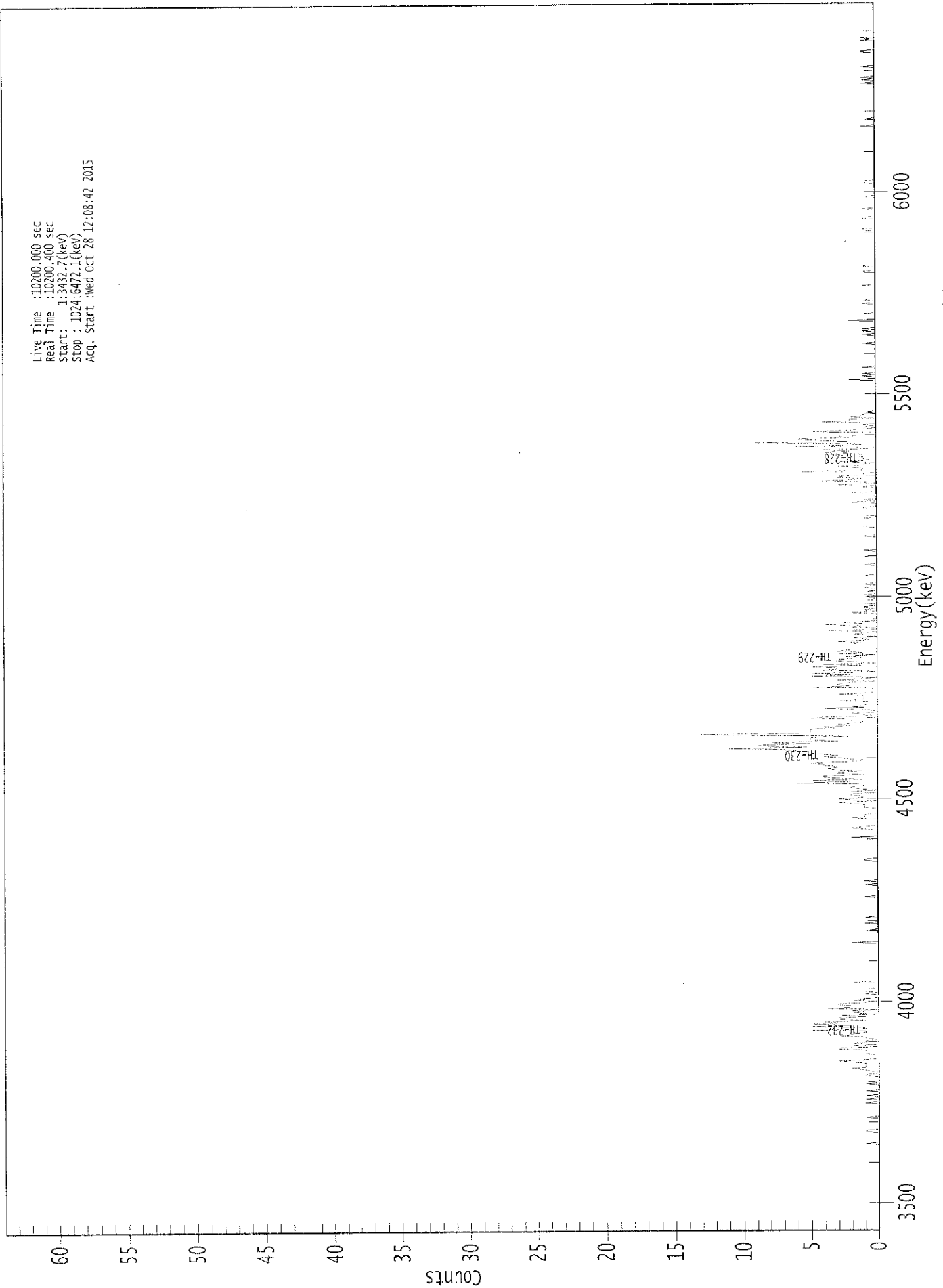
T = Tracer Peak used for Effective Efficiency

| ----- ----- NUCLIDE ANALYSIS RESULTS ----- ----- | | | | | | |
|--|----------|--------------|-------------------------|-------------------------|--|--|
| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) | | |
| TH-227 | 0.993 | 5850.00* | 1.30E-001 +/- 7.71E-002 | 5.45E-002 +/- 9.60E-003 | | |
| TH-228 | 0.986 | 5400.00* | 1.27E+000 +/- 3.18E-001 | 6.18E-002 +/- 1.09E-002 | | |
| TH-229 | 0.998 | 4872.00* | 1.45E+000 +/- 2.55E-001 | 8.12E-002 +/- 1.43E-002 | | |
| TH-230 | 0.980 | 4672.00* | 2.85E+000 +/- 6.03E-001 | 5.31E-002 +/- 9.36E-003 | | |
| TH-232 | 0.978 | 3997.00* | 1.09E+000 +/- 2.82E-001 | 6.36E-002 +/- 1.12E-002 | | |

AG
10/29/15

0000132523.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3432.7(keV)
Stop : 1024:6472.1(keV)
Acq. Start :Wed Oct 28 12:08:47 2015



ROI Type: 1

ROI Type: 3

00266

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 12

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 113: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 121: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 |
| 137: | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 0 |
| 145: | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 3 |
| 153: | 3 | 0 | 2 | 0 | 2 | 1 | 1 | 0 |
| 161: | 1 | 1 | 3 | 2 | 2 | 1 | 1 | 5 |
| 169: | 1 | 1 | 5 | 2 | 5 | 3 | 4 | 1 |
| 177: | 3 | 3 | 1 | 3 | 0 | 2 | 1 | 2 |
| 185: | 0 | 4 | 2 | 2 | 3 | 3 | 1 | 0 |
| 193: | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 201: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 257: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 337: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 345: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 353: | 1 | 1 | 1 | 2 | 3 | 0 | 2 | 3 |
| 361: | 1 | 1 | 2 | 2 | 0 | 2 | 0 | 1 |

369: 2 2 1 1 6 2 5 1

Sample Title: 12

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|----|---|---|---|----|---|---|---|
| 377: | 3 | 4 | 4 | 1 | 3 | 3 | 1 | 3 | |
| 385: | 4 | 3 | 3 | 4 | 4 | 5 | 2 | 1 | |
| 393: | 2 | 3 | 4 | 3 | 4 | 5 | 5 | 6 | |
| 401: | 7 | 11 | 5 | 8 | 9 | 5 | 8 | 3 | |
| 409: | 5 | 5 | 5 | 2 | 9 | 13 | 5 | 5 | |
| 417: | 5 | 5 | 3 | 4 | 2 | 3 | 2 | 1 | |
| 425: | 2 | 2 | 5 | 4 | 0 | 1 | 2 | 0 | |
| 433: | 0 | 1 | 4 | 1 | 2 | 1 | 0 | 0 | |
| 441: | 1 | 3 | 1 | 1 | 1 | 1 | 3 | 1 | |
| 449: | 0 | 0 | 0 | 0 | 5 | 2 | 3 | 3 | |
| 457: | 2 | 0 | 3 | 1 | 0 | 5 | 2 | 5 | |
| 465: | 2 | 0 | 4 | 3 | 3 | 5 | 1 | 4 | |
| 473: | 0 | 2 | 3 | 3 | 2 | 1 | 3 | 0 | |
| 481: | 3 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | |
| 489: | 2 | 1 | 3 | 1 | 0 | 2 | 0 | 0 | |
| 497: | 2 | 1 | 0 | 4 | 0 | 0 | 2 | 1 | |
| 505: | 4 | 1 | 3 | 0 | 1 | 0 | 0 | 0 | |
| 513: | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 1 | |
| 521: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | |
| 529: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | |
| 537: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 545: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 553: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 561: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 577: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 585: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 593: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 601: | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | |
| 609: | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | |
| 617: | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 1 | |
| 625: | 4 | 2 | 1 | 3 | 3 | 1 | 1 | 0 | |
| 633: | 6 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | |
| 641: | 3 | 0 | 1 | 1 | 1 | 3 | 1 | 2 | |
| 649: | 4 | 2 | 4 | 0 | 0 | 6 | 1 | 1 | |
| 657: | 9 | 2 | 5 | 6 | 2 | 3 | 0 | 0 | |
| 665: | 0 | 5 | 2 | 1 | 0 | 1 | 0 | 1 | |
| 673: | 0 | 4 | 2 | 2 | 0 | 2 | 1 | 1 | |
| 681: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 705: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | |
| 713: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 737: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 745: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | |
| 753: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 769: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 785: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |

801: 0 0 1 0 0 0 0 0

Sample Title: 12

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 921: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 961: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 993: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KB
10/28/15

Apex-Alpha™

Sample Description: CP5006S04-05
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 13
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_049
 Chamber Serial Number: 10006121A
 Detector Serial Number: 49
 Env. Background: System Bkgd 132594
 Reagent Blank: <not performed>

Sample Size: 1.524E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:09:08 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1303 +/- 0.0130
 Counting Efficiency: 0.1525 +/- 0.0027 on 12/13/2014 2:45:02 PM
 Chem. Recovery Factor: 0.8542 +/- 0.0867

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.847 | 7.83 | 70.93 | 0.17 | 0.00E+000 | 3.0 |
| TH-228 | 5.328 | 113.15 | 18.51 | 0.85 | 0.00E+000 | 3.0 |
| TH-229 T | 4.847 | 112.00 | 18.60 | 0.00 | 0.00E+000 | 5.2 |
| TH-230 | 4.608 | 133.00 | 17.06 | 0.00 | 0.00E+000 | 4.7 |
| TH-232 | 3.923 | 99.15 | 19.78 | 0.85 | 0.00E+000 | 5.9 |

T = Tracer Peak used for Effective Efficiency

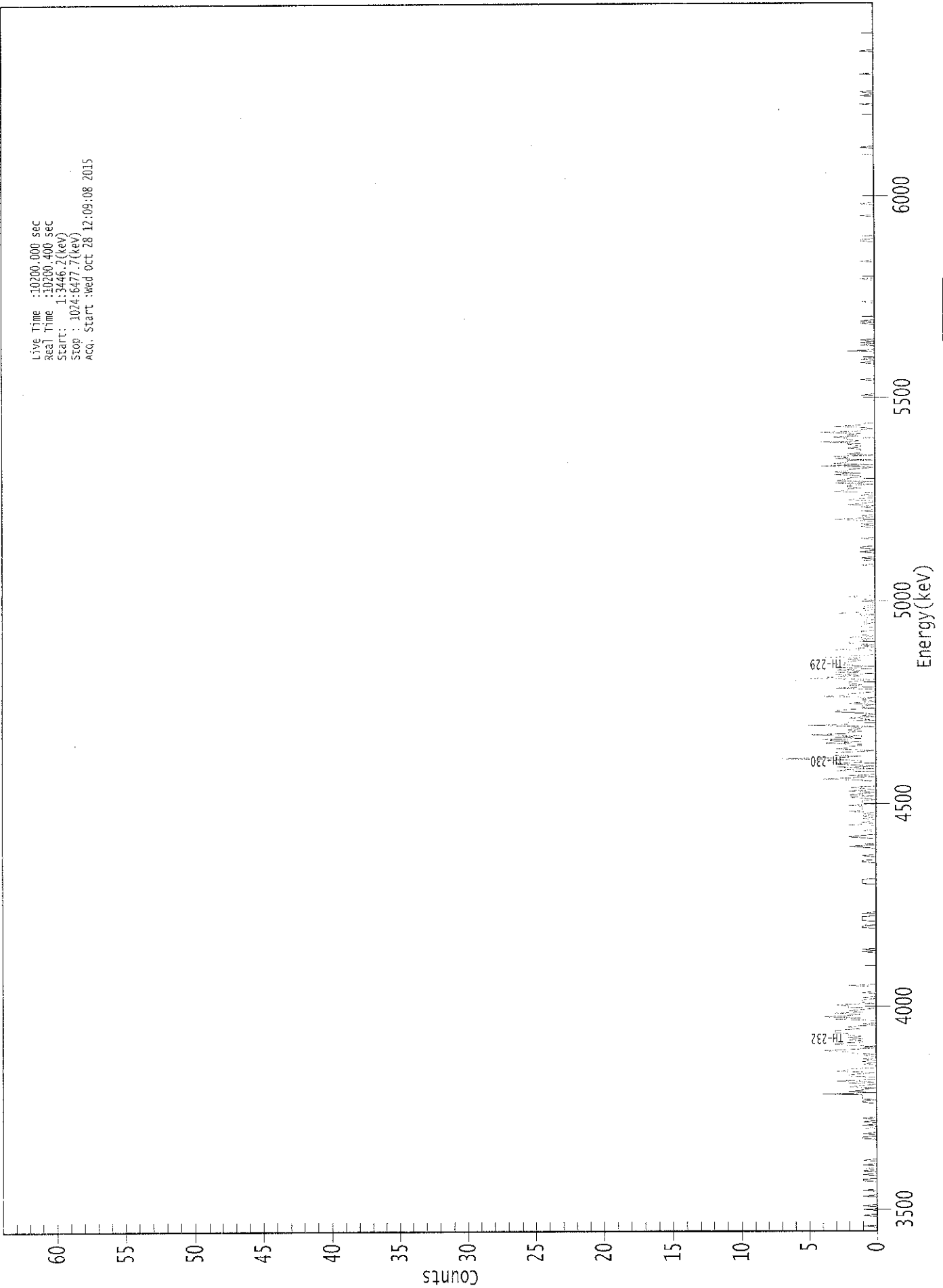
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 1.000 | 5850.00* | 1.07E-001 +/- 7.90E-002 | 5.72E-002 +/- 1.12E-002 |
| TH-228 | 0.973 | 5400.00* | 1.54E+000 +/- 4.16E-001 | 8.16E-002 +/- 1.60E-002 |
| TH-229 | 0.997 | 4872.00* | 1.50E+000 +/- 2.94E-001 | 8.04E-002 +/- 1.57E-002 |
| TH-230 | 0.979 | 4672.00* | 1.78E+000 +/- 4.62E-001 | 8.02E-002 +/- 1.57E-002 |
| TH-232 | 0.971 | 3997.00* | 1.32E+000 +/- 3.68E-001 | 7.99E-002 +/- 1.56E-002 |

AG
 10/29/15

0000132514.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:3446.2(keV)
Stop : 1024:6477.7(keV)
Acq. Start :Wed Oct 28 12:09:08 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 13

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 17: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 33: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 49: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 57: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 81: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| 113: | 1 | 1 | 4 | 0 | 2 | 1 | 1 | 0 | 0 |
| 121: | 2 | 1 | 0 | 2 | 0 | 3 | 0 | 0 | 0 |
| 129: | 0 | 2 | 2 | 1 | 0 | 3 | 2 | 2 | 2 |
| 137: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| 145: | 0 | 0 | 1 | 0 | 2 | 2 | 4 | 2 | 2 |
| 153: | 0 | 1 | 0 | 3 | 3 | 1 | 1 | 2 | 2 |
| 161: | 1 | 2 | 1 | 2 | 2 | 3 | 3 | 3 | 3 |
| 169: | 1 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 177: | 3 | 1 | 4 | 2 | 1 | 3 | 1 | 2 | 2 |
| 185: | 1 | 0 | 2 | 2 | 3 | 0 | 1 | 1 | 1 |
| 193: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 257: | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 265: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 313: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 321: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 329: | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 337: | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 |
| 345: | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 1 | 1 |
| 353: | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 0 | 0 |
| 361: | 1 | 2 | 0 | 2 | 1 | 0 | 2 | 0 | 0 |

369: 1 2 0 0 0 0 0 1

Sample Title: 13

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 377: | 4 | 2 | 0 | 2 | 0 | 0 | 0 | 3 |
| 385: | 2 | 0 | 3 | 0 | 2 | 3 | 1 | 1 |
| 393: | 2 | 7 | 3 | 1 | 3 | 3 | 3 | 1 |
| 401: | 0 | 3 | 2 | 2 | 1 | 1 | 4 | 1 |
| 409: | 3 | 4 | 1 | 3 | 1 | 5 | 2 | 2 |
| 417: | 1 | 2 | 1 | 2 | 0 | 5 | 2 | 2 |
| 425: | 2 | 0 | 1 | 2 | 0 | 1 | 0 | 1 |
| 433: | 3 | 3 | 2 | 0 | 1 | 1 | 0 | 2 |
| 441: | 1 | 0 | 1 | 1 | 0 | 4 | 2 | 2 |
| 449: | 1 | 0 | 0 | 0 | 3 | 0 | 2 | 1 |
| 457: | 2 | 2 | 1 | 0 | 5 | 3 | 1 | 3 |
| 465: | 0 | 3 | 1 | 3 | 0 | 3 | 0 | 2 |
| 473: | 3 | 2 | 2 | 1 | 2 | 1 | 4 | 1 |
| 481: | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 1 |
| 489: | 0 | 2 | 2 | 0 | 1 | 0 | 2 | 0 |
| 497: | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| 505: | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 |
| 513: | 1 | 0 | 3 | 1 | 1 | 0 | 1 | 0 |
| 521: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 529: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 561: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 569: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 577: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 585: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 593: | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 601: | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 |
| 609: | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 3 |
| 617: | 2 | 2 | 1 | 2 | 2 | 0 | 3 | 0 |
| 625: | 3 | 2 | 2 | 1 | 1 | 3 | 1 | 3 |
| 633: | 2 | 2 | 1 | 0 | 4 | 0 | 3 | 2 |
| 641: | 2 | 0 | 3 | 2 | 3 | 0 | 2 | 1 |
| 649: | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| 657: | 4 | 1 | 2 | 2 | 3 | 1 | 2 | 1 |
| 665: | 4 | 1 | 1 | 0 | 1 | 3 | 1 | 1 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 721: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 737: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 753: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 761: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 1

Sample Title: 13

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

108
10/28/15

Sample Description: CP5006S07-08
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 14
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_050
 Chamber Serial Number: 10006121B
 Detector Serial Number: 50
 Env. Background: System Bkgd 132595
 Reagent Blank: <not performed>

Sample Size: 1.534E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:09:10 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1337 +/- 0.0132
 Counting Efficiency: 0.1428 +/- 0.0026 on 12/13/2014 2:43:59 PM
 Chem. Recovery Factor: 0.9366 +/- 0.0938

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.843 | 14.98 | 52.62 | 1.02 | 0.00E+000 | 3.0 |
| TH-228 | 5.340 | 111.13 | 18.77 | 1.87 | 0.00E+000 | 3.6 |
| TH-229 T | 4.849 | 114.66 | 18.34 | 0.34 | 0.00E+000 | 4.7 |
| TH-230 | 4.609 | 150.32 | 16.03 | 0.68 | 0.00E+000 | 6.7 |
| TH-232 | 3.943 | 107.66 | 18.92 | 0.34 | 0.00E+000 | 6.5 |

T = Tracer Peak used for Effective Efficiency

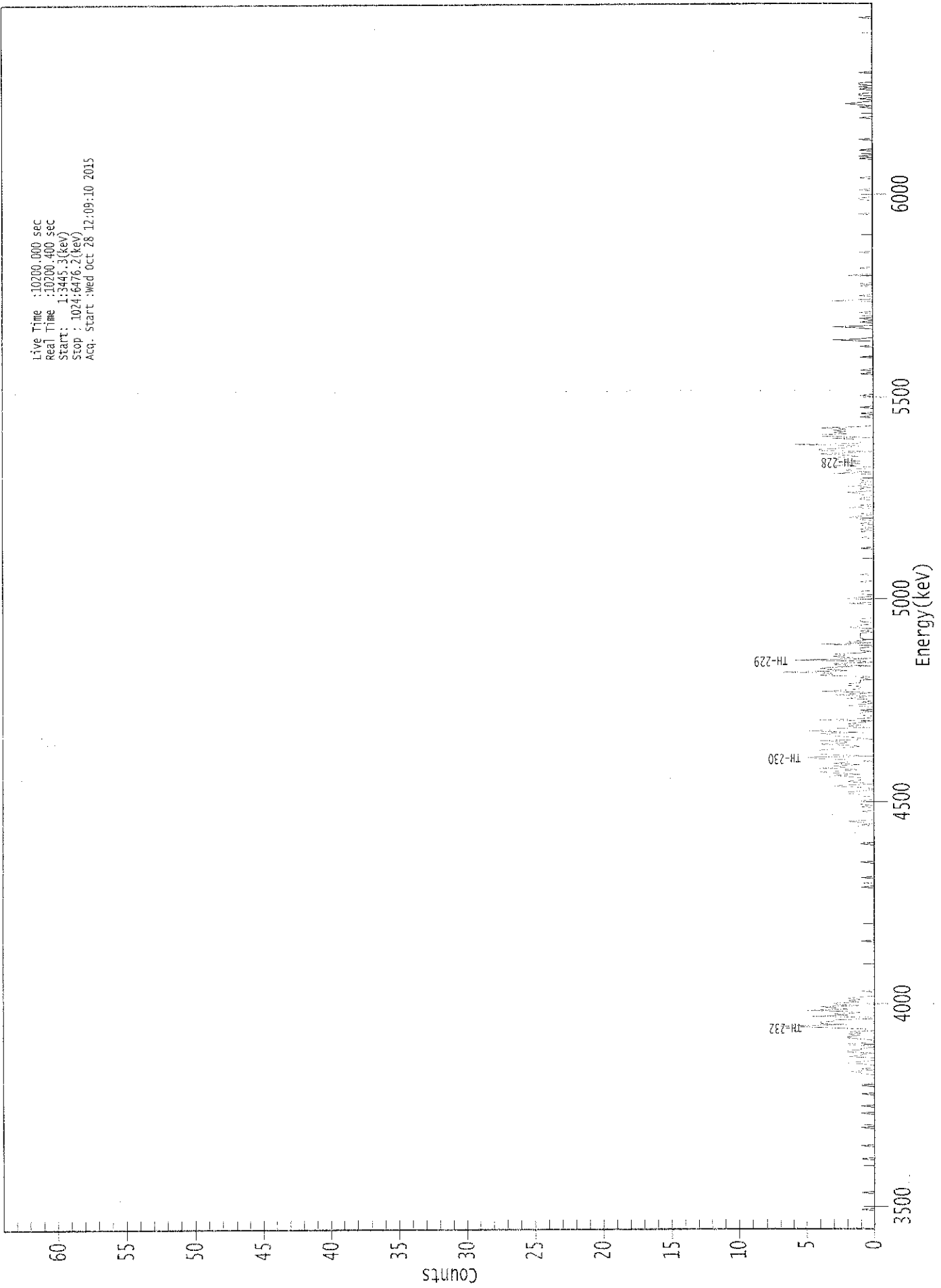
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 1.000 | 5850.00* | 1.99E-001 +/- 1.11E-001 | 8.37E-002 +/- 1.62E-002 |
| TH-228 | 0.981 | 5400.00* | 1.47E+000 +/- 3.95E-001 | 1.00E-001 +/- 1.93E-002 |
| TH-229 | 0.997 | 4872.00* | 1.49E+000 +/- 2.88E-001 | 6.21E-002 +/- 1.20E-002 |
| TH-230 | 0.980 | 4672.00* | 1.95E+000 +/- 4.88E-001 | 7.30E-002 +/- 1.41E-002 |
| TH-232 | 0.985 | 3997.00* | 1.39E+000 +/- 3.76E-001 | 6.18E-002 +/- 1.19E-002 |

AG
10/29/15

0000132515.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:34:5.3(keV)
Stop : 1024:6476.2(keV)
Acq. Start : Wed Oct 28 12:09:10 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 14

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 121: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 0 |
| 137: | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 2 |
| 145: | 1 | 1 | 0 | 2 | 2 | 1 | 1 | 1 | 0 |
| 153: | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 2 |
| 161: | 2 | 1 | 2 | 1 | 2 | 0 | 0 | 0 | 2 |
| 169: | 5 | 7 | 2 | 4 | 4 | 3 | 3 | 3 | 0 |
| 177: | 0 | 5 | 2 | 3 | 1 | 2 | 5 | 2 | 2 |
| 185: | 3 | 4 | 1 | 3 | 3 | 1 | 2 | 1 | 1 |
| 193: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 353: | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 361: | 0 | 1 | 1 | 2 | 2 | 1 | 0 | 0 | 0 |

369: 1 3 2 0 1 2 1 1

Sample Title: 14

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 377: | 1 | 2 | 3 | 1 | 3 | 4 | 2 | 1 |
| 385: | 4 | 2 | 3 | 1 | 3 | 2 | 2 | 2 |
| 393: | 4 | 5 | 0 | 3 | 4 | 4 | 4 | 4 |
| 401: | 3 | 2 | 1 | 2 | 4 | 2 | 2 | 4 |
| 409: | 0 | 1 | 2 | 3 | 3 | 4 | 1 | 5 |
| 417: | 3 | 3 | 0 | 2 | 1 | 2 | 1 | 0 |
| 425: | 4 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 433: | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 |
| 441: | 0 | 0 | 2 | 1 | 0 | 3 | 1 | 0 |
| 449: | 4 | 2 | 1 | 1 | 1 | 2 | 2 | 1 |
| 457: | 1 | 1 | 0 | 1 | 0 | 4 | 3 | 3 |
| 465: | 7 | 2 | 3 | 4 | 3 | 0 | 3 | 3 |
| 473: | 0 | 1 | 6 | 0 | 2 | 3 | 2 | 3 |
| 481: | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 4 |
| 489: | 0 | 2 | 1 | 0 | 1 | 1 | 1 | 1 |
| 497: | 1 | 0 | 1 | 0 | 0 | 2 | 1 | 1 |
| 505: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 521: | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 |
| 529: | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 537: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 545: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 577: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 585: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| 593: | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 |
| 601: | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 609: | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 0 |
| 617: | 1 | 1 | 0 | 2 | 0 | 1 | 1 | 0 |
| 625: | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 0 |
| 633: | 2 | 2 | 0 | 0 | 3 | 2 | 1 | 2 |
| 641: | 1 | 2 | 3 | 3 | 1 | 2 | 4 | 2 |
| 649: | 0 | 4 | 4 | 2 | 2 | 1 | 6 | 1 |
| 657: | 1 | 1 | 1 | 3 | 1 | 4 | 4 | 2 |
| 665: | 3 | 2 | 3 | 2 | 4 | 1 | 0 | 0 |
| 673: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 681: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 737: | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 0 |
| 745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 753: | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 761: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 777: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |

801: 0 1 0 0 0 0 0 0

Sample Title: 14

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 897: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 937: | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 |
| 945: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 953: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 961: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KB
10/28/15

Apex-Alpha™

Sample Description: CP5006S09-10
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 15
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_051
 Chamber Serial Number: 10006123A
 Detector Serial Number: 51
 Env. Background: System Bkgd 132596
 Reagent Blank: <not performed>

Sample Size: 1.505E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:09:13 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1766 +/- 0.0155
 Counting Efficiency: 0.1524 +/- 0.0027 on 12/13/2014 2:42:37 PM
 Chem. Recovery Factor: 1.1589 +/- 0.1035

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.864 | 9.28 | 74.56 | 2.72 | 0.00E+000 | 3.0 |
| TH-228 | 5.369 | 132.73 | 17.40 | 5.27 | 0.00E+000 | 10.4 |
| TH-229 T | 4.870 | 151.79 | 16.04 | 2.21 | 0.00E+000 | 6.9 |
| TH-230 | 4.625 | 161.79 | 15.53 | 2.21 | 0.00E+000 | 4.9 |
| TH-232 | 3.955 | 151.66 | 15.94 | 0.34 | 0.00E+000 | 3.5 |

T = Tracer Peak used for Effective Efficiency

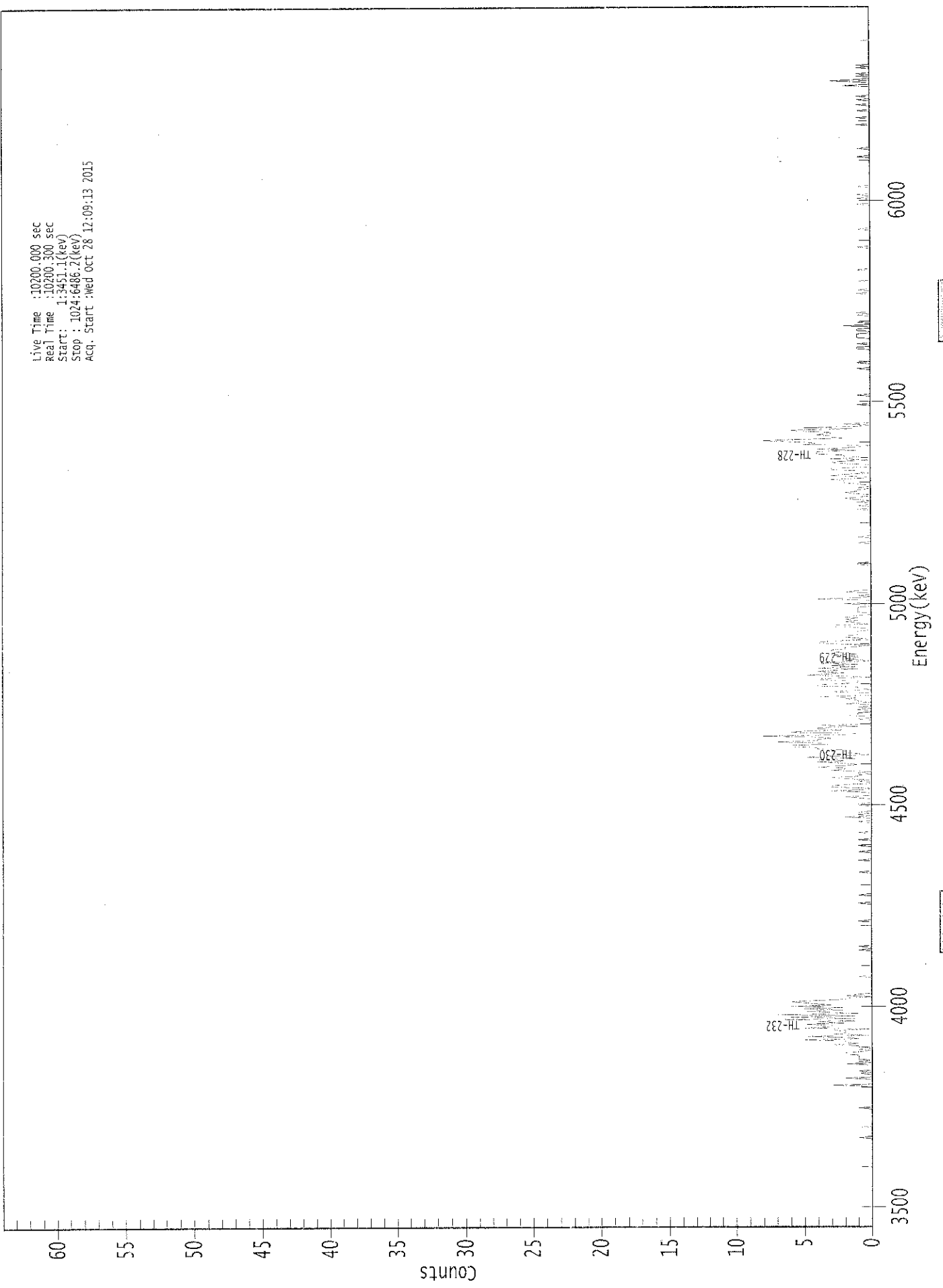
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.999 | 5850.00* | 9.51E-002 +/- 7.27E-002 | 8.78E-002 +/- 1.51E-002 |
| TH-228 | 0.995 | 5400.00* | 1.35E+000 +/- 3.30E-001 | 1.11E-001 +/- 1.90E-002 |
| TH-229 | 1.000 | 4872.00* | 1.52E+000 +/- 2.61E-001 | 8.01E-002 +/- 1.37E-002 |
| TH-230 | 0.989 | 4672.00* | 1.62E+000 +/- 3.74E-001 | 7.99E-002 +/- 1.37E-002 |
| TH-232 | 0.991 | 3997.00* | 1.51E+000 +/- 3.54E-001 | 4.77E-002 +/- 8.18E-003 |

AG
 10/29/15

0000132516.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3451.1 (keV)
Stop : 1024:6486.2 (keV)
Acq. Start : Wed Oct 28 12:09:13 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 15

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 121: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 129: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 2 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 145: | 1 | 2 | 2 | 1 | 0 | 1 | 0 | 1 | 1 |
| 153: | 1 | 3 | 1 | 2 | 2 | 5 | 1 | 2 | 2 |
| 161: | 5 | 0 | 3 | 2 | 2 | 3 | 0 | 5 | 5 |
| 169: | 3 | 3 | 5 | 2 | 4 | 1 | 7 | 1 | 1 |
| 177: | 6 | 1 | 7 | 1 | 3 | 5 | 2 | 5 | 5 |
| 185: | 2 | 6 | 3 | 4 | 5 | 6 | 4 | 2 | 2 |
| 193: | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 321: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 329: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 345: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 361: | 2 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 |

369: 3 3 2 0 0 1 0 2

Sample Title: 15

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 377: | 3 | 1 | 1 | 0 | 1 | 0 | 3 | 2 |
| 385: | 2 | 4 | 2 | 1 | 2 | 4 | 2 | 4 |
| 393: | 1 | 5 | 3 | 0 | 1 | 2 | 2 | 2 |
| 401: | 4 | 4 | 6 | 6 | 3 | 4 | 7 | 4 |
| 409: | 4 | 3 | 4 | 8 | 2 | 1 | 6 | 5 |
| 417: | 2 | 4 | 4 | 1 | 4 | 0 | 0 | 0 |
| 425: | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 0 |
| 433: | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 |
| 441: | 1 | 1 | 2 | 1 | 4 | 0 | 0 | 0 |
| 449: | 3 | 2 | 0 | 1 | 1 | 4 | 4 | 2 |
| 457: | 1 | 1 | 4 | 4 | 0 | 2 | 5 | 3 |
| 465: | 2 | 4 | 3 | 1 | 4 | 1 | 3 | 1 |
| 473: | 4 | 2 | 0 | 1 | 2 | 1 | 1 | 3 |
| 481: | 1 | 2 | 3 | 3 | 2 | 2 | 1 | 0 |
| 489: | 2 | 4 | 4 | 2 | 0 | 1 | 2 | 2 |
| 497: | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 3 |
| 505: | 3 | 0 | 1 | 2 | 1 | 2 | 1 | 2 |
| 513: | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 521: | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 1 |
| 529: | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| 537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 577: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 601: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 609: | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 |
| 617: | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 2 |
| 625: | 2 | 2 | 3 | 0 | 0 | 3 | 2 | 0 |
| 633: | 1 | 1 | 3 | 3 | 0 | 0 | 0 | 2 |
| 641: | 3 | 2 | 0 | 3 | 0 | 2 | 2 | 4 |
| 649: | 4 | 4 | 1 | 4 | 2 | 1 | 0 | 5 |
| 657: | 4 | 5 | 8 | 6 | 2 | 3 | 3 | 4 |
| 665: | 3 | 3 | 5 | 6 | 1 | 5 | 1 | 0 |
| 673: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 721: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 737: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 745: | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 753: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| 761: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 785: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

801: 0 1 0 0 0 0 0 0 0

Sample Title: 15

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 865: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 929: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 937: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 945: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 |
| 961: | 3 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 969: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



KB
10/28/15

Sample Description: CP5006S12-13
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 16
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_052
 Chamber Serial Number: 10006123B
 Detector Serial Number: 52
 Env. Background: System Bkgd 132597
 Reagent Blank: <not performed>

Sample Size: 1.549E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:09:15 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1526 +/- 0.0142
 Counting Efficiency: 0.1607 +/- 0.0029 on 12/13/2014 2:40:57 PM
 Chem. Recovery Factor: 0.9497 +/- 0.0899

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.881 | 7.15 | 78.23 | 0.85 | 0.00E+000 | 2.9 |
| TH-228 | 5.342 | 147.98 | 16.18 | 1.02 | 0.00E+000 | 3.7 |
| TH-229 T | 4.854 | 131.15 | 17.18 | 0.85 | 0.00E+000 | 9.2 |
| TH-230 | 4.620 | 143.32 | 16.42 | 0.68 | 0.00E+000 | 7.7 |
| TH-232 | 3.938 | 126.66 | 17.44 | 0.34 | 0.00E+000 | 3.7 |

T = Tracer Peak used for Effective Efficiency

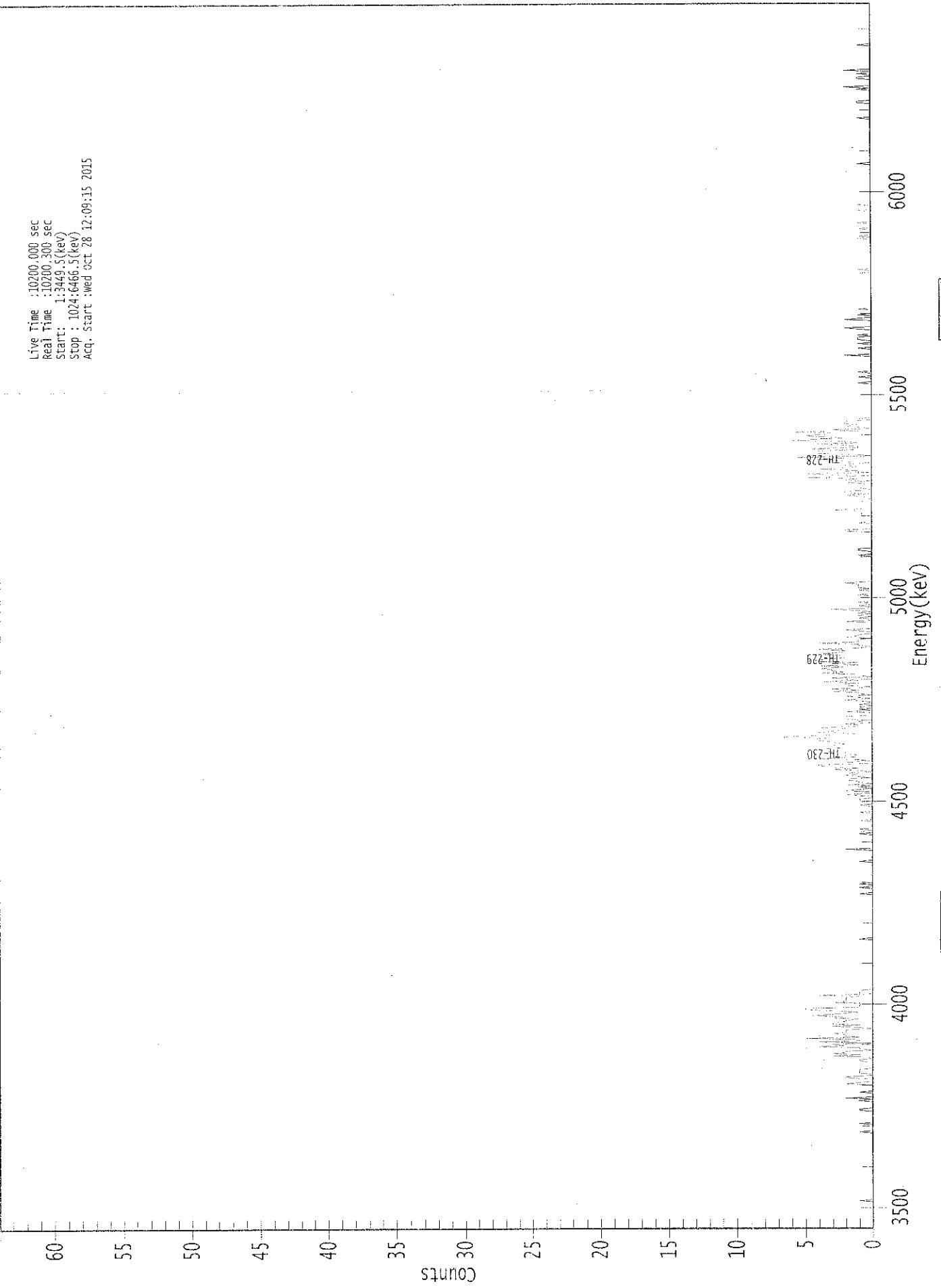
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.995 | 5850.00* | 8.24E-002 +/- 6.62E-002 | 6.90E-002 +/- 1.26E-002 |
| TH-228 | 0.983 | 5400.00* | 1.70E+000 +/- 4.13E-001 | 7.22E-002 +/- 1.32E-002 |
| TH-229 | 0.998 | 4872.00* | 1.48E+000 +/- 2.69E-001 | 6.74E-002 +/- 1.23E-002 |
| TH-230 | 0.986 | 4672.00* | 1.61E+000 +/- 3.95E-001 | 6.33E-002 +/- 1.15E-002 |
| TH-232 | 0.982 | 3997.00* | 1.42E+000 +/- 3.58E-001 | 5.36E-002 +/- 9.77E-003 |

AG
10/29/15

0000132517.CNF

Live Time : 10200.000 sec
Real Time : 10200.300 sec
Start : 1:3449.5(keV)
Stop : 1024:6466.5(keV)
Acq. Start : wed oct 28 12:09:15 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 16

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 |
| 113: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 2 | 1 | 0 | 0 | 0 | 2 | 2 | 0 |
| 129: | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 3 |
| 145: | 1 | 3 | 2 | 2 | 0 | 1 | 1 | 4 |
| 153: | 2 | 3 | 0 | 4 | 1 | 1 | 5 | 1 |
| 161: | 2 | 2 | 3 | 2 | 2 | 2 | 0 | 1 |
| 169: | 3 | 1 | 3 | 3 | 2 | 2 | 1 | 3 |
| 177: | 2 | 5 | 3 | 2 | 1 | 3 | 5 | 5 |
| 185: | 1 | 1 | 1 | 0 | 3 | 2 | 2 | 2 |
| 193: | 2 | 1 | 4 | 0 | 1 | 1 | 1 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 281: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 329: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 345: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 353: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 361: | 0 | 1 | 2 | 0 | 0 | 2 | 1 | 0 |

369: 1 0 2 0 1 1 2 2

Sample Title: 16

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 377: | 0 | 1 | 2 | 1 | 2 | 0 | 1 | 3 | |
| 385: | 1 | 3 | 4 | 4 | 0 | 2 | 0 | 1 | |
| 393: | 4 | 1 | 3 | 1 | 2 | 2 | 4 | 4 | |
| 401: | 4 | 2 | 2 | 3 | 2 | 3 | 3 | 4 | |
| 409: | 5 | 3 | 7 | 5 | 3 | 1 | 4 | 3 | |
| 417: | 2 | 2 | 4 | 1 | 1 | 2 | 0 | 1 | |
| 425: | 1 | 2 | 2 | 2 | 0 | 0 | 0 | 2 | |
| 433: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | |
| 441: | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | |
| 449: | 3 | 1 | 3 | 1 | 0 | 2 | 2 | 1 | |
| 457: | 4 | 1 | 2 | 3 | 0 | 1 | 1 | 4 | |
| 465: | 2 | 3 | 3 | 4 | 2 | 4 | 1 | 3 | |
| 473: | 1 | 5 | 4 | 3 | 2 | 2 | 2 | 4 | |
| 481: | 3 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | |
| 489: | 4 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | |
| 497: | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | |
| 505: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | |
| 513: | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 1 | |
| 521: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 529: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | |
| 537: | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 561: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 577: | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | |
| 585: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 593: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | |
| 601: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | |
| 609: | 0 | 0 | 1 | 2 | 0 | 2 | 2 | 1 | |
| 617: | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | |
| 625: | 2 | 1 | 5 | 1 | 2 | 5 | 0 | 2 | |
| 633: | 1 | 4 | 2 | 1 | 2 | 2 | 0 | 2 | |
| 641: | 2 | 4 | 2 | 6 | 0 | 1 | 4 | 4 | |
| 649: | 4 | 1 | 5 | 1 | 1 | 2 | 4 | 1 | |
| 657: | 2 | 6 | 4 | 2 | 4 | 5 | 3 | 3 | |
| 665: | 6 | 1 | 3 | 0 | 1 | 2 | 1 | 2 | |
| 673: | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 705: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 713: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 729: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 737: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | |
| 745: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | |
| 753: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | |
| 761: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

801: 1 0 0 0 0 0 0 0 0

Sample Title: 16

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 833: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 953: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 961: | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

YB
10/29/15

Apex-Alpha™

Sample Description: CP5006S14-15
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 17
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_053
 Chamber Serial Number: 10006122A
 Detector Serial Number: 53
 Env. Background: System Bkgd 132598
 Reagent Blank: <not performed>

Sample Size: 1.537E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:09:18 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1728 +/- 0.0152
 Counting Efficiency: 0.1455 +/- 0.0026 on 12/13/2014 2:39:33 PM
 Chem. Recovery Factor: 1.1873 +/- 0.1067

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.863 | 15.32 | 51.36 | 0.68 | 0.00E+000 | 3.0 |
| TH-228 | 5.352 | 144.47 | 16.41 | 1.53 | 0.00E+000 | 8.2 |
| TH-229 T | 4.868 | 148.15 | 16.16 | 0.85 | 0.00E+000 | 5.2 |
| TH-230 | 4.621 | 164.98 | 15.31 | 1.02 | 0.00E+000 | 11.7 |
| TH-232 | 3.939 | 149.66 | 16.04 | 0.34 | 0.00E+000 | 3.7 |

T = Tracer Peak used for Effective Efficiency

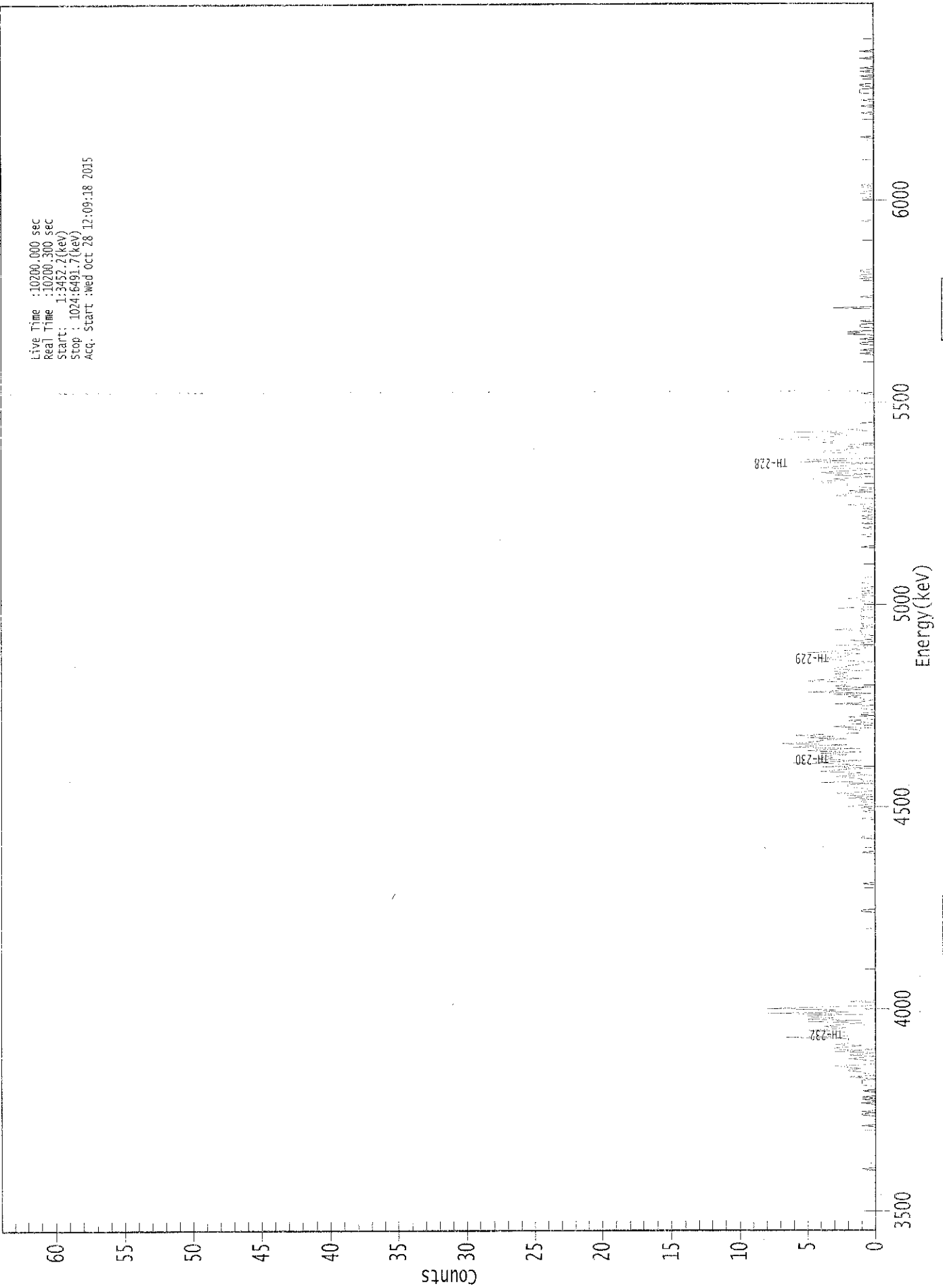
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.999 | 5850.00* | 1.57E-001 +/- 8.51E-002 | 5.78E-002 +/- 9.99E-003 |
| TH-228 | 0.988 | 5400.00* | 1.47E+000 +/- 3.51E-001 | 7.25E-002 +/- 1.25E-002 |
| TH-229 | 1.000 | 4872.00* | 1.49E+000 +/- 2.56E-001 | 6.00E-002 +/- 1.04E-002 |
| TH-230 | 0.987 | 4672.00* | 1.65E+000 +/- 3.81E-001 | 6.30E-002 +/- 1.09E-002 |
| TH-232 | 0.983 | 3997.00* | 1.49E+000 +/- 3.52E-001 | 4.77E-002 +/- 8.24E-003 |

AG
10/29/15

0000132518.CNF

Live Time : 10280.000 sec
Real Time : 10280.300 sec
Start : 1:3452.2(keV)
Stop : 1024:6491.7(keV)
Acq. Start : Wed Oct 28 12:09:18 2015



ROI Type: 3

ROI Type: 1

10280

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 17

Elapsed Live time: 10200
 Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 113: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 121: | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| 129: | 2 | 0 | 0 | 1 | 1 | 2 | 2 | 2 | 1 |
| 137: | 2 | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 2 |
| 145: | 1 | 0 | 2 | 1 | 0 | 3 | 1 | 3 | 3 |
| 153: | 3 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 |
| 161: | 2 | 7 | 2 | 2 | 2 | 2 | 3 | 5 | 5 |
| 169: | 3 | 2 | 4 | 3 | 2 | 1 | 5 | 1 | 1 |
| 177: | 5 | 3 | 5 | 5 | 1 | 8 | 2 | 4 | 4 |
| 185: | 3 | 8 | 5 | 1 | 0 | 0 | 0 | 2 | 2 |
| 193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 329: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 345: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 353: | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 361: | 2 | 0 | 2 | 0 | 3 | 1 | 0 | 0 | 0 |

369: 1 2 2 2 0 4 0 1

Sample Title: 17

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 377: | 1 | 2 | 3 | 0 | 2 | 1 | 4 | 3 | |
| 385: | 2 | 0 | 4 | 1 | 2 | 6 | 3 | 1 | |
| 393: | 4 | 3 | 4 | 3 | 2 | 4 | 1 | 5 | |
| 401: | 4 | 1 | 6 | 5 | 2 | 7 | 5 | 4 | |
| 409: | 4 | 2 | 5 | 3 | 6 | 3 | 1 | 1 | |
| 417: | 1 | 2 | 0 | 3 | 2 | 2 | 0 | 1 | |
| 425: | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | |
| 433: | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | |
| 441: | 1 | 0 | 1 | 1 | 2 | 1 | 3 | 0 | |
| 449: | 5 | 3 | 1 | 3 | 0 | 3 | 2 | 2 | |
| 457: | 2 | 5 | 4 | 1 | 3 | 2 | 2 | 3 | |
| 465: | 2 | 3 | 0 | 3 | 3 | 2 | 2 | 1 | |
| 473: | 1 | 0 | 2 | 3 | 4 | 3 | 2 | 2 | |
| 481: | 1 | 5 | 3 | 1 | 2 | 0 | 0 | 3 | |
| 489: | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | |
| 497: | 1 | 1 | 1 | 1 | 3 | 1 | 0 | 1 | |
| 505: | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | |
| 513: | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 0 | |
| 521: | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 1 | |
| 529: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | |
| 537: | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | |
| 545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 569: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 577: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 585: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 593: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | |
| 601: | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | |
| 609: | 0 | 0 | 1 | 1 | 3 | 2 | 2 | 0 | |
| 617: | 2 | 0 | 0 | 1 | 2 | 2 | 2 | 4 | |
| 625: | 4 | 2 | 3 | 1 | 0 | 3 | 0 | 4 | |
| 633: | 3 | 1 | 0 | 4 | 3 | 2 | 2 | 0 | |
| 641: | 6 | 2 | 5 | 0 | 1 | 1 | 1 | 1 | |
| 649: | 4 | 4 | 2 | 2 | 1 | 2 | 0 | 2 | |
| 657: | 4 | 3 | 3 | 7 | 7 | 3 | 2 | 3 | |
| 665: | 2 | 6 | 0 | 2 | 1 | 1 | 1 | 1 | |
| 673: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 697: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 729: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | |
| 737: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | |
| 745: | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | |
| 753: | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | |
| 761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 769: | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 777: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 793: | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | |

801: 0 0 0 0 0 0 0 0

Sample Title: 17

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 865: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 937: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 945: | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| 953: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 961: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 969: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Apex-Alpha™

CP
10/28/15

Sample Description: CP5006S17-18
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 18
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_054
 Chamber Serial Number: 10006122B
 Detector Serial Number: 54
 Env. Background: System Bkgd 132599
 Reagent Blank: <not performed>

Sample Size: 1.595E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:09:20 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1717 +/- 0.0151
 Counting Efficiency: 0.1452 +/- 0.0026 on 12/13/2014 2:38:19 PM
 Chem. Recovery Factor: 1.1824 +/- 0.1064

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.850 | 9.81 | 66.87 | 1.19 | 0.00E+000 | 3.0 |
| TH-228 | 5.338 | 132.30 | 17.17 | 1.70 | 0.00E+000 | 9.7 |
| TH-229 T | 4.863 | 147.49 | 16.17 | 0.51 | 0.00E+000 | 7.7 |
| TH-230 | 4.603 | 150.83 | 15.97 | 0.17 | 0.00E+000 | 7.9 |
| TH-232 | 3.920 | 106.00 | 19.13 | 0.00 | 0.00E+000 | 6.2 |

T = Tracer Peak used for Effective Efficiency

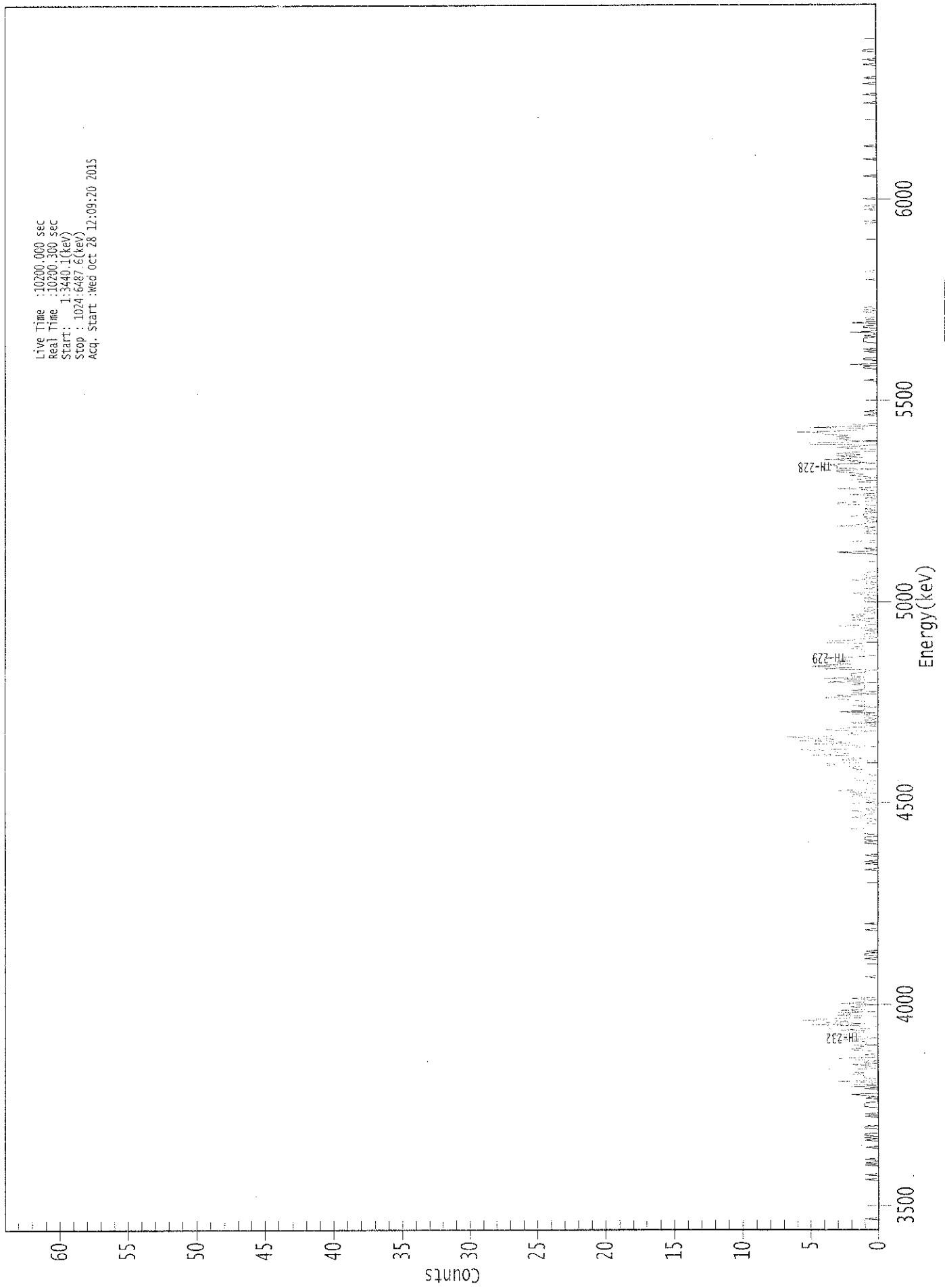
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 1.000 | 5850.00* | 9.75E-002 +/- 6.74E-002 | 6.55E-002 +/- 1.13E-002 |
| TH-228 | 0.980 | 5400.00* | 1.31E+000 +/- 3.19E-001 | 7.26E-002 +/- 1.25E-002 |
| TH-229 | 1.000 | 4872.00* | 1.43E+000 +/- 2.48E-001 | 5.10E-002 +/- 8.81E-003 |
| TH-230 | 0.976 | 4672.00* | 1.46E+000 +/- 3.44E-001 | 4.04E-002 +/- 6.99E-003 |
| TH-232 | 0.970 | 3997.00* | 1.03E+000 +/- 2.64E-001 | 5.80E-002 +/- 1.00E-002 |

AG
10/29/15

0000132519.CNF

Live Time :10200.000 sec
Real Time :10200.300 sec
Start : 1:3440.1(keV)
Stop : 1024.6487.6(keV)
Acq. Start :Wed Oct 28 17:09:20 2015



ROI Type: 3

ROI Type: 1

002000

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 18

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 57: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 73: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| 81: | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 97: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 105: | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 113: | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 121: | 2 | 2 | 0 | 0 | 3 | 0 | 0 | 1 | 1 |
| 129: | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 0 | 0 |
| 137: | 1 | 0 | 2 | 0 | 1 | 0 | 2 | 3 | 3 |
| 145: | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 2 |
| 153: | 1 | 1 | 2 | 0 | 1 | 1 | 3 | 2 | 2 |
| 161: | 0 | 1 | 4 | 2 | 2 | 1 | 1 | 3 | 3 |
| 169: | 0 | 0 | 1 | 5 | 1 | 4 | 2 | 6 | 6 |
| 177: | 4 | 1 | 0 | 3 | 2 | 3 | 0 | 3 | 3 |
| 185: | 1 | 1 | 2 | 1 | 0 | 3 | 1 | 1 | 1 |
| 193: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 233: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 249: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 305: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 313: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 329: | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 0 | 0 |
| 337: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| 345: | 2 | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 1 |
| 353: | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 |
| 361: | 0 | 2 | 1 | 2 | 0 | 2 | 3 | 1 | 1 |

369: 0 0 0 0 1 1 0 2

Sample Title: 18

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 2 | 1 | 1 | 0 | 1 | 1 | 2 | 2 |
| 385: | 1 | 3 | 1 | 4 | 3 | 4 | 0 | 0 |
| 393: | 3 | 1 | 2 | 2 | 5 | 2 | 3 | 3 |
| 401: | 6 | 2 | 2 | 0 | 2 | 5 | 2 | 3 |
| 409: | 6 | 3 | 4 | 7 | 4 | 1 | 2 | 2 |
| 417: | 0 | 4 | 3 | 2 | 0 | 1 | 0 | 2 |
| 425: | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 0 |
| 433: | 3 | 1 | 1 | 1 | 0 | 2 | 1 | 1 |
| 441: | 1 | 1 | 2 | 3 | 4 | 2 | 3 | 0 |
| 449: | 2 | 0 | 2 | 1 | 1 | 1 | 1 | 2 |
| 457: | 1 | 4 | 1 | 1 | 4 | 1 | 2 | 2 |
| 465: | 2 | 1 | 1 | 0 | 4 | 2 | 5 | 4 |
| 473: | 2 | 3 | 3 | 2 | 2 | 4 | 2 | 0 |
| 481: | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 |
| 489: | 1 | 1 | 4 | 4 | 2 | 1 | 0 | 1 |
| 497: | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 2 |
| 505: | 3 | 0 | 0 | 0 | 1 | 2 | 0 | 2 |
| 513: | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 |
| 521: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 529: | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 |
| 537: | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 |
| 545: | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 561: | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 |
| 569: | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 577: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 585: | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 0 |
| 593: | 0 | 1 | 0 | 2 | 1 | 1 | 0 | 1 |
| 601: | 0 | 1 | 0 | 0 | 0 | 3 | 3 | 1 |
| 609: | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 |
| 617: | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| 625: | 2 | 2 | 1 | 0 | 1 | 2 | 1 | 2 |
| 633: | 3 | 3 | 0 | 3 | 3 | 3 | 4 | 0 |
| 641: | 2 | 1 | 4 | 2 | 1 | 3 | 1 | 3 |
| 649: | 2 | 0 | 0 | 1 | 3 | 2 | 0 | 5 |
| 657: | 5 | 0 | 2 | 3 | 2 | 3 | 2 | 4 |
| 665: | 4 | 6 | 2 | 1 | 1 | 5 | 0 | 2 |
| 673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 681: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 705: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 721: | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 |
| 729: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 737: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 745: | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| 753: | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| 761: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 769: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 793: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 18

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 841: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 857: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 961: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 977: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 985: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

KB
10/28/15

Apex-Alpha™

Sample Description: CP5006S19-20
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 19
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_055
 Chamber Serial Number: 10006124A
 Detector Serial Number: 55
 Env. Background: System Bkgd 132600
 Reagent Blank: <not performed>

Sample Size: 1.523E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:09:22 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.225 mL
 Effective Efficiency: 0.1627 +/- 0.0147
 Counting Efficiency: 0.1564 +/- 0.0028 on 12/13/2014 2:35:48 PM
 Chem. Recovery Factor: 1.0405 +/- 0.0960

Peak Match Tolerance: 0.175 MeV

 PEAK AREA REPORT

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.840 | 11.32 | 60.27 | 0.68 | 0.00E+000 | 3.0 |
| TH-228 | 5.373 | 126.98 | 17.48 | 1.02 | 0.00E+000 | 6.9 |
| TH-229 T | 4.871 | 139.81 | 16.66 | 1.19 | 0.00E+000 | 3.0 |
| TH-230 | 4.635 | 144.81 | 16.37 | 1.19 | 0.00E+000 | 4.3 |
| TH-232 | 3.966 | 113.98 | 18.45 | 1.02 | 0.00E+000 | 4.9 |

T = Tracer Peak used for Effective Efficiency

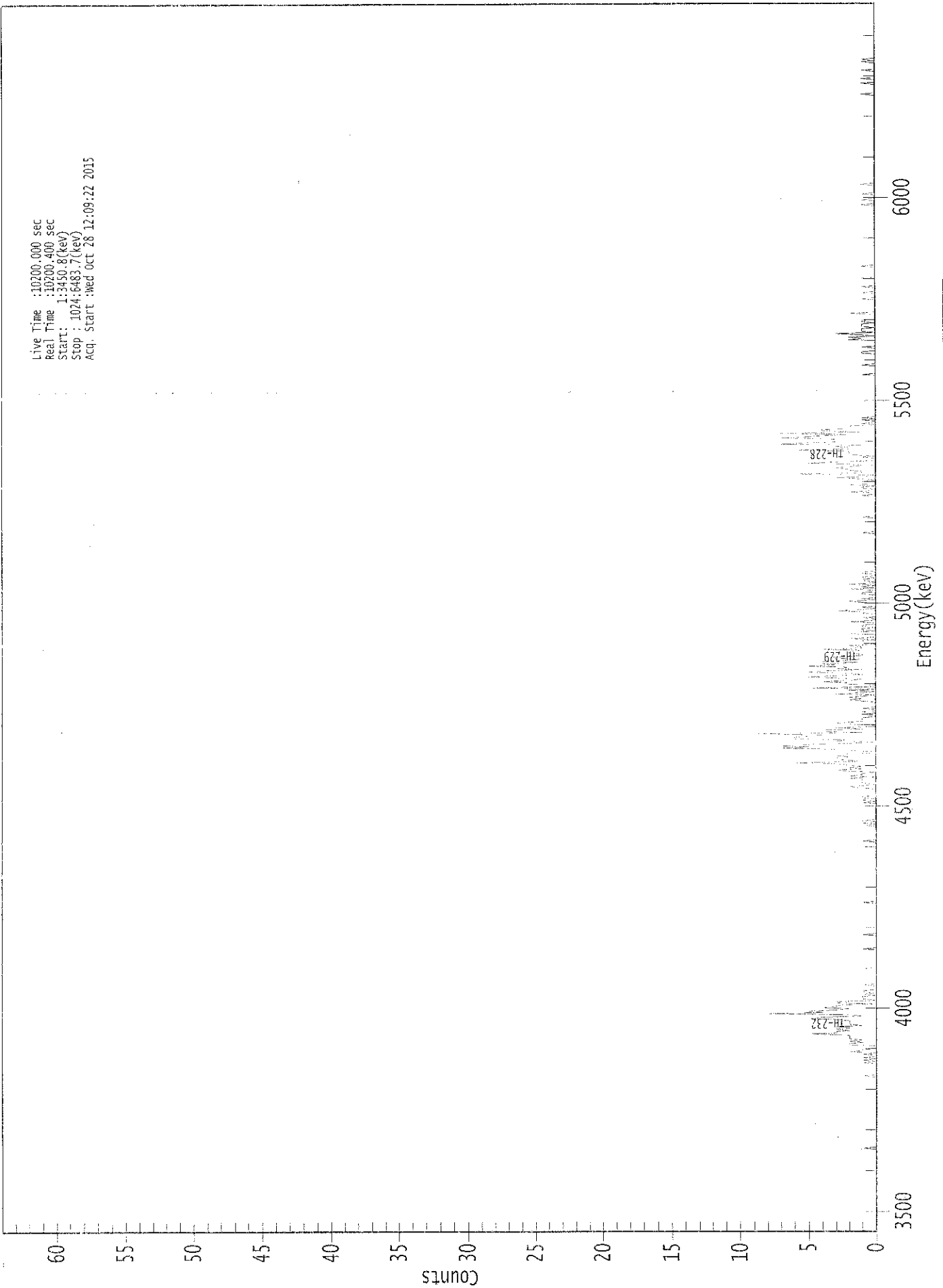
 NUCLIDE ANALYSIS RESULTS

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.999 | 5850.00* | 1.24E-001 +/- 7.81E-002 | 6.20E-002 +/- 1.10E-002 |
| TH-228 | 0.996 | 5400.00* | 1.39E+000 +/- 3.45E-001 | 6.88E-002 +/- 1.22E-002 |
| TH-229 | 1.000 | 4872.00* | 1.50E+000 +/- 2.66E-001 | 7.08E-002 +/- 1.25E-002 |
| TH-230 | 0.993 | 4672.00* | 1.55E+000 +/- 3.74E-001 | 7.06E-002 +/- 1.25E-002 |
| TH-232 | 0.995 | 3997.00* | 1.22E+000 +/- 3.12E-001 | 6.73E-002 +/- 1.19E-002 |

AG
 10/29/15

0000132520.CNF

Live Time : 10200.000 sec
Real Time : 10200.400 sec
Start : 1:34:50.8 (keV)
Stop : 1024:6483.7 (keV)
Acq. Start : Wed Oct 28 12:09:22 2015



ROI Type: 3

ROI Type: 1

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 19

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 73: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 145: | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 1 |
| 153: | 0 | 0 | 0 | 2 | 2 | 1 | 2 | 1 | 1 |
| 161: | 2 | 2 | 2 | 2 | 5 | 3 | 3 | 2 | 2 |
| 169: | 3 | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 2 |
| 177: | 3 | 5 | 4 | 1 | 2 | 8 | 4 | 5 | 5 |
| 185: | 3 | 2 | 4 | 3 | 3 | 0 | 3 | 3 | 3 |
| 193: | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
| 201: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 233: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 273: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 321: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 337: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 353: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 361: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

369: 0 1 2 1 0 1 1 1

Sample Title: 19

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 377: | 1 | 2 | 0 | 2 | 1 | 1 | 0 | 2 | |
| 385: | 3 | 1 | 2 | 1 | 2 | 3 | 6 | 1 | |
| 393: | 2 | 3 | 3 | 2 | 3 | 3 | 0 | 0 | |
| 401: | 2 | 3 | 7 | 5 | 7 | 5 | 2 | 0 | |
| 409: | 3 | 2 | 6 | 6 | 5 | 4 | 9 | 1 | |
| 417: | 4 | 4 | 1 | 3 | 0 | 0 | 2 | 3 | |
| 425: | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | |
| 433: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 441: | 0 | 1 | 2 | 1 | 2 | 1 | 0 | 3 | |
| 449: | 1 | 0 | 2 | 0 | 5 | 0 | 0 | 2 | |
| 457: | 2 | 4 | 2 | 1 | 3 | 5 | 3 | 1 | |
| 465: | 2 | 5 | 4 | 1 | 3 | 2 | 5 | 3 | |
| 473: | 4 | 1 | 4 | 2 | 1 | 4 | 2 | 1 | |
| 481: | 1 | 2 | 2 | 1 | 4 | 1 | 1 | 2 | |
| 489: | 0 | 1 | 1 | 1 | 0 | 2 | 0 | 0 | |
| 497: | 0 | 2 | 2 | 0 | 1 | 1 | 0 | 1 | |
| 505: | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | |
| 513: | 0 | 0 | 1 | 1 | 3 | 1 | 0 | 1 | |
| 521: | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | |
| 529: | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | |
| 537: | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | |
| 545: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | |
| 553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 577: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 593: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 609: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | |
| 617: | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | |
| 625: | 1 | 0 | 1 | 3 | 1 | 0 | 6 | 1 | |
| 633: | 1 | 2 | 2 | 3 | 2 | 1 | 2 | 5 | |
| 641: | 3 | 0 | 0 | 0 | 1 | 0 | 2 | 2 | |
| 649: | 2 | 2 | 6 | 2 | 2 | 3 | 1 | 7 | |
| 657: | 5 | 3 | 3 | 3 | 7 | 5 | 4 | 2 | |
| 665: | 7 | 1 | 4 | 4 | 2 | 2 | 2 | 0 | |
| 673: | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 713: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 721: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 729: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | |
| 737: | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | |
| 745: | 2 | 0 | 1 | 3 | 0 | 1 | 1 | 1 | |
| 753: | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | |
| 761: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 777: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 785: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 793: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |

801: 0 0 0 1 0 0 0 0

Sample Title: 19

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 857: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 961: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



KB
10/29/15

Sample Description: CP5006S22-23
 Spectrum File: \\OR-ALPHA1\Canberra\ApexAlpha\Root\Data\00001325
 Batch Identification: 1510085A-TH
 Sample Identification: 20
 Sample Geometry: Shelf 2
 Procedure Description: Th iso

Detector Name: Alpha_056
 Chamber Serial Number: 10006124B
 Detector Serial Number: 56
 Env. Background: System Bkgd 132601
 Reagent Blank: <not performed>

Sample Size: 1.572E+000 +/- 0.000E+000 gram
 Sample Date/Time: 10/7/2015 7:19:18 AM
 Acquisition Date/Time: 10/28/2015 12:09:25 PM
 Acquisition Live Time: 170.0 minutes
 Acquisition Real Time: 170.0 minutes

Tracer Certificate: Th229_S_TH-18A
 Tracer Quantity: 0.224 mL
 Effective Efficiency: 0.1680 +/- 0.0150
 Counting Efficiency: 0.1600 +/- 0.0028 on 12/13/2014 2:30:22 PM
 Chem. Recovery Factor: 1.0498 +/- 0.0959

Peak Match Tolerance: 0.175 MeV

 ----- PEAK AREA REPORT -----

| Nuclide | Energy (MeV) | Net Pk Area | Pk Area Error % | Ambient Backgnd | Reagent Backgnd | FWHM (keV) |
|----------|--------------|-------------|-----------------|-----------------|-----------------|------------|
| TH-227 | 5.831 | 12.13 | 61.14 | 1.87 | 0.00E+000 | 3.0 |
| TH-228 | 5.349 | 113.96 | 18.55 | 2.04 | 0.00E+000 | 4.4 |
| TH-229 T | 4.862 | 143.96 | 16.47 | 2.04 | 0.00E+000 | 3.7 |
| TH-230 | 4.607 | 150.98 | 16.01 | 1.02 | 0.00E+000 | 5.9 |
| TH-232 | 3.938 | 128.98 | 17.34 | 1.02 | 0.00E+000 | 7.9 |

T = Tracer Peak used for Effective Efficiency

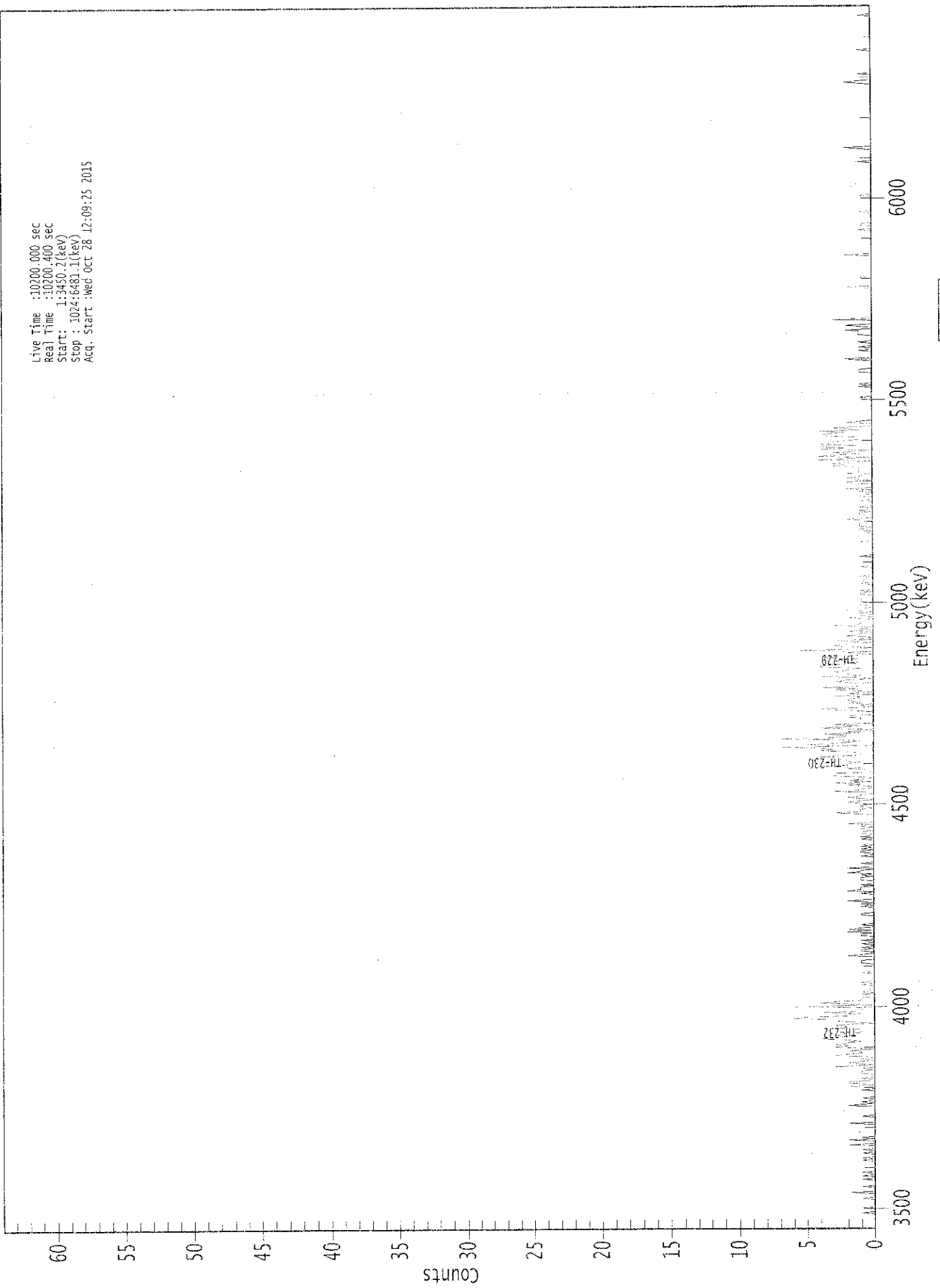
 ----- NUCLIDE ANALYSIS RESULTS -----

| Nuclide | Id Conf. | Energy (keV) | Activity (pCi/gram) | MDA (pCi/gram) |
|---------|----------|--------------|-------------------------|-------------------------|
| TH-227 | 0.998 | 5850.00* | 1.25E-001 +/- 7.96E-002 | 7.81E-002 +/- 1.37E-002 |
| TH-228 | 0.987 | 5400.00* | 1.17E+000 +/- 2.98E-001 | 7.99E-002 +/- 1.40E-002 |
| TH-229 | 0.999 | 4872.00* | 1.45E+000 +/- 2.55E-001 | 7.85E-002 +/- 1.38E-002 |
| TH-230 | 0.978 | 4672.00* | 1.52E+000 +/- 3.61E-001 | 6.33E-002 +/- 1.11E-002 |
| TH-232 | 0.982 | 3997.00* | 1.29E+000 +/- 3.19E-001 | 6.32E-002 +/- 1.11E-002 |

AG
10/29/15

0000132521.CNF

Live Time :10200.000 sec
Real Time :10200.400 sec
Start : 1:34:50.2(keV)
Stop : 1024:6481.1(keV)
Acq. Start :Wed Oct 28 12:09:25 2015



ROI Type: 1

ROI Type: 3

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: 20

Elapsed Live time: 10200

Elapsed Real Time: 10200

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 17: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 33: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 41: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 49: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 65: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| 73: | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 81: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 97: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 105: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 113: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 121: | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 1 | 0 |
| 129: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| 137: | 3 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 |
| 145: | 1 | 3 | 2 | 1 | 1 | 2 | 0 | 0 | 1 |
| 153: | 3 | 2 | 3 | 2 | 2 | 1 | 2 | 2 | 4 |
| 161: | 3 | 2 | 3 | 3 | 1 | 1 | 1 | 1 | 1 |
| 169: | 3 | 2 | 3 | 2 | 0 | 2 | 2 | 3 | 3 |
| 177: | 6 | 5 | 2 | 2 | 1 | 4 | 1 | 1 | 1 |
| 185: | 1 | 1 | 6 | 0 | 2 | 4 | 3 | 1 | 1 |
| 193: | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 201: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 225: | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| 233: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 241: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 249: | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 |
| 257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 265: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 273: | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 281: | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 1 |
| 289: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 297: | 0 | 2 | 1 | 1 | 0 | 2 | 0 | 0 | 0 |
| 305: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 313: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| 321: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 329: | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 337: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345: | 0 | 0 | 1 | 3 | 1 | 1 | 1 | 1 | 0 |
| 353: | 1 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 1 |
| 361: | 2 | 1 | 1 | 0 | 0 | 3 | 1 | 1 | 1 |

369: 0 0 2 1 3 0 2 1

Sample Title: 20

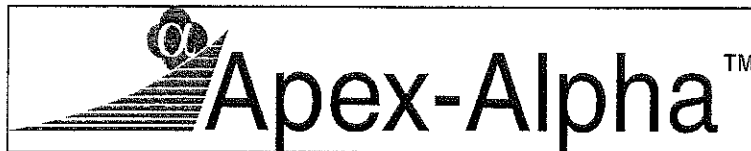
| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 377: | 0 | 1 | 3 | 3 | 3 | 0 | 0 | 0 |
| 385: | 2 | 1 | 4 | 2 | 2 | 1 | 2 | 2 |
| 393: | 3 | 3 | 4 | 1 | 1 | 1 | 2 | 4 |
| 401: | 3 | 4 | 7 | 0 | 5 | 3 | 2 | 1 |
| 409: | 2 | 7 | 3 | 2 | 2 | 4 | 1 | 2 |
| 417: | 0 | 1 | 4 | 2 | 1 | 3 | 1 | 1 |
| 425: | 1 | 1 | 1 | 2 | 2 | 0 | 0 | 0 |
| 433: | 1 | 3 | 4 | 1 | 0 | 1 | 0 | 2 |
| 441: | 1 | 2 | 2 | 1 | 1 | 3 | 0 | 2 |
| 449: | 0 | 1 | 3 | 1 | 4 | 1 | 1 | 1 |
| 457: | 2 | 3 | 2 | 0 | 1 | 4 | 1 | 2 |
| 465: | 2 | 3 | 2 | 2 | 1 | 4 | 4 | 3 |
| 473: | 1 | 1 | 3 | 2 | 1 | 4 | 2 | 1 |
| 481: | 0 | 2 | 0 | 6 | 2 | 0 | 2 | 3 |
| 489: | 2 | 2 | 1 | 3 | 0 | 1 | 0 | 2 |
| 497: | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 1 |
| 505: | 3 | 1 | 1 | 0 | 0 | 0 | 2 | 0 |
| 513: | 1 | 0 | 1 | 0 | 2 | 2 | 1 | 0 |
| 521: | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 529: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 537: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 545: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 553: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 561: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 569: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 577: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 585: | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 593: | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 0 |
| 601: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 609: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 617: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 625: | 2 | 0 | 1 | 2 | 1 | 1 | 0 | 2 |
| 633: | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 3 |
| 641: | 2 | 0 | 4 | 2 | 0 | 4 | 3 | 1 |
| 649: | 3 | 1 | 0 | 4 | 2 | 4 | 1 | 4 |
| 657: | 3 | 3 | 2 | 1 | 1 | 1 | 4 | 4 |
| 665: | 3 | 2 | 4 | 1 | 2 | 3 | 0 | 0 |
| 673: | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 689: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 705: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 713: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 721: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| 729: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 737: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 745: | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 0 |
| 753: | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| 761: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 785: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 793: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

801: 0 0 0 0 0 0 0 0 0

Sample Title: 20

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 833: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 849: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 889: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 897: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 953: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 961: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 985: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1009: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0308A



QA SUMMARY REPORT

Review Of QA Results - Pulser Check

Date : 10/28/2015
Time : 5:50:32 AM

| CHAMBER | DEVICE | PARAMETER | FLAG | DATE |
|-----------|--------------------|-------------|----------|-----------------------|
| Alpha 001 | 21f | ALL | Not Done | |
| Alpha 002 | 21f | ALL | Not Done | |
| Alpha 003 | 21f | ALL | Passed | 10/28/2015 5:25:05 AM |
| Alpha 004 | 21f | ALL | Passed | 10/28/2015 5:25:06 AM |
| Alpha 005 | 21f | ALL | Not Done | |
| Alpha 006 | 21f | ALL | Not Done | |
| Alpha 007 | 21f | ALL | Not Done | |
| Alpha 008 | 21f | ALL | Not Done | |
| Alpha 009 | 21f | ALL | Not Done | |
| Alpha 010 | 21f | ALL | Passed | 10/28/2015 5:25:06 AM |
| Alpha 011 | 21f | ALL | Passed | 10/28/2015 5:25:07 AM |
| Alpha 012 | 21f | ALL | Passed | 10/28/2015 5:25:08 AM |
| Alpha 013 | 21f | ALL | Not Done | |
| Alpha 014 | 21f | ALL | Passed | 10/28/2015 5:25:09 AM |
| Alpha 015 | 21f | ALL | Passed | 10/28/2015 5:25:10 AM |
| Alpha 016 | 21f | ALL | Not Done | |
| Alpha 033 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:11 AM |
| Alpha 034 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:13 AM |
| Alpha 035 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:15 AM |
| Alpha 036 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:16 AM |
| Alpha 037 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:18 AM |
| Alpha 038 | Alpha Analyst100DC | Peak Energy | Action | 10/28/2015 5:25:20 AM |
| Alpha 039 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:21 AM |
| Alpha 040 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:24 AM |
| Alpha 041 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:26 AM |
| Alpha 042 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:28 AM |
| Alpha 043 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:31 AM |
| Alpha 044 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:33 AM |
| Alpha 045 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:35 AM |
| Alpha 046 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:38 AM |
| Alpha 047 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:40 AM |
| Alpha 048 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:43 AM |
| Alpha 049 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:45 AM |
| Alpha 050 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:48 AM |
| Alpha 051 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:50 AM |
| Alpha 052 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:53 AM |
| Alpha 053 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:56 AM |
| Alpha 054 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:25:58 AM |
| Alpha 055 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:26:01 AM |
| Alpha 056 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:26:04 AM |
| Alpha 057 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:26:07 AM |
| Alpha 058 | Alpha Analyst100DC | ALL | Passed | 10/28/2015 5:26:09 AM |

 ***** LIBRARY LISTING REPORT *****

Nuclide Library Title: Thorium

Nuclide Library Description: Th-227,-228,-229,-230,-232

| Nuclide Name | Half-Life (Seconds) | Energy (keV) | Energy Uncert. (keV) | Yield (%) | Yield Uncert. (Abs.+) |
|-----------------|------------------------|------------------|--------------------------|--------------|--------------------------|
| TH-227 | 6.873E+008 | 5850.000* | 0.000 | 97.5000 | 0.0000 |
| TH-228 | 6.034E+007 | 5400.000* | 0.000 | 99.9400 | 0.0000 |
| TH-229 | 2.487E+011 | 4872.000* | 0.000 | 99.5200 | 0.0000 |
| TH-230 | 2.379E+012 | 4672.000* | 0.000 | 99.8200 | 0.0000 |
| TH-232 | 4.434E+017 | 3997.000* | 0.000 | 100.0000 | 0.0000 |

* = key line

TOTALS: 5 Nuclides 5 Energy Lines

SECTION X
ANALYTICAL DATA (GAMMA SPECTROSCOPY)

| | |
|-----------------------------|---------------------------|
| Work Order | 15-10085 |
| Analysis Code | Gamma |
| Run | 1 |
| Date Received | 10/14/2015 |
| Lab Deadline | 11/6/2015 |
| Client | Auxier & Associates, Inc. |
| Project | PAP-KAN |
| Report Level | 4 |
| Activity Units | pCi |
| Aliquot Units | g |
| Matrix | SO |
| Method | LANL ER-130 Modified |
| Instrument Type | Gamma Spectroscopy |
| Radiometric Tracer | |
| Radiometric Sol# | |
| Tracer Act (dpm/g) | |
| Carrier | |
| Carrier Conc (mg/ml) | |
| | |
| | |
| | |

| Internal Fraction | Sample Desc | Client ID | Login CPM | Sample Date | Sample Aliquot |
|-------------------|-------------|--------------|-----------|----------------|----------------|
| 01 | LCS | LCS | | 10/14/15 00:00 | 1.0000E+00 |
| 02 | MBL | BLANK | | 10/14/15 00:00 | 1.0000E+00 |
| 03 | DUP | CP5007S01-02 | 39 | 10/07/15 14:20 | 6.3623E+02 |
| 04 | DO | CP5007S01-02 | 39 | 10/07/15 14:20 | 6.3626E+02 |
| 05 | TRG | CP5007S03-04 | 34 | 10/07/15 14:30 | 5.7581E+02 |
| 06 | TRG | CP5007S06-07 | 32 | 10/07/15 14:40 | 5.7085E+02 |
| 07 | TRG | CP5007S08-09 | 33 | 10/07/15 14:50 | 5.8282E+02 |
| 08 | TRG | CP5007S11-12 | 36 | 10/07/15 15:10 | 5.4052E+02 |
| 09 | TRG | CP5007S13-14 | 34 | 10/07/15 15:20 | 5.3086E+02 |
| 10 | TRG | CP5007S16-17 | 34 | 10/07/15 15:30 | 5.4584E+02 |
| 11 | TRG | CP5006S01-02 | 34 | 10/07/15 16:00 | 5.1543E+02 |
| 12 | TRG | CP5006S03-04 | 32 | 10/07/15 16:10 | 5.7273E+02 |
| 13 | TRG | CP5006S04-05 | 38 | 10/07/15 16:20 | 4.8112E+02 |
| 14 | TRG | CP5006S07-08 | 37 | 10/07/15 16:30 | 4.9325E+02 |
| 15 | TRG | CP5006S09-10 | 36 | 10/07/15 16:40 | 5.4786E+02 |
| 16 | TRG | CP5006S12-13 | 36 | 10/07/15 16:50 | 5.1475E+02 |
| 17 | TRG | CP5006S14-15 | 36 | 10/07/15 17:00 | 5.5009E+02 |
| 18 | TRG | CP5006S17-18 | 34 | 10/07/15 17:10 | 5.4349E+02 |
| 19 | TRG | CP5006S19-20 | 33 | 10/07/15 17:20 | 5.3930E+02 |
| 20 | TRG | CP5006S22-23 | 35 | 10/07/15 17:30 | 5.8724E+02 |

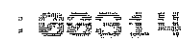
* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

10/16/2015 10:37 AM

| Internal Fraction | Sample Desc | Tracer Aliquot (g) | Tracer Total ACT (dpm) | Radiometric Tracer (pCi) | Radiometric % Rec | Grav Carrier Added (ml) | Grav Filter Tare (g) | Grav Filter Final (g) | Grav Filter Net (g) | Grav % Rec | Mean % Rec | SAF 1* | SAF 2* |
|-------------------|-------------|--------------------|------------------------|--------------------------|-------------------|-------------------------|----------------------|-----------------------|---------------------|------------|------------|--------|--------|
| 01 | LCS | | | | 0.00 | | | | | | | | |
| 02 | MBL | | | | 0.00 | | | | | | | | |
| 03 | DUP | | | | 0.00 | | | | | | | | |
| 04 | DO | | | | 0.00 | | | | | | | | |
| 05 | TRG | | | | 0.00 | | | | | | | | |
| 06 | TRG | | | | 0.00 | | | | | | | | |
| 07 | TRG | | | | 0.00 | | | | | | | | |
| 08 | TRG | | | | 0.00 | | | | | | | | |
| 09 | TRG | | | | 0.00 | | | | | | | | |
| 10 | TRG | | | | 0.00 | | | | | | | | |
| 11 | TRG | | | | 0.00 | | | | | | | | |
| 12 | TRG | | | | 0.00 | | | | | | | | |
| 13 | TRG | | | | 0.00 | | | | | | | | |
| 14 | TRG | | | | 0.00 | | | | | | | | |
| 15 | TRG | | | | 0.00 | | | | | | | | |
| 16 | TRG | | | | 0.00 | | | | | | | | |
| 17 | TRG | | | | 0.00 | | | | | | | | |
| 18 | TRG | | | | 0.00 | | | | | | | | |
| 19 | TRG | | | | 0.00 | | | | | | | | |
| 20 | TRG | | | | 0.00 | | | | | | | | |

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.

** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.



| Internal Fraction | Sample Desc | Rough Prep Date | Rough Prep By | Prep Date | Prep By | Sep t0 Date/Time | Sep t0 By | Sep t1 Date/Time | Sep t1 By |
|-------------------|-------------|-----------------|---------------|-----------|---------|------------------|-----------|------------------|-----------|
| 01 | LCS | | | | | | | | |
| 02 | MBL | | | | | | | | |
| 03 | DUP | | | | | | | | |
| 04 | DO | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 05 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 06 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 07 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 08 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 09 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 10 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 11 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 12 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 13 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 14 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 15 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 16 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 17 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 18 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 19 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |
| 20 | TRG | 10/16/15 07:29 | KSALLINGS | | | | | | |

* SAF1 is used for Gross Alpha and all other radionuclides. SAF2 is used for Gross Beta only. ^ Indicates estimated SAF value.
 ** Actual mass exceeded the calibration curve range. Results should be qualified as appropriate.

10/16/15

Preliminary Data Report & Analytical Calculations
Work Order: 15-10085-Gamma-1

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LSC Known | LCS %R | LCS Flag | RPD Flag | Sample Date | Sample Aliquot | Counting Date/Time | Identified |
|--------------|---------|-------------|-----------------------|----------------|-----------|----------------|----------|-----------|--------|----------|----------|----------------|----------------|--------------------|------------|
| 01 | CO-60 | LCS | LCS | pCi/g | 1.36E+02 | 7.89E+00 | 9.82E-01 | 1.37E+02 | 99.56 | OK | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | YES |
| 01 | CS-137 | LCS | LCS | pCi/g | 8.90E+01 | 7.89E+00 | 1.36E+00 | 8.69E+01 | 102.40 | OK | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | YES |
| 02 | AC-228 | MBL | BLANK | pCi/g | -2.36E-02 | 1.38E-01 | 1.87E-01 | | | | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | NO |
| 02 | BI-214 | MBL | BLANK | pCi/g | 5.04E-02 | 9.49E-02 | 1.66E-01 | | | | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | NO |
| 02 | K-40 | MBL | BLANK | pCi/g | 2.18E-01 | 4.00E-01 | 8.46E-01 | | | | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | NO |
| 02 | PB-212 | MBL | BLANK | pCi/g | 2.28E-02 | 5.56E-02 | 9.31E-02 | | | | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | NO |
| 02 | PB-214 | MBL | BLANK | pCi/g | 3.44E-02 | 7.56E-02 | 1.31E-01 | | | | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | NO |
| 02 | RA-226 | MBL | BLANK | pCi/g | 5.04E-02 | 9.49E-02 | 1.66E-01 | | | | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | NO |
| 02 | RA-228 | MBL | BLANK | pCi/g | -2.36E-02 | 1.38E-01 | 1.87E-01 | | | | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | NO |
| 02 | TH-234 | MBL | BLANK | pCi/g | 2.49E-01 | 3.98E-01 | 6.51E-01 | | | | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | NO |
| 02 | TL-208 | MBL | BLANK | pCi/g | 1.07E-02 | 1.11E-01 | 1.88E-01 | | | | | 10/14/15 00:00 | 1.00E+00 | 11/05/15 06:09 | NO |
| 03 | AC-228 | DUP | CP5007S01-02 | pCi/g | 1.28E+00 | 1.95E-01 | 4.28E-01 | | | | OK | 10/07/15 14:20 | 6.36E+02 | 11/06/15 06:08 | YES |
| 03 | BI-214 | DUP | CP5007S01-02 | pCi/g | 2.30E+00 | 2.10E-01 | 2.23E-01 | | | | OK | 10/07/15 14:20 | 6.36E+02 | 11/06/15 06:08 | YES |
| 03 | K-40 | DUP | CP5007S01-02 | pCi/g | 2.02E+01 | 2.23E+00 | 9.98E-01 | | | | OK | 10/07/15 14:20 | 6.36E+02 | 11/06/15 06:08 | YES |
| 03 | PB-212 | DUP | CP5007S01-02 | pCi/g | 1.31E+00 | 1.53E-01 | 3.02E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 06:08 | YES |
| 03 | PB-214 | DUP | CP5007S01-02 | pCi/g | 2.53E+00 | 2.08E-01 | 2.46E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 06:08 | YES |
| 03 | RA-226 | DUP | CP5007S01-02 | pCi/g | 2.30E+00 | 2.10E-01 | 2.23E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 06:08 | YES |
| 03 | RA-228 | DUP | CP5007S01-02 | pCi/g | 1.28E+00 | 1.95E-01 | 4.28E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 06:08 | YES |
| 03 | TH-234 | DUP | CP5007S01-02 | pCi/g | 1.97E+00 | 1.67E+00 | 2.78E+00 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 06:08 | YES |
| 03 | TL-208 | DUP | CP5007S01-02 | pCi/g | 1.13E+00 | 1.61E-01 | 8.07E-02 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 06:08 | YES |
| 04 | AC-228 | DO | CP5007S01-02 | pCi/g | 1.17E+00 | 2.12E-01 | 3.73E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 07:10 | YES |
| 04 | BI-214 | DO | CP5007S01-02 | pCi/g | 2.25E+00 | 2.17E-01 | 2.24E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 07:10 | YES |
| 04 | K-40 | DO | CP5007S01-02 | pCi/g | 1.80E+01 | 2.05E+00 | 9.94E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 07:10 | YES |
| 04 | PB-212 | DO | CP5007S01-02 | pCi/g | 1.38E+00 | 1.59E-01 | 2.49E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 07:10 | YES |
| 04 | PB-214 | DO | CP5007S01-02 | pCi/g | 2.44E+00 | 2.07E-01 | 2.56E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 07:10 | YES |
| 04 | RA-226 | DO | CP5007S01-02 | pCi/g | 2.25E+00 | 2.17E-01 | 2.24E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 07:10 | YES |
| 04 | RA-228 | DO | CP5007S01-02 | pCi/g | 1.17E+00 | 2.12E-01 | 3.73E-01 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 07:10 | YES |
| 04 | TH-234 | DO | CP5007S01-02 | pCi/g | 2.14E+00 | 1.93E+00 | 3.21E+00 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 07:10 | YES |
| 04 | TL-208 | DO | CP5007S01-02 | pCi/g | 9.57E-01 | 1.49E-01 | 8.07E-02 | | | | | 10/07/15 14:20 | 6.36E+02 | 11/06/15 07:10 | YES |
| 05 | AC-228 | TRG | CP5007S03-04 | pCi/g | 1.42E+00 | 1.99E-01 | 2.79E-01 | | | | | 10/07/15 14:30 | 5.76E+02 | 11/06/15 06:08 | YES |
| 05 | BI-214 | TRG | CP5007S03-04 | pCi/g | 1.26E+00 | 1.47E-01 | 3.21E-01 | | | | | 10/07/15 14:30 | 5.76E+02 | 11/06/15 06:08 | YES |
| 05 | K-40 | TRG | CP5007S03-04 | pCi/g | 1.81E+01 | 2.32E+00 | 1.34E+00 | | | | | 10/07/15 14:30 | 5.76E+02 | 11/06/15 06:08 | YES |
| 05 | PB-212 | TRG | CP5007S03-04 | pCi/g | 1.52E+00 | 1.82E-01 | 2.16E-01 | | | | | 10/07/15 14:30 | 5.76E+02 | 11/06/15 06:08 | YES |
| 05 | PB-214 | TRG | CP5007S03-04 | pCi/g | 1.40E+00 | 1.57E-01 | 2.11E-01 | | | | | 10/07/15 14:30 | 5.76E+02 | 11/06/15 06:08 | YES |
| 05 | RA-226 | TRG | CP5007S03-04 | pCi/g | 1.26E+00 | 1.47E-01 | 3.21E-01 | | | | | 10/07/15 14:30 | 5.76E+02 | 11/06/15 06:08 | YES |
| 05 | RA-228 | TRG | CP5007S03-04 | pCi/g | 1.42E+00 | 1.99E-01 | 2.79E-01 | | | | | 10/07/15 14:30 | 5.76E+02 | 11/06/15 06:08 | YES |
| 05 | TH-234 | TRG | CP5007S03-04 | pCi/g | 2.14E+00 | 9.37E-01 | 1.54E+00 | | | | | 10/07/15 14:30 | 5.76E+02 | 11/06/15 06:08 | NO |
| 05 | TL-208 | TRG | CP5007S03-04 | pCi/g | 1.14E+00 | 1.64E-01 | 1.63E-01 | | | | | 10/07/15 14:30 | 5.76E+02 | 11/06/15 06:08 | YES |

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LSC Known | LCS %R | LCS Flag | RPD Flag | Sample Date | Sample Aliquot | Counting Date/Time | Identified |
|--------------|---------|-------------|-----------------------|----------------|----------|----------------|----------|-----------|--------|----------|----------|----------------|----------------|--------------------|------------|
| 06 | AC-228 | TRG | CP5007S06-07 | pCi/g | 1.32E+00 | 3.06E-01 | 5.84E-01 | | | | | 10/07/15 14:40 | 5.71E+02 | 11/06/15 06:08 | YES |
| 06 | BI-214 | TRG | CP5007S06-07 | pCi/g | 1.38E+00 | 1.96E-01 | 2.46E-01 | | | | | 10/07/15 14:40 | 5.71E+02 | 11/06/15 06:08 | YES |
| 06 | K-40 | TRG | CP5007S06-07 | pCi/g | 2.01E+01 | 2.68E+00 | 2.18E+00 | | | | | 10/07/15 14:40 | 5.71E+02 | 11/06/15 06:08 | YES |
| 06 | PB-212 | TRG | CP5007S06-07 | pCi/g | 1.53E+00 | 1.77E-01 | 2.90E-01 | | | | | 10/07/15 14:40 | 5.71E+02 | 11/06/15 06:08 | YES |
| 06 | PB-214 | TRG | CP5007S06-07 | pCi/g | 1.41E+00 | 1.87E-01 | 2.59E-01 | | | | | 10/07/15 14:40 | 5.71E+02 | 11/06/15 06:08 | YES |
| 06 | RA-226 | TRG | CP5007S06-07 | pCi/g | 1.38E+00 | 1.96E-01 | 2.46E-01 | | | | | 10/07/15 14:40 | 5.71E+02 | 11/06/15 06:08 | YES |
| 06 | RA-228 | TRG | CP5007S06-07 | pCi/g | 1.32E+00 | 3.06E-01 | 5.84E-01 | | | | | 10/07/15 14:40 | 5.71E+02 | 11/06/15 06:08 | YES |
| 06 | TH-234 | TRG | CP5007S06-07 | pCi/g | 1.86E+00 | 1.61E+00 | 2.16E+00 | | | | | 10/07/15 14:40 | 5.71E+02 | 11/06/15 06:08 | NO |
| 06 | TL-208 | TRG | CP5007S06-07 | pCi/g | 1.16E+00 | 2.00E-01 | 2.03E-01 | | | | | 10/07/15 14:40 | 5.71E+02 | 11/06/15 06:08 | YES |
| 07 | AC-228 | TRG | CP5007S08-09 | pCi/g | 1.70E+00 | 5.94E-01 | 1.04E+00 | | | | | 10/07/15 14:50 | 5.83E+02 | 11/06/15 06:08 | YES |
| 07 | BI-214 | TRG | CP5007S08-09 | pCi/g | 1.35E+00 | 3.06E-01 | 4.96E-01 | | | | | 10/07/15 14:50 | 5.83E+02 | 11/06/15 06:08 | YES |
| 07 | K-40 | TRG | CP5007S08-09 | pCi/g | 1.84E+01 | 3.18E+00 | 1.70E+00 | | | | | 10/07/15 14:50 | 5.83E+02 | 11/06/15 06:08 | YES |
| 07 | PB-212 | TRG | CP5007S08-09 | pCi/g | 1.77E+00 | 3.33E-01 | 4.09E-01 | | | | | 10/07/15 14:50 | 5.83E+02 | 11/06/15 06:08 | YES |
| 07 | PB-214 | TRG | CP5007S08-09 | pCi/g | 1.43E+00 | 2.97E-01 | 4.34E-01 | | | | | 10/07/15 14:50 | 5.83E+02 | 11/06/15 06:08 | YES |
| 07 | RA-226 | TRG | CP5007S08-09 | pCi/g | 1.35E+00 | 3.06E-01 | 4.96E-01 | | | | | 10/07/15 14:50 | 5.83E+02 | 11/06/15 06:08 | YES |
| 07 | RA-228 | TRG | CP5007S08-09 | pCi/g | 1.70E+00 | 5.94E-01 | 1.04E+00 | | | | | 10/07/15 14:50 | 5.83E+02 | 11/06/15 06:08 | YES |
| 07 | TH-234 | TRG | CP5007S08-09 | pCi/g | 2.79E+00 | 1.39E+00 | 2.22E+00 | | | | | 10/07/15 14:50 | 5.83E+02 | 11/06/15 06:08 | NO |
| 07 | TL-208 | TRG | CP5007S08-09 | pCi/g | 1.63E+00 | 3.46E-01 | 2.24E-01 | | | | | 10/07/15 14:50 | 5.83E+02 | 11/06/15 06:08 | YES |
| 08 | AC-228 | TRG | CP5007S11-12 | pCi/g | 1.43E+00 | 2.07E-01 | 5.73E-01 | | | | | 10/07/15 15:10 | 5.41E+02 | 11/06/15 07:10 | YES |
| 08 | BI-214 | TRG | CP5007S11-12 | pCi/g | 1.25E+00 | 1.78E-01 | 2.29E-01 | | | | | 10/07/15 15:10 | 5.41E+02 | 11/06/15 07:10 | YES |
| 08 | K-40 | TRG | CP5007S11-12 | pCi/g | 1.95E+01 | 2.51E+00 | 1.03E+00 | | | | | 10/07/15 15:10 | 5.41E+02 | 11/06/15 07:10 | YES |
| 08 | PB-212 | TRG | CP5007S11-12 | pCi/g | 1.94E-01 | 1.42E-01 | 2.29E-01 | | | | | 10/07/15 15:10 | 5.41E+02 | 11/06/15 07:10 | YES |
| 08 | PB-214 | TRG | CP5007S11-12 | pCi/g | 1.47E+00 | 1.72E-01 | 2.40E-01 | | | | | 10/07/15 15:10 | 5.41E+02 | 11/06/15 07:10 | YES |
| 08 | RA-226 | TRG | CP5007S11-12 | pCi/g | 1.25E+00 | 1.78E-01 | 2.29E-01 | | | | | 10/07/15 15:10 | 5.41E+02 | 11/06/15 07:10 | YES |
| 08 | RA-228 | TRG | CP5007S11-12 | pCi/g | 1.43E+00 | 2.07E-01 | 5.73E-01 | | | | | 10/07/15 15:10 | 5.41E+02 | 11/06/15 07:10 | YES |
| 08 | TH-234 | TRG | CP5007S11-12 | pCi/g | 2.13E+00 | 1.60E+00 | 2.64E+00 | | | | | 10/07/15 15:10 | 5.41E+02 | 11/06/15 07:10 | YES |
| 08 | TL-208 | TRG | CP5007S11-12 | pCi/g | 1.13E+00 | 1.77E-01 | 1.91E-01 | | | | | 10/07/15 15:10 | 5.41E+02 | 11/06/15 07:10 | YES |
| 09 | AC-228 | TRG | CP5007S13-14 | pCi/g | 1.54E+00 | 2.72E-01 | 5.05E-01 | | | | | 10/07/15 15:20 | 5.31E+02 | 11/06/15 07:11 | YES |
| 09 | BI-214 | TRG | CP5007S13-14 | pCi/g | 1.40E+00 | 2.14E-01 | 2.97E-01 | | | | | 10/07/15 15:20 | 5.31E+02 | 11/06/15 07:11 | YES |
| 09 | K-40 | TRG | CP5007S13-14 | pCi/g | 2.25E+01 | 2.73E+00 | 1.34E+00 | | | | | 10/07/15 15:20 | 5.31E+02 | 11/06/15 07:11 | YES |
| 09 | PB-212 | TRG | CP5007S13-14 | pCi/g | 1.68E+00 | 2.01E-01 | 3.19E-01 | | | | | 10/07/15 15:20 | 5.31E+02 | 11/06/15 07:11 | YES |
| 09 | PB-214 | TRG | CP5007S13-14 | pCi/g | 1.50E+00 | 1.81E-01 | 4.34E-01 | | | | | 10/07/15 15:20 | 5.31E+02 | 11/06/15 07:11 | YES |
| 09 | RA-226 | TRG | CP5007S13-14 | pCi/g | 1.40E+00 | 2.14E-01 | 2.97E-01 | | | | | 10/07/15 15:20 | 5.31E+02 | 11/06/15 07:11 | YES |
| 09 | RA-228 | TRG | CP5007S13-14 | pCi/g | 1.54E+00 | 2.72E-01 | 5.05E-01 | | | | | 10/07/15 15:20 | 5.31E+02 | 11/06/15 07:11 | YES |
| 09 | TH-234 | TRG | CP5007S13-14 | pCi/g | 2.15E+00 | 1.70E+00 | 2.30E+00 | | | | | 10/07/15 15:20 | 5.31E+02 | 11/06/15 07:11 | NO |
| 09 | TL-208 | TRG | CP5007S13-14 | pCi/g | 1.32E+00 | 2.45E-01 | 3.11E-01 | | | | | 10/07/15 15:20 | 5.31E+02 | 11/06/15 07:11 | YES |
| 10 | AC-228 | TRG | CP5007S16-17 | pCi/g | 1.26E+00 | 4.82E-01 | 9.54E-01 | | | | | 10/07/15 15:30 | 5.46E+02 | 11/06/15 07:11 | NO |
| 10 | BI-214 | TRG | CP5007S16-17 | pCi/g | 1.47E+00 | 3.01E-01 | 3.78E-01 | | | | | 10/07/15 15:30 | 5.46E+02 | 11/06/15 07:11 | YES |

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LSC Known | LCS %R | LCS Flag | RPD Flag | Sample Date | Sample Aliquot | Counting Date/Time | Identified |
|--------------|---------|-------------|-----------------------|----------------|----------|----------------|----------|-----------|--------|----------|----------|----------------|----------------|--------------------|------------|
| 10 | K-40 | TRG | CP5007S16-17 | pCi/g | 1.78E+01 | 3.41E+00 | 2.84E+00 | | | | | 10/07/15 15:30 | 5.46E+02 | 11/06/15 07:11 | YES |
| 10 | PB-212 | TRG | CP5007S16-17 | pCi/g | 1.86E+00 | 3.69E-01 | 4.72E-01 | | | | | 10/07/15 15:30 | 5.46E+02 | 11/06/15 07:11 | YES |
| 10 | PB-214 | TRG | CP5007S16-17 | pCi/g | 1.57E+00 | 2.96E-01 | 3.90E-01 | | | | | 10/07/15 15:30 | 5.46E+02 | 11/06/15 07:11 | YES |
| 10 | RA-226 | TRG | CP5007S16-17 | pCi/g | 1.47E+00 | 3.01E-01 | 3.78E-01 | | | | | 10/07/15 15:30 | 5.46E+02 | 11/06/15 07:11 | YES |
| 10 | RA-228 | TRG | CP5007S16-17 | pCi/g | 1.26E+00 | 4.82E-01 | 9.54E-01 | | | | | 10/07/15 15:30 | 5.46E+02 | 11/06/15 07:11 | NO |
| 10 | TH-234 | TRG | CP5007S16-17 | pCi/g | 1.28E+00 | 1.47E+00 | 2.28E+00 | | | | | 10/07/15 15:30 | 5.46E+02 | 11/06/15 07:11 | NO |
| 10 | TL-208 | TRG | CP5007S16-17 | pCi/g | 1.04E+00 | 3.04E-01 | 2.39E-01 | | | | | 10/07/15 15:30 | 5.46E+02 | 11/06/15 07:11 | YES |
| 11 | AC-228 | TRG | CP5006S01-02 | pCi/g | 9.22E-01 | 2.05E-01 | 2.77E-01 | | | | | 10/07/15 16:00 | 5.15E+02 | 11/06/15 08:16 | YES |
| 11 | BI-214 | TRG | CP5006S01-02 | pCi/g | 1.60E+00 | 1.80E-01 | 1.62E-01 | | | | | 10/07/15 16:00 | 5.15E+02 | 11/06/15 08:16 | YES |
| 11 | K-40 | TRG | CP5006S01-02 | pCi/g | 1.43E+01 | 1.77E+00 | 7.17E-01 | | | | | 10/07/15 16:00 | 5.15E+02 | 11/06/15 08:16 | YES |
| 11 | PB-212 | TRG | CP5006S01-02 | pCi/g | 9.56E-01 | 1.30E-01 | 2.42E-01 | | | | | 10/07/15 16:00 | 5.15E+02 | 11/06/15 08:16 | YES |
| 11 | PB-214 | TRG | CP5006S01-02 | pCi/g | 1.93E+00 | 1.89E-01 | 2.56E-01 | | | | | 10/07/15 16:00 | 5.15E+02 | 11/06/15 08:16 | YES |
| 11 | RA-226 | TRG | CP5006S01-02 | pCi/g | 1.60E+00 | 1.80E-01 | 1.62E-01 | | | | | 10/07/15 16:00 | 5.15E+02 | 11/06/15 08:16 | YES |
| 11 | RA-228 | TRG | CP5006S01-02 | pCi/g | 9.22E-01 | 2.05E-01 | 2.77E-01 | | | | | 10/07/15 16:00 | 5.15E+02 | 11/06/15 08:16 | YES |
| 11 | TH-234 | TRG | CP5006S01-02 | pCi/g | 2.07E+00 | 1.40E+00 | 2.31E+00 | | | | | 10/07/15 16:00 | 5.15E+02 | 11/06/15 08:16 | YES |
| 11 | TL-208 | TRG | CP5006S01-02 | pCi/g | 7.53E-01 | 1.38E-01 | 9.96E-02 | | | | | 10/07/15 16:00 | 5.15E+02 | 11/06/15 08:16 | YES |
| 12 | AC-228 | TRG | CP5006S03-04 | pCi/g | 1.21E+00 | 2.13E-01 | 4.81E-01 | | | | | 10/07/15 16:10 | 5.73E+02 | 11/06/15 08:17 | YES |
| 12 | BI-214 | TRG | CP5006S03-04 | pCi/g | 2.29E+00 | 2.21E-01 | 2.34E-01 | | | | | 10/07/15 16:10 | 5.73E+02 | 11/06/15 08:17 | YES |
| 12 | K-40 | TRG | CP5006S03-04 | pCi/g | 1.79E+01 | 2.31E+00 | 8.80E-01 | | | | | 10/07/15 16:10 | 5.73E+02 | 11/06/15 08:17 | YES |
| 12 | PB-212 | TRG | CP5006S03-04 | pCi/g | 1.07E+00 | 1.46E-01 | 2.51E-01 | | | | | 10/07/15 16:10 | 5.73E+02 | 11/06/15 08:17 | YES |
| 12 | PB-214 | TRG | CP5006S03-04 | pCi/g | 2.56E+00 | 2.34E-01 | 2.56E-01 | | | | | 10/07/15 16:10 | 5.73E+02 | 11/06/15 08:17 | YES |
| 12 | RA-226 | TRG | CP5006S03-04 | pCi/g | 2.29E+00 | 2.21E-01 | 2.34E-01 | | | | | 10/07/15 16:10 | 5.73E+02 | 11/06/15 08:17 | YES |
| 12 | RA-228 | TRG | CP5006S03-04 | pCi/g | 1.21E+00 | 2.13E-01 | 4.81E-01 | | | | | 10/07/15 16:10 | 5.73E+02 | 11/06/15 08:17 | YES |
| 12 | TH-234 | TRG | CP5006S03-04 | pCi/g | 1.31E+00 | 1.55E+00 | 2.59E+00 | | | | | 10/07/15 16:10 | 5.73E+02 | 11/06/15 08:17 | YES |
| 12 | TL-208 | TRG | CP5006S03-04 | pCi/g | 9.23E-01 | 1.54E-01 | 1.81E-01 | | | | | 10/07/15 16:10 | 5.73E+02 | 11/06/15 08:17 | YES |
| 13 | AC-228 | TRG | CP5006S04-05 | pCi/g | 1.78E+00 | 2.98E-01 | 5.44E-01 | | | | | 10/07/15 16:20 | 4.81E+02 | 11/06/15 08:17 | YES |
| 13 | BI-214 | TRG | CP5006S04-05 | pCi/g | 1.42E+00 | 2.25E-01 | 3.01E-01 | | | | | 10/07/15 16:20 | 4.81E+02 | 11/06/15 08:17 | YES |
| 13 | K-40 | TRG | CP5006S04-05 | pCi/g | 2.12E+01 | 2.67E+00 | 1.25E+00 | | | | | 10/07/15 16:20 | 4.81E+02 | 11/06/15 08:17 | YES |
| 13 | PB-212 | TRG | CP5006S04-05 | pCi/g | 1.77E+00 | 2.11E-01 | 3.28E-01 | | | | | 10/07/15 16:20 | 4.81E+02 | 11/06/15 08:17 | YES |
| 13 | PB-214 | TRG | CP5006S04-05 | pCi/g | 1.78E+00 | 1.90E-01 | 3.45E-01 | | | | | 10/07/15 16:20 | 4.81E+02 | 11/06/15 08:17 | YES |
| 13 | RA-226 | TRG | CP5006S04-05 | pCi/g | 1.42E+00 | 2.25E-01 | 3.01E-01 | | | | | 10/07/15 16:20 | 4.81E+02 | 11/06/15 08:17 | YES |
| 13 | RA-228 | TRG | CP5006S04-05 | pCi/g | 1.78E+00 | 2.98E-01 | 5.44E-01 | | | | | 10/07/15 16:20 | 4.81E+02 | 11/06/15 08:17 | YES |
| 13 | TH-234 | TRG | CP5006S04-05 | pCi/g | 4.59E+00 | 2.65E+00 | 9.17E+00 | | | | | 10/07/15 16:20 | 4.81E+02 | 11/06/15 08:17 | YES |
| 13 | TL-208 | TRG | CP5006S04-05 | pCi/g | 1.40E+00 | 2.30E-01 | 5.26E-02 | | | | | 10/07/15 16:20 | 4.81E+02 | 11/06/15 08:17 | YES |
| 14 | AC-228 | TRG | CP5006S07-08 | pCi/g | 1.56E+00 | 5.77E-01 | 1.13E+00 | | | | | 10/07/15 16:30 | 4.93E+02 | 11/06/15 08:17 | NO |
| 14 | BI-214 | TRG | CP5006S07-08 | pCi/g | 1.37E+00 | 3.19E-01 | 3.12E-01 | | | | | 10/07/15 16:30 | 4.93E+02 | 11/06/15 08:17 | YES |
| 14 | K-40 | TRG | CP5006S07-08 | pCi/g | 2.25E+01 | 3.87E+00 | 2.16E+00 | | | | | 10/07/15 16:30 | 4.93E+02 | 11/06/15 08:17 | YES |
| 14 | PB-212 | TRG | CP5006S07-08 | pCi/g | 1.97E+00 | 3.78E-01 | 4.67E-01 | | | | | 10/07/15 16:30 | 4.93E+02 | 11/06/15 08:17 | YES |

Preliminary Data Report & Analytical Calculations
Work Order: 15-10085-Gamma-1

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LSC Known | LCS %R | LCS Flag | RPD Flag | Sample Date | Sample Aliquot | Counting Date/Time | Identified |
|--------------|---------|-------------|-----------------------|----------------|----------|----------------|----------|-----------|--------|----------|----------|----------------|----------------|--------------------|------------|
| 14 | PB-214 | TRG | CP5006S07-08 | pCi/g | 1.38E+00 | 3.54E-01 | 6.03E-01 | | | | | 10/07/15 16:30 | 4.93E+02 | 11/06/15 08:17 | YES |
| 14 | RA-226 | TRG | CP5006S07-08 | pCi/g | 1.37E+00 | 3.19E-01 | 3.12E-01 | | | | | 10/07/15 16:30 | 4.93E+02 | 11/06/15 08:17 | YES |
| 14 | RA-228 | TRG | CP5006S07-08 | pCi/g | 1.56E+00 | 5.77E-01 | 1.13E+00 | | | | | 10/07/15 16:30 | 4.93E+02 | 11/06/15 08:17 | NO |
| 14 | TH-234 | TRG | CP5006S07-08 | pCi/g | 1.55E+00 | 1.83E+00 | 3.07E+00 | | | | | 10/07/15 16:30 | 4.93E+02 | 11/06/15 08:17 | YES |
| 14 | TL-208 | TRG | CP5006S07-08 | pCi/g | 1.24E+00 | 3.57E-01 | 4.54E-01 | | | | | 10/07/15 16:30 | 4.93E+02 | 11/06/15 08:17 | YES |
| 15 | AC-228 | TRG | CP5006S09-10 | pCi/g | 1.25E+00 | 2.42E-01 | 4.29E-01 | | | | | 10/07/15 16:40 | 5.48E+02 | 11/06/15 09:19 | YES |
| 15 | BI-214 | TRG | CP5006S09-10 | pCi/g | 1.34E+00 | 1.77E-01 | 2.24E-01 | | | | | 10/07/15 16:40 | 5.48E+02 | 11/06/15 09:19 | YES |
| 15 | K-40 | TRG | CP5006S09-10 | pCi/g | 2.04E+01 | 2.31E+00 | 9.86E-01 | | | | | 10/07/15 16:40 | 5.48E+02 | 11/06/15 09:19 | YES |
| 15 | PB-212 | TRG | CP5006S09-10 | pCi/g | 1.58E+00 | 1.78E-01 | 2.89E-01 | | | | | 10/07/15 16:40 | 5.48E+02 | 11/06/15 09:19 | YES |
| 15 | PB-214 | TRG | CP5006S09-10 | pCi/g | 1.53E+00 | 1.86E-01 | 2.45E-01 | | | | | 10/07/15 16:40 | 5.48E+02 | 11/06/15 09:19 | YES |
| 15 | RA-226 | TRG | CP5006S09-10 | pCi/g | 1.34E+00 | 1.77E-01 | 2.24E-01 | | | | | 10/07/15 16:40 | 5.48E+02 | 11/06/15 09:19 | YES |
| 15 | RA-228 | TRG | CP5006S09-10 | pCi/g | 1.25E+00 | 2.42E-01 | 4.29E-01 | | | | | 10/07/15 16:40 | 5.48E+02 | 11/06/15 09:19 | YES |
| 15 | TH-234 | TRG | CP5006S09-10 | pCi/g | 1.60E+00 | 1.36E+00 | 2.28E+00 | | | | | 10/07/15 16:40 | 5.48E+02 | 11/06/15 09:19 | YES |
| 15 | TL-208 | TRG | CP5006S09-10 | pCi/g | 1.29E+00 | 1.73E-01 | 9.37E-02 | | | | | 10/07/15 16:40 | 5.48E+02 | 11/06/15 09:19 | YES |
| 16 | AC-228 | TRG | CP5006S12-13 | pCi/g | 1.55E+00 | 2.44E-01 | 3.89E-01 | | | | | 10/07/15 16:50 | 5.15E+02 | 11/06/15 09:19 | YES |
| 16 | BI-214 | TRG | CP5006S12-13 | pCi/g | 1.37E+00 | 1.79E-01 | 1.92E-01 | | | | | 10/07/15 16:50 | 5.15E+02 | 11/06/15 09:19 | YES |
| 16 | K-40 | TRG | CP5006S12-13 | pCi/g | 2.32E+01 | 2.90E+00 | 9.62E-01 | | | | | 10/07/15 16:50 | 5.15E+02 | 11/06/15 09:19 | YES |
| 16 | PB-212 | TRG | CP5006S12-13 | pCi/g | 1.82E+00 | 2.11E-01 | 2.53E-01 | | | | | 10/07/15 16:50 | 5.15E+02 | 11/06/15 09:19 | YES |
| 16 | PB-214 | TRG | CP5006S12-13 | pCi/g | 1.64E+00 | 1.84E-01 | 2.48E-01 | | | | | 10/07/15 16:50 | 5.15E+02 | 11/06/15 09:19 | YES |
| 16 | RA-226 | TRG | CP5006S12-13 | pCi/g | 1.37E+00 | 1.79E-01 | 1.92E-01 | | | | | 10/07/15 16:50 | 5.15E+02 | 11/06/15 09:19 | YES |
| 16 | RA-228 | TRG | CP5006S12-13 | pCi/g | 1.55E+00 | 2.44E-01 | 3.89E-01 | | | | | 10/07/15 16:50 | 5.15E+02 | 11/06/15 09:19 | YES |
| 16 | TH-234 | TRG | CP5006S12-13 | pCi/g | 1.51E+00 | 1.07E+00 | 1.71E+00 | | | | | 10/07/15 16:50 | 5.15E+02 | 11/06/15 09:19 | NO |
| 16 | TL-208 | TRG | CP5006S12-13 | pCi/g | 1.26E+00 | 1.95E-01 | 2.35E-01 | | | | | 10/07/15 16:50 | 5.15E+02 | 11/06/15 09:19 | YES |
| 17 | AC-228 | TRG | CP5006S14-15 | pCi/g | 1.49E+00 | 2.78E-01 | 6.05E-01 | | | | | 10/07/15 17:00 | 5.50E+02 | 11/06/15 09:20 | YES |
| 17 | BI-214 | TRG | CP5006S14-15 | pCi/g | 1.35E+00 | 1.97E-01 | 2.15E-01 | | | | | 10/07/15 17:00 | 5.50E+02 | 11/06/15 09:20 | YES |
| 17 | K-40 | TRG | CP5006S14-15 | pCi/g | 2.19E+01 | 2.58E+00 | 8.87E-01 | | | | | 10/07/15 17:00 | 5.50E+02 | 11/06/15 09:20 | YES |
| 17 | PB-212 | TRG | CP5006S14-15 | pCi/g | 1.79E+00 | 2.01E-01 | 3.23E-01 | | | | | 10/07/15 17:00 | 5.50E+02 | 11/06/15 09:20 | YES |
| 17 | PB-214 | TRG | CP5006S14-15 | pCi/g | 1.54E+00 | 2.00E-01 | 3.52E-01 | | | | | 10/07/15 17:00 | 5.50E+02 | 11/06/15 09:20 | YES |
| 17 | RA-226 | TRG | CP5006S14-15 | pCi/g | 1.35E+00 | 1.97E-01 | 2.15E-01 | | | | | 10/07/15 17:00 | 5.50E+02 | 11/06/15 09:20 | YES |
| 17 | RA-228 | TRG | CP5006S14-15 | pCi/g | 1.49E+00 | 2.78E-01 | 6.05E-01 | | | | | 10/07/15 17:00 | 5.50E+02 | 11/06/15 09:20 | YES |
| 17 | TH-234 | TRG | CP5006S14-15 | pCi/g | 4.73E-01 | 1.79E+00 | 2.31E+00 | | | | | 10/07/15 17:00 | 5.50E+02 | 11/06/15 09:20 | NO |
| 17 | TL-208 | TRG | CP5006S14-15 | pCi/g | 1.35E+00 | 2.24E-01 | 4.60E-02 | | | | | 10/07/15 17:00 | 5.50E+02 | 11/06/15 09:20 | YES |
| 18 | AC-228 | TRG | CP5006S17-18 | pCi/g | 1.88E+00 | 5.38E-01 | 1.06E+00 | | | | | 10/07/15 17:10 | 5.43E+02 | 11/06/15 09:20 | YES |
| 18 | BI-214 | TRG | CP5006S17-18 | pCi/g | 1.30E+00 | 3.13E-01 | 4.63E-01 | | | | | 10/07/15 17:10 | 5.43E+02 | 11/06/15 09:20 | YES |
| 18 | K-40 | TRG | CP5006S17-18 | pCi/g | 2.19E+01 | 3.73E+00 | 2.22E+00 | | | | | 10/07/15 17:10 | 5.43E+02 | 11/06/15 09:20 | YES |
| 18 | PB-212 | TRG | CP5006S17-18 | pCi/g | 2.15E+00 | 3.85E-01 | 4.60E-01 | | | | | 10/07/15 17:10 | 5.43E+02 | 11/06/15 09:20 | YES |
| 18 | PB-214 | TRG | CP5006S17-18 | pCi/g | 1.50E+00 | 3.31E-01 | 5.48E-01 | | | | | 10/07/15 17:10 | 5.43E+02 | 11/06/15 09:20 | YES |
| 18 | RA-226 | TRG | CP5006S17-18 | pCi/g | 1.30E+00 | 3.13E-01 | 4.63E-01 | | | | | 10/07/15 17:10 | 5.43E+02 | 11/06/15 09:20 | YES |

Preliminary Data Report & Analytical Calculations
Work Order: 15-10085-Gamma-1

| Lab Fraction | Nuclide | Sample Desc | Client Identification | Activity Units | Results | Error Estimate | MDA | LSC Known | LCS %R | LCS Flag | RPD Flag | Sample Date | Sample Aliquot | Counting Date/Time | Identified |
|--------------|---------|-------------|-----------------------|----------------|----------|----------------|----------|-----------|--------|----------|----------|----------------|----------------|--------------------|------------|
| 18 | RA-228 | TRG | CP5006S17-18 | pCi/g | 1.88E+00 | 5.38E-01 | 1.06E+00 | | | | | 10/07/15 17:10 | 5.43E+02 | 11/06/15 09:20 | YES |
| 18 | TH-234 | TRG | CP5006S17-18 | pCi/g | 3.00E+00 | 2.16E+00 | 3.57E+00 | | | | | 10/07/15 17:10 | 5.43E+02 | 11/06/15 09:20 | YES |
| 18 | TL-208 | TRG | CP5006S17-18 | pCi/g | 1.43E+00 | 3.80E-01 | 5.35E-01 | | | | | 10/07/15 17:10 | 5.43E+02 | 11/06/15 09:20 | YES |
| 19 | AC-228 | TRG | CP5006S19-20 | pCi/g | 1.34E+00 | 2.30E-01 | 4.22E-01 | | | | | 10/07/15 17:20 | 5.39E+02 | 11/06/15 10:21 | YES |
| 19 | BI-214 | TRG | CP5006S19-20 | pCi/g | 1.10E+00 | 1.63E-01 | 2.16E-01 | | | | | 10/07/15 17:20 | 5.39E+02 | 11/06/15 10:21 | YES |
| 19 | K-40 | TRG | CP5006S19-20 | pCi/g | 2.37E+01 | 2.63E+00 | 1.22E+00 | | | | | 10/07/15 17:20 | 5.39E+02 | 11/06/15 10:21 | YES |
| 19 | PB-212 | TRG | CP5006S19-20 | pCi/g | 1.55E+00 | 1.76E-01 | 3.57E-01 | | | | | 10/07/15 17:20 | 5.39E+02 | 11/06/15 10:21 | YES |
| 19 | PB-214 | TRG | CP5006S19-20 | pCi/g | 1.32E+00 | 1.56E-01 | 2.36E-01 | | | | | 10/07/15 17:20 | 5.39E+02 | 11/06/15 10:21 | YES |
| 19 | RA-226 | TRG | CP5006S19-20 | pCi/g | 1.10E+00 | 1.63E-01 | 2.16E-01 | | | | | 10/07/15 17:20 | 5.39E+02 | 11/06/15 10:21 | YES |
| 19 | RA-228 | TRG | CP5006S19-20 | pCi/g | 1.34E+00 | 2.30E-01 | 4.22E-01 | | | | | 10/07/15 17:20 | 5.39E+02 | 11/06/15 10:21 | YES |
| 19 | TH-234 | TRG | CP5006S19-20 | pCi/g | 2.64E+00 | 1.67E+00 | 2.75E+00 | | | | | 10/07/15 17:20 | 5.39E+02 | 11/06/15 10:21 | YES |
| 19 | TL-208 | TRG | CP5006S19-20 | pCi/g | 1.27E+00 | 1.69E-01 | 9.52E-02 | | | | | 10/07/15 17:20 | 5.39E+02 | 11/06/15 10:21 | YES |
| 20 | AC-228 | TRG | CP5006S22-23 | pCi/g | 1.23E+00 | 2.58E-01 | 3.95E-01 | | | | | 10/07/15 17:30 | 5.87E+02 | 11/06/15 10:21 | YES |
| 20 | BI-214 | TRG | CP5006S22-23 | pCi/g | 1.26E+00 | 1.67E-01 | 2.01E-01 | | | | | 10/07/15 17:30 | 5.87E+02 | 11/06/15 10:21 | YES |
| 20 | K-40 | TRG | CP5006S22-23 | pCi/g | 2.09E+01 | 2.60E+00 | 8.47E-01 | | | | | 10/07/15 17:30 | 5.87E+02 | 11/06/15 10:21 | YES |
| 20 | PB-212 | TRG | CP5006S22-23 | pCi/g | 1.54E+00 | 1.80E-01 | 2.50E-01 | | | | | 10/07/15 17:30 | 5.87E+02 | 11/06/15 10:21 | YES |
| 20 | PB-214 | TRG | CP5006S22-23 | pCi/g | 1.41E+00 | 1.64E-01 | 2.37E-01 | | | | | 10/07/15 17:30 | 5.87E+02 | 11/06/15 10:21 | YES |
| 20 | RA-226 | TRG | CP5006S22-23 | pCi/g | 1.26E+00 | 1.57E-01 | 2.01E-01 | | | | | 10/07/15 17:30 | 5.87E+02 | 11/06/15 10:21 | YES |
| 20 | RA-228 | TRG | CP5006S22-23 | pCi/g | 1.23E+00 | 2.58E-01 | 3.95E-01 | | | | | 10/07/15 17:30 | 5.87E+02 | 11/06/15 10:21 | YES |
| 20 | TH-234 | TRG | CP5006S22-23 | pCi/g | 2.38E+00 | 1.76E+00 | 2.90E+00 | | | | | 10/07/15 17:30 | 5.87E+02 | 11/06/15 10:21 | YES |
| 20 | TL-208 | TRG | CP5006S22-23 | pCi/g | 1.34E+00 | 1.70E-01 | 1.58E-01 | | | | | 10/07/15 17:30 | 5.87E+02 | 11/06/15 10:21 | YES |

Count Room Report
Client: Auxier Associates, Inc.

15-10085-Gamma-1 (pCi/g) in SO
Tracer ID:

Handwritten signature
10/14/15

| Internal Fraction | Sample Desc | Client ID | Sample Date | Sample Aliquot | Tracer Aliquot (g) | Tracer ACT (dpm) | Radiometric Tracer (pCi) | Radiometric % Rec | SAF 1* | SAF 2* |
|-------------------|-------------|--------------|----------------|----------------|--------------------|------------------|--------------------------|-------------------|--------|--------|
| 01 | LCS | LCS | 10/14/15 00:00 | 1.0000 | | | | 0.00 | | |
| 02 | MBL | BLANK | 10/14/15 00:00 | 1.0000 | | | | 0.00 | | |
| 03 | DUP | CP5007S01-02 | 10/07/15 14:20 | 636.2300 | | | | 0.00 | | |
| 04 | DO | CP5007S01-02 | 10/07/15 14:20 | 636.2600 | | | | 0.00 | | |
| 05 | TRG | CP5007S03-04 | 10/07/15 14:30 | 575.8100 | | | | 0.00 | | |
| 06 | TRG | CP5007S06-07 | 10/07/15 14:40 | 570.8500 | | | | 0.00 | | |
| 07 | TRG | CP5007S08-09 | 10/07/15 14:50 | 582.8200 | | | | 0.00 | | |
| 08 | TRG | CP5007S11-12 | 10/07/15 15:10 | 540.5200 | | | | 0.00 | | |
| 09 | TRG | CP5007S13-14 | 10/07/15 15:20 | 530.8600 | | | | 0.00 | | |
| 10 | TRG | CP5007S16-17 | 10/07/15 15:30 | 545.8400 | | | | 0.00 | | |
| 11 | TRG | CP5006S01-02 | 10/07/15 16:00 | 515.4300 | | | | 0.00 | | |
| 12 | TRG | CP5006S03-04 | 10/07/15 16:10 | 572.7300 | | | | 0.00 | | |
| 13 | TRG | CP5006S04-05 | 10/07/15 16:20 | 481.1200 | | | | 0.00 | | |
| 14 | TRG | CP5006S07-08 | 10/07/15 16:30 | 493.2500 | | | | 0.00 | | |
| 15 | TRG | CP5006S09-10 | 10/07/15 16:40 | 547.8600 | | | | 0.00 | | |
| 16 | TRG | CP5006S12-13 | 10/07/15 16:50 | 514.7500 | | | | 0.00 | | |
| 17 | TRG | CP5006S14-15 | 10/07/15 17:00 | 550.0900 | | | | 0.00 | | |
| 18 | TRG | CP5006S17-18 | 10/07/15 17:10 | 543.4900 | | | | 0.00 | | |
| 19 | TRG | CP5006S19-20 | 10/07/15 17:20 | 539.3000 | | | | 0.00 | | |
| 20 | TRG | CP5006S22-23 | 10/07/15 17:30 | 587.2400 | | | | 0.00 | | |

Handwritten mark

Aliquot Worksheet

| | | | | | | | |
|-----------------|--|----------|---------------|--------------|------------------|------------------|--|
| Work Order | | Run | Analysis Code | Rpt Units | Lab Deadline | Technician | |
| 15-10085 | | 1 | Gamma | grams | 11/6/2015 | KSALLINGS | |

| Lab Fraction | Auxier & Associates, Inc. | | Muffle Data | | Dilution Data | | | Aliquot Data | | MS Aliquot Data | | H-3 Solids Only | |
|--------------|---------------------------|-------------|----------------|------------|---------------|-------|------------|--------------|---------|-----------------|------------------|-----------------|--|
| | Client ID | Sample Type | Ratio Post/Pre | No of Dils | Dil Factor | Ratio | Aliquot | Net Equiv | Aliquot | Net Equiv | Water Added (ml) | H3 Dist Aliq | |
| 01 | LCS | LCS | | | | | 1.0000E+00 | 1.0000E+00 | | | | | |
| 02 | BLANK | MBL | | | | | 1.0000E+00 | 1.0000E+00 | | | | | |
| 03 | CP5007S01-02 | DUP | | | | | 6.3623E+02 | 6.3623E+02 | | | | | |
| 04 | CP5007S01-02 | DO | | | | | 6.3626E+02 | 6.3626E+02 | | | | | |
| 05 | CP5007S03-04 | TRG | | | | | 5.7581E+02 | 5.7581E+02 | | | | | |
| 06 | CP5007S06-07 | TRG | | | | | 5.7085E+02 | 5.7085E+02 | | | | | |
| 07 | CP5007S08-09 | TRG | | | | | 5.8282E+02 | 5.8282E+02 | | | | | |
| 08 | CP5007S11-12 | TRG | | | | | 5.4052E+02 | 5.4052E+02 | | | | | |
| 09 | CP5007S13-14 | TRG | | | | | 5.3086E+02 | 5.3086E+02 | | | | | |
| 10 | CP5007S16-17 | TRG | | | | | 5.4584E+02 | 5.4584E+02 | | | | | |
| 11 | CP5006S01-02 | TRG | | | | | 5.1543E+02 | 5.1543E+02 | | | | | |
| 12 | CP5006S03-04 | TRG | | | | | 5.7273E+02 | 5.7273E+02 | | | | | |
| 13 | CP5006S04-05 | TRG | | | | | 4.8112E+02 | 4.8112E+02 | | | | | |
| 14 | CP5006S07-08 | TRG | | | | | 4.9325E+02 | 4.9325E+02 | | | | | |
| 15 | CP5006S09-10 | TRG | | | | | 5.4786E+02 | 5.4786E+02 | | | | | |
| 16 | CP5006S12-13 | TRG | | | | | 5.1475E+02 | 5.1475E+02 | | | | | |
| 17 | CP5006S14-15 | TRG | | | | | 5.5009E+02 | 5.5009E+02 | | | | | |
| 18 | CP5006S17-18 | TRG | | | | | 5.4349E+02 | 5.4349E+02 | | | | | |
| 19 | CP5006S19-20 | TRG | | | | | 5.3930E+02 | 5.3930E+02 | | | | | |
| 20 | CP5006S22-23 | TRG | | | | | 5.8724E+02 | 5.8724E+02 | | | | | |

| |
|----------|
| Comments |
|----------|

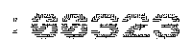
Technician: Kenny Seay Date: 10/16/15

Rough Sample Preparation
 Log Book

| | | | | | |
|-----------------|--------------|-----------------------|-------------|---------------|------------|
| Work Order | Lab Deadline | Date Received in Prep | Date Sealed | Date Returned | Technician |
| 15-10085 | 11/6/2015 | 10/15/2015 | 10/16/2015 | 10/17/2015 | KSALLINGS |

| Eberline Fraction | Auxier & Associates, Inc. Client ID | Tare (g) | | Gross (g) | | Net (g) | | Percent | | Gamma | | Special Info |
|-------------------|-------------------------------------|----------|-----------|-----------|-----------|-----------|-----------|---------|--------|--------|---------|--------------|
| | | Pan Wt | Dry Wt | Wet Wt | Dry Wt | Wet Wt | Dry Wt | Liquid | Solid | Dry Wt | LEPS Wt | |
| 04 | CP5007S01-02 | 14.6200 | 970.6800 | 1146.9400 | 970.6800 | 1132.3200 | 956.0600 | 15.57% | 84.43% | 0.0000 | 0.0000 | |
| 05 | CP5007S03-04 | 14.5900 | 832.5400 | 1008.9800 | 832.5400 | 994.3900 | 817.9500 | 17.74% | 82.26% | 0.0000 | 0.0000 | |
| 06 | CP5007S06-07 | 14.6100 | 770.0900 | 929.4600 | 770.0900 | 914.8500 | 755.4800 | 17.42% | 82.58% | 0.0000 | 0.0000 | |
| 07 | CP5007S08-09 | 14.6800 | 765.9100 | 953.5600 | 765.9100 | 938.9800 | 751.2300 | 20.00% | 80.00% | 0.0000 | 0.0000 | |
| 08 | CP5007S11-12 | 14.6500 | 936.5800 | 1203.9000 | 936.5800 | 1189.2500 | 921.9300 | 22.48% | 77.52% | 0.0000 | 0.0000 | |
| 09 | CP5007S13-14 | 14.6400 | 870.5400 | 1124.9400 | 870.5400 | 1110.3000 | 855.9000 | 22.91% | 77.09% | 0.0000 | 0.0000 | |
| 10 | CP5007S16-17 | 14.6100 | 1066.9400 | 1398.1400 | 1066.9400 | 1383.5300 | 1052.3300 | 23.94% | 76.06% | 0.0000 | 0.0000 | |
| 11 | CP5006S01-02 | 14.6800 | 602.4100 | 676.1800 | 602.4100 | 661.5000 | 587.7300 | 11.15% | 88.85% | 0.0000 | 0.0000 | |
| 12 | CP5006S03-04 | 14.7900 | 893.0800 | 1107.3400 | 893.0800 | 1092.5500 | 878.2900 | 19.61% | 80.39% | 0.0000 | 0.0000 | |
| 13 | CP5006S04-05 | 14.6400 | 552.2100 | 699.8200 | 552.2100 | 685.1800 | 537.5700 | 21.54% | 78.46% | 0.0000 | 0.0000 | |
| 14 | CP5006S07-08 | 14.6200 | 554.4800 | 698.0300 | 554.4800 | 683.4100 | 539.8600 | 21.00% | 79.00% | 0.0000 | 0.0000 | |
| 15 | CP5006S09-10 | 14.6000 | 621.1100 | 813.6800 | 621.1100 | 799.0800 | 606.5100 | 24.10% | 75.90% | 0.0000 | 0.0000 | |
| 16 | CP5006S12-13 | 14.6300 | 591.5100 | 757.3200 | 591.5100 | 742.6900 | 576.8800 | 22.33% | 77.67% | 0.0000 | 0.0000 | |
| 17 | CP5006S14-15 | 14.1800 | 773.1000 | 988.2000 | 773.1000 | 974.0200 | 758.9200 | 22.08% | 77.92% | 0.0000 | 0.0000 | |
| 18 | CP5006S17-18 | 14.1900 | 828.2200 | 1043.0600 | 828.2200 | 1028.8700 | 814.0300 | 20.88% | 79.12% | 0.0000 | 0.0000 | |
| 19 | CP5006S19-20 | 14.1800 | 936.1600 | 1205.0800 | 936.1600 | 1190.9000 | 921.9800 | 22.58% | 77.42% | 0.0000 | 0.0000 | |
| 20 | CP5006S22-23 | 14.1600 | 747.5100 | 966.6800 | 747.5100 | 952.5200 | 733.3500 | 23.01% | 76.99% | 0.0000 | 0.0000 | |

| |
|--|
| Comments |
| Special Codes |
| H: Hot, O: Organic Hazard, P: PCB Hazard, R: Rush, T: Other (see comments) |



CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

GAS-1302

94268

Sand in 16 Ounce PP Taral Jar Filled to Top

Customer: Eberline Analytical Corporation
P.O. No.: 1304009, Item 7 **Product Code:** 8401-EG-SAN
Reference Date: 01-Jul-2013 12:00 PM EST **Grams of Master Source:** 0.017994

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solutions. Additional radionuclides were added gravimetrically from solutions calibrated by gamma-ray spectrometry, ionization chamber, or liquid scintillation counting. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

| Nuclide | Gamma-Ray Energy (keV) | Half-Life, Days | Master Source* γ ps/gram | This Source γ ps | Uncertainty* , % | | | Calibration Method* |
|---------|------------------------|-----------------|---------------------------------|-------------------------|------------------|-------|-----|---------------------|
| | | | | | u_A | u_B | U | |
| Am-241 | 59.5 | 1.580E+05 | — | 2.094E+03 | 0.1 | 1.7 | 3.5 | 4 π LS |
| Cd-109 | 88.0 | 4.626E+02 | 1.641E+05 | 2.952E+03 | 0.5 | 2.3 | 4.7 | HPGe |
| Co-57 | 122.1 | 2.718E+02 | 8.865E+04 | 1.595E+03 | 0.4 | 2.0 | 4.1 | HPGe |
| Ce-139 | 165.9 | 1.376E+02 | 1.243E+05 | 2.236E+03 | 0.4 | 1.9 | 3.9 | HPGe |
| Hg-203 | 279.2 | 4.661E+01 | 2.627E+05 | 4.727E+03 | 0.3 | 1.9 | 3.8 | HPGe |
| Sn-113 | 391.7 | 1.151E+02 | 1.736E+05 | 3.124E+03 | 0.4 | 1.9 | 3.9 | HPGe |
| Cs-137 | 661.7 | 1.098E+04 | 1.120E+05 | 2.015E+03 | 0.7 | 1.9 | 4.0 | HPGe |
| Y-88 | 898.0 | 1.066E+02 | 4.197E+05 | 7.553E+03 | 0.5 | 1.9 | 3.9 | HPGe |
| Co-60 | 1173.2 | 1.925E+03 | 2.074E+05 | 3.732E+03 | 0.6 | 1.9 | 4.0 | HPGe |
| Co-60 | 1332.5 | 1.925E+03 | 2.074E+05 | 3.732E+03 | 0.7 | 1.9 | 4.0 | HPGe |
| Y-88 | 1836.1 | 1.066E+02 | 4.444E+05 | 7.996E+03 | 0.7 | 1.9 | 4.0 | HPGe |

* Master Source refers to Analytics' 8-isotope mixture which is calibrated quarterly.

Calibration Methods: 4 π LS - 4 pi Liquid Scintillation Counting, HPGe - High Purity Germanium Gamma-Ray Spectrometer, IC - Ionization Chamber. **Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

(Certificate continued on reverse side)



Analysis Report for 1510085-01
GAS-1302

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-01
Sample Description : GAS-1302
Sample Type : SOIL

Sample Size : 7.360E+02 grams
Facility : Countroom

Sample Taken On : 7/1/2013 6:01:11AM
Acquisition Started : 11/5/2015 6:09:36AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 1800.0 seconds
Real Time : 1848.4 seconds

Dead Time : 2.62 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29169

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-01
GAS-1302

PEAK LOCATE REPORT

Peak Locate Performed on : 11/5/2015 6:40:28AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 22.01 | 22.26 | 0.0000 | 0.00 |
| 2 | 24.72 | 24.96 | 0.0000 | 0.00 |
| 3 | 32.15 | 32.39 | 0.0000 | 0.00 |
| 4 | 52.10 | 52.33 | 0.0000 | 0.00 |
| 5 | 59.47 | 59.69 | 0.0000 | 0.00 |
| 6 | 69.01 | 69.23 | 0.0000 | 0.00 |
| 7 | 85.06 | 85.27 | 0.0000 | 0.00 |
| 8 | 88.08 | 88.29 | 0.0000 | 0.00 |
| 9 | 122.11 | 122.30 | 0.0000 | 0.00 |
| 10 | 136.39 | 136.57 | 0.0000 | 0.00 |
| 11 | 166.05 | 166.22 | 0.0000 | 0.00 |
| 12 | 276.51 | 276.62 | 0.0000 | 0.00 |
| 13 | 352.09 | 352.16 | 0.0000 | 0.00 |
| 14 | 385.11 | 385.16 | 0.0000 | 0.00 |
| 15 | 391.84 | 391.89 | 0.0000 | 0.00 |
| 16 | 477.44 | 477.44 | 0.0000 | 0.00 |
| 17 | 661.87 | 661.79 | 0.0000 | 0.00 |
| 18 | 791.14 | 791.00 | 0.0000 | 0.00 |
| 19 | 898.17 | 897.98 | 0.0000 | 0.00 |
| 20 | 1083.37 | 1083.10 | 0.0000 | 0.00 |
| 21 | 1173.52 | 1173.21 | 0.0000 | 0.00 |
| 22 | 1177.30 | 1176.99 | 0.0000 | 0.00 |
| 23 | 1229.15 | 1228.82 | 0.0000 | 0.00 |
| 24 | 1261.56 | 1261.21 | 0.0000 | 0.00 |
| 25 | 1332.80 | 1332.43 | 0.0000 | 0.00 |
| 26 | 1602.04 | 1601.56 | 0.0000 | 0.00 |
| 27 | 1836.54 | 1835.99 | 0.0000 | 0.00 |
| 28 | 1936.97 | 1936.39 | 0.0000 | 0.00 |
| 29 | 1947.12 | 1946.53 | 0.0000 | 0.00 |
| 30 | 1979.69 | 1979.09 | 0.0000 | 0.00 |
| 31 | 2044.07 | 2043.45 | 0.0000 | 0.00 |
| 32 | 2074.76 | 2074.13 | 0.0000 | 0.00 |
| 33 | 2176.10 | 2175.43 | 0.0000 | 0.00 |
| 34 | 2281.79 | 2281.09 | 0.0000 | 0.00 |
| 35 | 2400.72 | 2400.00 | 0.0000 | 0.00 |
| 36 | 2506.04 | 2505.29 | 0.0000 | 0.00 |
| 37 | 2614.59 | 2613.81 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-01

GAS-1302

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/5/2015 6:40:28AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| M | 1 | 22.01 | 19 - | 29 | 22.26 | 1.11E+05 | 734.04 | 1.68E+04 | 1.54 |
| m | 2 | 24.72 | 19 - | 29 | 24.96 | 3.40E+04 | 780.98 | 1.26E+04 | 1.69 |
| | 3 | 32.15 | 30 - | 35 | 32.39 | 2.04E+03 | 264.22 | 1.24E+04 | 1.79 |
| M | 4 | 52.10 | 45 - | 63 | 52.33 | 1.28E+04 | 666.07 | 4.52E+04 | 3.79 |
| m | 5 | 59.47 | 45 - | 63 | 59.69 | 9.32E+04 | 685.89 | 1.89E+04 | 1.67 |
| | 6 | 69.01 | 65 - | 75 | 69.23 | 2.06E+03 | 569.68 | 4.23E+04 | 5.86 |
| M | 7 | 85.06 | 82 - | 93 | 85.27 | 1.49E+03 | 490.97 | 2.68E+04 | 3.51 |
| m | 8 | 88.08 | 82 - | 93 | 88.29 | 3.94E+04 | 458.17 | 1.28E+04 | 1.49 |
| | 9 | 122.11 | 118 - | 125 | 122.30 | 8.30E+03 | 356.76 | 1.57E+04 | 1.79 |
| | 10 | 136.39 | 133 - | 140 | 136.57 | 1.15E+03 | 300.24 | 1.42E+04 | 1.83 |
| | 11 | 166.05 | 163 - | 169 | 166.22 | 1.08E+03 | 254.49 | 1.10E+04 | 1.37 |
| | 12 | 276.51 | 274 - | 280 | 276.62 | 2.23E+02 | 209.83 | 7.83E+03 | 2.84 |
| | 13 | 352.09 | 350 - | 355 | 352.16 | 2.11E+02 | 170.20 | 5.61E+03 | 2.93 |
| | 14 | 385.11 | 383 - | 388 | 385.16 | 1.72E+02 | 164.59 | 5.27E+03 | 3.02 |
| | 15 | 391.84 | 389 - | 395 | 391.89 | 4.95E+02 | 190.37 | 6.25E+03 | 1.50 |
| | 16 | 477.44 | 475 - | 479 | 477.44 | 1.19E+02 | 139.09 | 4.15E+03 | 1.25 |
| | 17 | 661.87 | 657 - | 667 | 661.79 | 2.25E+04 | 364.29 | 5.65E+03 | 1.92 |
| | 18 | 791.14 | 789 - | 794 | 791.00 | 1.10E+02 | 114.67 | 2.55E+03 | 3.24 |
| | 19 | 898.17 | 895 - | 901 | 897.98 | 1.63E+02 | 150.79 | 4.02E+03 | 1.52 |
| | 20 | 1083.37 | 1080 - | 1086 | 1083.10 | 1.72E+02 | 127.43 | 2.82E+03 | 4.51 |
| M | 21 | 1173.52 | 1166 - | 1180 | 1173.21 | 1.92E+04 | 288.91 | 1.29E+03 | 2.09 |
| m | 22 | 1177.30 | 1166 - | 1180 | 1176.99 | 1.67E+02 | 268.55 | 1.39E+03 | 2.62 |
| | 23 | 1229.15 | 1225 - | 1232 | 1228.82 | 5.60E+01 | 69.02 | 7.58E+02 | 1.24 |
| | 24 | 1261.56 | 1258 - | 1264 | 1261.21 | 5.56E+01 | 48.12 | 3.79E+02 | 4.62 |
| | 25 | 1332.80 | 1326 - | 1338 | 1332.43 | 1.74E+04 | 274.20 | 6.49E+02 | 2.27 |
| | 26 | 1602.04 | 1597 - | 1605 | 1601.56 | 2.94E+01 | 28.10 | 1.03E+02 | 2.37 |
| | 27 | 1836.54 | 1830 - | 1842 | 1835.99 | 1.79E+02 | 37.91 | 8.57E+01 | 2.28 |
| | 28 | 1936.97 | 1933 - | 1940 | 1936.39 | 1.62E+01 | 18.00 | 4.16E+01 | 2.25 |
| | 29 | 1947.12 | 1941 - | 1952 | 1946.53 | 3.18E+01 | 23.66 | 5.44E+01 | 8.66 |
| | 30 | 1979.69 | 1976 - | 1984 | 1979.09 | 1.81E+01 | 19.97 | 5.19E+01 | 4.10 |
| | 31 | 2044.07 | 2041 - | 2046 | 2043.45 | 1.36E+01 | 14.21 | 2.89E+01 | 3.24 |
| | 32 | 2074.76 | 2069 - | 2079 | 2074.13 | 2.55E+01 | 19.79 | 3.89E+01 | 8.13 |
| | 33 | 2176.10 | 2169 - | 2180 | 2175.43 | 2.61E+01 | 20.98 | 4.19E+01 | 2.56 |
| | 34 | 2281.79 | 2279 - | 2285 | 2281.09 | 1.20E+01 | 15.70 | 3.80E+01 | 1.87 |
| | 35 | 2400.72 | 2397 - | 2403 | 2400.00 | 8.00E+00 | 5.66 | 0.00E+00 | 3.88 |
| | 36 | 2506.04 | 2499 - | 2510 | 2505.29 | 1.60E+02 | 27.13 | 1.20E+01 | 2.42 |
| | 37 | 2614.59 | 2609 - | 2616 | 2613.81 | 1.14E+01 | 8.25 | 3.15E+00 | 2.37 |

Analysis Report for 1510085-01
GAS-1302

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/5/2015 6:40:28AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| M | 1 | 22.01 | 19 - | 29 | 1.11E+05 | 734.04 | 1.68E+04 | 2.13E+02 |
| m | 2 | 24.72 | 19 - | 29 | 3.40E+04 | 780.98 | 1.26E+04 | 1.84E+02 |
| | 3 | 32.15 | 30 - | 35 | 2.04E+03 | 264.22 | 1.24E+04 | 2.04E+02 |
| M | 4 | 52.10 | 45 - | 63 | 1.28E+04 | 666.07 | 4.52E+04 | 3.49E+02 |
| m | 5 | 59.47 | 45 - | 63 | 9.32E+04 | 685.89 | 1.89E+04 | 2.26E+02 |
| | 6 | 69.01 | 65 - | 75 | 2.06E+03 | 569.68 | 4.23E+04 | 4.62E+02 |
| M | 7 | 85.06 | 82 - | 93 | 1.49E+03 | 490.97 | 2.68E+04 | 2.69E+02 |
| m | 8 | 88.08 | 82 - | 93 | 3.94E+04 | 458.17 | 1.28E+04 | 1.86E+02 |
| | 9 | 122.11 | 118 - | 125 | 8.30E+03 | 356.76 | 1.57E+04 | 2.52E+02 |
| | 10 | 136.39 | 133 - | 140 | 1.15E+03 | 300.24 | 1.42E+04 | 2.40E+02 |
| | 11 | 166.05 | 163 - | 169 | 1.08E+03 | 254.49 | 1.10E+04 | 2.02E+02 |
| | 12 | 276.51 | 274 - | 280 | 2.23E+02 | 209.83 | 7.83E+03 | 1.71E+02 |
| | 13 | 352.09 | 350 - | 355 | 2.11E+02 | 170.20 | 5.61E+03 | 1.38E+02 |
| | 14 | 385.11 | 383 - | 388 | 1.72E+02 | 164.59 | 5.27E+03 | 1.34E+02 |
| | 15 | 391.84 | 389 - | 395 | 4.95E+02 | 190.37 | 6.25E+03 | 1.52E+02 |
| | 16 | 477.44 | 475 - | 479 | 1.19E+02 | 139.09 | 4.15E+03 | 1.13E+02 |
| | 17 | 661.87 | 657 - | 667 | 2.25E+04 | 364.29 | 5.65E+03 | 1.70E+02 |
| | 18 | 791.14 | 789 - | 794 | 1.10E+02 | 114.67 | 2.55E+03 | 9.27E+01 |
| | 19 | 898.17 | 895 - | 901 | 1.63E+02 | 150.79 | 4.02E+03 | 1.22E+02 |
| | 20 | 1083.37 | 1080 - | 1086 | 1.72E+02 | 127.43 | 2.82E+03 | 1.03E+02 |
| M | 21 | 1173.52 | 1166 - | 1180 | 1.92E+04 | 288.91 | 1.29E+03 | 5.91E+01 |
| m | 22 | 1177.30 | 1166 - | 1180 | 1.67E+02 | 268.55 | 1.39E+03 | 6.13E+01 |
| | 23 | 1229.15 | 1225 - | 1232 | 5.60E+01 | 69.02 | 7.58E+02 | 5.54E+01 |
| | 24 | 1261.56 | 1258 - | 1264 | 5.56E+01 | 48.12 | 3.79E+02 | 3.76E+01 |
| | 25 | 1332.80 | 1326 - | 1338 | 1.74E+04 | 274.20 | 6.49E+02 | 6.11E+01 |
| | 26 | 1602.04 | 1597 - | 1605 | 2.94E+01 | 28.10 | 1.03E+02 | 2.13E+01 |
| | 27 | 1836.54 | 1830 - | 1842 | 1.79E+02 | 37.91 | 8.57E+01 | 2.21E+01 |
| | 28 | 1936.97 | 1933 - | 1940 | 1.62E+01 | 18.00 | 4.16E+01 | 1.32E+01 |
| | 29 | 1947.12 | 1941 - | 1952 | 3.18E+01 | 23.66 | 5.44E+01 | 1.71E+01 |
| | 30 | 1979.69 | 1976 - | 1984 | 1.81E+01 | 19.97 | 5.19E+01 | 1.49E+01 |
| | 31 | 2044.07 | 2041 - | 2046 | 1.36E+01 | 14.21 | 2.89E+01 | 9.99E+00 |

Analysis Report for 1510085-01

GAS-1302

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 32 | 2074.76 | 2069 - | 2079 | 2.55E+01 | 19.79 | 3.89E+01 | 1.40E+01 |
| 33 | 2176.10 | 2169 - | 2180 | 2.61E+01 | 20.98 | 4.19E+01 | 1.51E+01 |
| 34 | 2281.79 | 2279 - | 2285 | 1.20E+01 | 15.70 | 3.80E+01 | 1.16E+01 |
| 35 | 2400.72 | 2397 - | 2403 | 8.00E+00 | 5.66 | 0.00E+00 | 0.00E+00 |
| 36 | 2506.04 | 2499 - | 2510 | 1.60E+02 | 27.13 | 1.20E+01 | 8.05E+00 |
| 37 | 2614.59 | 2609 - | 2616 | 1.14E+01 | 8.25 | 3.15E+00 | 3.88E+00 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/5/2015 6:40:28AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------------------------------|
| M | 1 | 22.01 | 19 - | 29 | 22.26 | 1.11E+05 | 734.04 | 1.68E+04 | ..... |
| m | 2 | 24.72 | 19 - | 29 | 24.96 | 3.40E+04 | 780.98 | 1.26E+04 | TH-231 |
| | 3 | 32.15 | 30 - | 35 | 32.39 | 2.04E+03 | 264.22 | 1.24E+04 | ..... |
| M | 4 | 52.10 | 45 - | 63 | 52.33 | 1.28E+04 | 666.07 | 4.52E+04 | ..... |
| m | 5 | 59.47 | 45 - | 63 | 59.69 | 9.32E+04 | 685.89 | 1.89E+04 | AM-241 |
| | 6 | 69.01 | 65 - | 75 | 69.23 | 2.06E+03 | 569.68 | 4.23E+04 | ..... |
| M | 7 | 85.06 | 82 - | 93 | 85.27 | 1.49E+03 | 490.97 | 2.68E+04 | TH-231 |
| m | 8 | 88.08 | 82 - | 93 | 88.29 | 3.94E+04 | 458.17 | 1.28E+04 | CD-109 LU-176 SN-126 |
| | 9 | 122.11 | 118 - | 125 | 122.30 | 8.30E+03 | 356.76 | 1.57E+04 | CO-57 EU-152 EU-154 SE-75 |
| | 10 | 136.39 | 133 - | 140 | 136.57 | 1.15E+03 | 300.24 | 1.42E+04 | CO-57 SE-75 |
| | 11 | 166.05 | 163 - | 169 | 166.22 | 1.08E+03 | 254.49 | 1.10E+04 | CE-139 |
| | 12 | 276.51 | 274 - | 280 | 276.62 | 2.23E+02 | 209.83 | 7.83E+03 | ..... |
| | 13 | 352.09 | 350 - | 355 | 352.16 | 2.11E+02 | 170.20 | 5.61E+03 | PB-214 |
| | 14 | 385.11 | 383 - | 388 | 385.16 | 1.72E+02 | 164.59 | 5.27E+03 | ..... |

Analysis Report for 1510085-01

GAS-1302

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| | 15 | 391.84 | 389 - | 395 | 391.89 | 4.95E+02 | 190.37 | 6.25E+03 | SN-113 |
| | 16 | 477.44 | 475 - | 479 | 477.44 | 1.19E+02 | 139.09 | 4.15E+03 | BE-7 PM-144 |
| | 17 | 661.87 | 657 - | 667 | 661.79 | 2.25E+04 | 364.29 | 5.65E+03 | CS-137 |
| | 18 | 791.14 | 789 - | 794 | 791.00 | 1.10E+02 | 114.67 | 2.55E+03 | ..... |
| | 19 | 898.17 | 895 - | 901 | 897.98 | 1.63E+02 | 150.79 | 4.02E+03 | Y-88 |
| | 20 | 1083.37 | 1080 - | 1086 | 1083.10 | 1.72E+02 | 127.43 | 2.82E+03 | ..... |
| M | 21 | 1173.52 | 1166 - | 1180 | 1173.21 | 1.92E+04 | 288.91 | 1.29E+03 | CO-60 |
| m | 22 | 1177.30 | 1166 - | 1180 | 1176.99 | 1.67E+02 | 268.55 | 1.39E+03 | ..... |
| | 23 | 1229.15 | 1225 - | 1232 | 1228.82 | 5.60E+01 | 69.02 | 7.58E+02 | ..... |
| | 24 | 1261.56 | 1258 - | 1264 | 1261.21 | 5.56E+01 | 48.12 | 3.79E+02 | ..... |
| | 25 | 1332.80 | 1326 - | 1338 | 1332.43 | 1.74E+04 | 274.20 | 6.49E+02 | CO-60 |
| | 26 | 1602.04 | 1597 - | 1605 | 1601.56 | 2.94E+01 | 28.10 | 1.03E+02 | ..... |
| | 27 | 1836.54 | 1830 - | 1842 | 1835.99 | 1.79E+02 | 37.91 | 8.57E+01 | Y-88 |
| | 28 | 1936.97 | 1933 - | 1940 | 1936.39 | 1.62E+01 | 18.00 | 4.16E+01 | ..... |
| | 29 | 1947.12 | 1941 - | 1952 | 1946.53 | 3.18E+01 | 23.66 | 5.44E+01 | ..... |
| | 30 | 1979.69 | 1976 - | 1984 | 1979.09 | 1.81E+01 | 19.97 | 5.19E+01 | ..... |
| | 31 | 2044.07 | 2041 - | 2046 | 2043.45 | 1.36E+01 | 14.21 | 2.89E+01 | ..... |
| | 32 | 2074.76 | 2069 - | 2079 | 2074.13 | 2.55E+01 | 19.79 | 3.89E+01 | ..... |
| | 33 | 2176.10 | 2169 - | 2180 | 2175.43 | 2.61E+01 | 20.98 | 4.19E+01 | ..... |
| | 34 | 2281.79 | 2279 - | 2285 | 2281.09 | 1.20E+01 | 15.70 | 3.80E+01 | ..... |
| | 35 | 2400.72 | 2397 - | 2403 | 2400.00 | 8.00E+00 | 5.66 | 0.00E+00 | ..... |
| | 36 | 2506.04 | 2499 - | 2510 | 2505.29 | 1.60E+02 | 27.13 | 1.20E+01 | ..... |
| | 37 | 2614.59 | 2609 - | 2616 | 2613.81 | 1.14E+01 | 8.25 | 3.15E+00 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/5/2015 6:40:28AM

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|----------|--------------|---------------|----------------------|-----------------|------------------------|
| M | 1 | 22.01 | 1.11E+05 | 734.04 | 1.16E-03 | 1.58E-03 |
| m | 2 | 24.72 | 3.40E+04 | 780.98 | 2.13E-03 | 1.58E-03 |
| | 3 | 32.15 | 2.04E+03 | 264.22 | 6.14E-03 | 1.58E-03 |
| M | 4 | 52.10 | 1.28E+04 | 666.07 | 1.78E-02 | 1.58E-03 |
| m | 5 | 59.47 | 9.32E+04 | 685.89 | 2.05E-02 | 1.58E-03 |
| | 6 | 69.01 | 2.06E+03 | 569.68 | 2.28E-02 | 1.90E-03 |

Analysis Report for 1510085-01

GAS-1302

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| M | 7 | 85.06 | 1.49E+03 | 490.97 | 2.43E-02 | 2.43E-03 |
| m | 8 | 88.08 | 3.94E+04 | 458.17 | 2.44E-02 | 2.52E-03 |
| | 9 | 122.11 | 8.30E+03 | 356.76 | 2.30E-02 | 1.73E-03 |
| | 10 | 136.39 | 1.15E+03 | 300.24 | 2.20E-02 | 1.66E-03 |
| | 11 | 166.05 | 1.08E+03 | 254.49 | 1.97E-02 | 1.51E-03 |
| | 12 | 276.51 | 2.23E+02 | 209.83 | 1.35E-02 | 1.01E-03 |
| | 13 | 352.09 | 2.11E+02 | 170.20 | 1.11E-02 | 8.93E-04 |
| | 14 | 385.11 | 1.72E+02 | 164.59 | 1.02E-02 | 8.47E-04 |
| | 15 | 391.84 | 4.95E+02 | 190.37 | 1.01E-02 | 8.37E-04 |
| | 16 | 477.44 | 1.19E+02 | 139.09 | 8.50E-03 | 7.52E-04 |
| | 17 | 661.87 | 2.25E+04 | 364.29 | 6.39E-03 | 5.68E-04 |
| | 18 | 791.14 | 1.10E+02 | 114.67 | 5.48E-03 | 4.62E-04 |
| | 19 | 898.17 | 1.63E+02 | 150.79 | 4.91E-03 | 3.75E-04 |
| | 20 | 1083.37 | 1.72E+02 | 127.43 | 4.19E-03 | 3.40E-04 |
| M | 21 | 1173.52 | 1.92E+04 | 288.91 | 3.92E-03 | 3.23E-04 |
| m | 22 | 1177.30 | 1.67E+02 | 268.55 | 3.91E-03 | 3.23E-04 |
| | 23 | 1229.15 | 5.60E+01 | 69.02 | 3.78E-03 | 3.11E-04 |
| | 24 | 1261.56 | 5.56E+01 | 48.12 | 3.70E-03 | 3.04E-04 |
| | 25 | 1332.80 | 1.74E+04 | 274.20 | 3.54E-03 | 2.89E-04 |
| | 26 | 1602.04 | 2.94E+01 | 28.10 | 3.07E-03 | 2.48E-04 |
| | 27 | 1836.54 | 1.79E+02 | 37.91 | 2.78E-03 | 2.13E-04 |
| | 28 | 1936.97 | 1.62E+01 | 18.00 | 2.68E-03 | 2.13E-04 |
| | 29 | 1947.12 | 3.18E+01 | 23.66 | 2.67E-03 | 2.13E-04 |
| | 30 | 1979.69 | 1.81E+01 | 19.97 | 2.64E-03 | 2.13E-04 |
| | 31 | 2044.07 | 1.36E+01 | 14.21 | 2.58E-03 | 2.13E-04 |
| | 32 | 2074.76 | 2.55E+01 | 19.79 | 2.56E-03 | 2.13E-04 |
| | 33 | 2176.10 | 2.61E+01 | 20.98 | 2.48E-03 | 2.13E-04 |
| | 34 | 2281.79 | 1.20E+01 | 15.70 | 2.41E-03 | 2.13E-04 |
| | 35 | 2400.72 | 8.00E+00 | 5.66 | 2.34E-03 | 2.13E-04 |
| | 36 | 2506.04 | 1.60E+02 | 27.13 | 2.29E-03 | 2.13E-04 |
| | 37 | 2614.59 | 1.14E+01 | 8.25 | 2.24E-03 | 2.13E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/5/2015 6:40:28AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Analysis Report for 1510085-01

GAS-1302

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| M | 1 | 22.01 | 1.11E+05 | 734.04 | 1.21E+01 | 5.69E+00 | 1.11E+05 | 7.34E+02 |
| m | 2 | 24.72 | 3.40E+04 | 780.98 | | | 3.40E+04 | 7.81E+02 |
| | 3 | 32.15 | 2.04E+03 | 264.22 | | | 2.04E+03 | 2.64E+02 |
| M | 4 | 52.10 | 1.28E+04 | 666.07 | | | 1.28E+04 | 6.66E+02 |
| m | 5 | 59.47 | 9.32E+04 | 685.89 | 8.89E+00 | 3.82E+00 | 9.32E+04 | 6.86E+02 |
| | 6 | 69.01 | 2.06E+03 | 569.68 | | | 2.06E+03 | 5.70E+02 |
| M | 7 | 85.06 | 1.49E+03 | 490.97 | 4.34E+00 | 2.22E+00 | 1.49E+03 | 4.91E+02 |
| m | 8 | 88.08 | 3.94E+04 | 458.17 | 7.62E+00 | 2.68E+00 | 3.94E+04 | 4.58E+02 |
| | 9 | 122.11 | 8.30E+03 | 356.76 | | | 8.30E+03 | 3.57E+02 |
| | 10 | 136.39 | 1.15E+03 | 300.24 | | | 1.15E+03 | 3.00E+02 |
| | 11 | 166.05 | 1.08E+03 | 254.49 | | | 1.08E+03 | 2.54E+02 |
| | 12 | 276.51 | 2.23E+02 | 209.83 | | | 2.23E+02 | 2.10E+02 |
| | 13 | 352.09 | 2.11E+02 | 170.20 | 2.00E+00 | 2.37E+00 | 2.09E+02 | 1.70E+02 |
| | 14 | 385.11 | 1.72E+02 | 164.59 | | | 1.72E+02 | 1.65E+02 |
| | 15 | 391.84 | 4.95E+02 | 190.37 | | | 4.95E+02 | 1.90E+02 |
| | 16 | 477.44 | 1.19E+02 | 139.09 | | | 1.19E+02 | 1.39E+02 |
| | 17 | 661.87 | 2.25E+04 | 364.29 | 3.38E+00 | 1.70E+00 | 2.25E+04 | 3.64E+02 |
| | 18 | 791.14 | 1.10E+02 | 114.67 | | | 1.10E+02 | 1.15E+02 |
| | 19 | 898.17 | 1.63E+02 | 150.79 | | | 1.63E+02 | 1.51E+02 |
| | 20 | 1083.37 | 1.72E+02 | 127.43 | | | 1.72E+02 | 1.27E+02 |
| M | 21 | 1173.52 | 1.92E+04 | 288.91 | 3.60E+00 | 1.29E+00 | 1.92E+04 | 2.89E+02 |
| m | 22 | 1177.30 | 1.67E+02 | 268.55 | | | 1.67E+02 | 2.69E+02 |
| | 23 | 1229.15 | 5.60E+01 | 69.02 | | | 5.60E+01 | 6.90E+01 |
| | 24 | 1261.56 | 5.56E+01 | 48.12 | | | 5.56E+01 | 4.81E+01 |
| | 25 | 1332.80 | 1.74E+04 | 274.20 | 2.12E+00 | 1.11E+00 | 1.74E+04 | 2.74E+02 |
| | 26 | 1602.04 | 2.94E+01 | 28.10 | | | 2.94E+01 | 2.81E+01 |
| | 27 | 1836.54 | 1.79E+02 | 37.91 | | | 1.79E+02 | 3.79E+01 |
| | 28 | 1936.97 | 1.62E+01 | 18.00 | | | 1.62E+01 | 1.80E+01 |
| | 29 | 1947.12 | 3.18E+01 | 23.66 | | | 3.18E+01 | 2.37E+01 |
| | 30 | 1979.69 | 1.81E+01 | 19.97 | | | 1.81E+01 | 2.00E+01 |
| | 31 | 2044.07 | 1.36E+01 | 14.21 | | | 1.36E+01 | 1.42E+01 |
| | 32 | 2074.76 | 2.55E+01 | 19.79 | | | 2.55E+01 | 1.98E+01 |
| | 33 | 2176.10 | 2.61E+01 | 20.98 | | | 2.61E+01 | 2.10E+01 |
| | 34 | 2281.79 | 1.20E+01 | 15.70 | | | 1.20E+01 | 1.57E+01 |
| | 35 | 2400.72 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| | 36 | 2506.04 | 1.60E+02 | 27.13 | | | 1.60E+02 | 2.71E+01 |
| | 37 | 2614.59 | 1.14E+01 | 8.25 | 1.33E+00 | 6.10E-01 | 1.01E+01 | 8.27E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-01

GAS-1302

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/5/2015 6:40:28AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area is: Original * Peak Ratio - Background

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| M | 1 | 22.01 | 1.11E+05 | 734.04 | 1.21E+01 | 5.69E+00 | 1.11E+05 | 7.34E+02 |
| m | 2 | 24.72 | 3.40E+04 | 780.98 | | | 3.40E+04 | 7.81E+02 |
| | 3 | 32.15 | 2.04E+03 | 264.22 | | | 2.04E+03 | 2.64E+02 |
| M | 4 | 52.10 | 1.28E+04 | 666.07 | | | 1.28E+04 | 6.66E+02 |
| m | 5 | 59.47 | 9.32E+04 | 685.89 | 8.89E+00 | 3.82E+00 | 9.32E+04 | 6.86E+02 |
| | 6 | 69.01 | 2.06E+03 | 569.68 | | | 2.06E+03 | 5.70E+02 |
| M | 7 | 85.06 | 1.49E+03 | 490.97 | 4.34E+00 | 2.22E+00 | 1.49E+03 | 4.91E+02 |
| m | 8 | 88.08 | 3.94E+04 | 458.17 | 7.62E+00 | 2.68E+00 | 3.94E+04 | 4.58E+02 |
| | 9 | 122.11 | 8.30E+03 | 356.76 | | | 8.30E+03 | 3.57E+02 |
| | 10 | 136.39 | 1.15E+03 | 300.24 | | | 1.15E+03 | 3.00E+02 |
| | 11 | 166.05 | 1.08E+03 | 254.49 | | | 1.08E+03 | 2.54E+02 |
| | 12 | 276.51 | 2.23E+02 | 209.83 | | | 2.23E+02 | 2.10E+02 |
| | 13 | 352.09 | 2.11E+02 | 170.20 | 2.00E+00 | 2.37E+00 | 2.09E+02 | 1.70E+02 |
| | 14 | 385.11 | 1.72E+02 | 164.59 | | | 1.72E+02 | 1.65E+02 |
| | 15 | 391.84 | 4.95E+02 | 190.37 | | | 4.95E+02 | 1.90E+02 |
| | 16 | 477.44 | 1.19E+02 | 139.09 | | | 1.19E+02 | 1.39E+02 |
| | 17 | 661.87 | 2.25E+04 | 364.29 | 3.38E+00 | 1.70E+00 | 2.25E+04 | 3.64E+02 |
| | 18 | 791.14 | 1.10E+02 | 114.67 | | | 1.10E+02 | 1.15E+02 |
| | 19 | 898.17 | 1.63E+02 | 150.79 | | | 1.63E+02 | 1.51E+02 |
| | 20 | 1083.37 | 1.72E+02 | 127.43 | | | 1.72E+02 | 1.27E+02 |
| M | 21 | 1173.52 | 1.92E+04 | 288.91 | 3.60E+00 | 1.29E+00 | 1.92E+04 | 2.89E+02 |
| m | 22 | 1177.30 | 1.67E+02 | 268.55 | | | 1.67E+02 | 2.69E+02 |
| | 23 | 1229.15 | 5.60E+01 | 69.02 | | | 5.60E+01 | 6.90E+01 |
| | 24 | 1261.56 | 5.56E+01 | 48.12 | | | 5.56E+01 | 4.81E+01 |
| | 25 | 1332.80 | 1.74E+04 | 274.20 | 2.12E+00 | 1.11E+00 | 1.74E+04 | 2.74E+02 |
| | 26 | 1602.04 | 2.94E+01 | 28.10 | | | 2.94E+01 | 2.81E+01 |
| | 27 | 1836.54 | 1.79E+02 | 37.91 | | | 1.79E+02 | 3.79E+01 |
| | 28 | 1936.97 | 1.62E+01 | 18.00 | | | 1.62E+01 | 1.80E+01 |
| | 29 | 1947.12 | 3.18E+01 | 23.66 | | | 3.18E+01 | 2.37E+01 |
| | 30 | 1979.69 | 1.81E+01 | 19.97 | | | 1.81E+01 | 2.00E+01 |
| | 31 | 2044.07 | 1.36E+01 | 14.21 | | | 1.36E+01 | 1.42E+01 |
| | 32 | 2074.76 | 2.55E+01 | 19.79 | | | 2.55E+01 | 1.98E+01 |
| | 33 | 2176.10 | 2.61E+01 | 20.98 | | | 2.61E+01 | 2.10E+01 |
| | 34 | 2281.79 | 1.20E+01 | 15.70 | | | 1.20E+01 | 1.57E+01 |
| | 35 | 2400.72 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| | 36 | 2506.04 | 1.60E+02 | 27.13 | | | 1.60E+02 | 2.71E+01 |
| | 37 | 2614.59 | 1.14E+01 | 8.25 | 1.33E+00 | 6.10E-01 | 1.01E+01 | 8.27E+00 |

Analysis Report for 1510085-01

GAS-1302

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|-------------------------|-------------------------|
| CO-57 | 0.951 | 122.06 * | 85.51 | 7.70E+01 | 6.72E+00 |
| | | 136.48 * | 10.60 | 9.02E+01 | 2.47E+01 |
| CO-60 | 0.984 | 1173.22 * | 100.00 | 1.36E+02 | 1.14E+01 |
| | | 1332.49 * | 100.00 | 1.37E+02 | 1.13E+01 |
| Y-88 | 0.706 | 898.02 * | 93.40 | 1.90E+02 | 1.77E+02 |
| | | 1836.01 * | 99.38 | 3.48E+02 | 7.84E+01 |
| CD-109 | 0.983 | 88.03 * | 3.72 | 3.18E+03 | 3.81E+02 |
| SN-113 | 0.714 | 255.12 | 1.93 | | |
| | | 391.69 * | 64.90 | 2.69E+02 | 1.06E+02 |
| SN-126 | 0.959 | 87.57 * | 37.00 | 8.90E+01 | 9.26E+00 |
| CS-137 | 0.992 | 661.65 * | 85.12 | 8.90E+01 | 8.05E+00 |
| CE-139 | 0.819 | 165.85 * | 80.35 | 1.04E+02 | 2.58E+01 |
| PB-214 | 0.425 | 295.21 | 19.19 | | |
| | | 351.92 * | 37.19 | 1.04E+00 | 8.50E-01 |
| TH-231 | 0.878 | 25.64 * | 14.70 | 2.22E+03 | 1.65E+03 |
| | | 84.21 * | 6.40 | 1.95E+01 | 6.72E+00 |
| AM-241 | 0.999 | 59.54 * | 35.90 | 2.59E+02 | 2.01E+01 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-01
 GAS-1302

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/5/2015 6:40:28AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| M 1 | 22.01 | 6.17089E+01 | 0.33 | | |
| 3 | 32.15 | 1.13600E+00 | 6.46 | | |
| M 4 | 52.10 | 7.10848E+00 | 2.60 | | |
| 6 | 69.01 | 1.14692E+00 | 13.80 | | |
| 12 | 276.51 | 1.23751E-01 | 47.10 | | |
| 14 | 385.11 | 9.57335E-02 | 47.76 | | |
| 16 | 477.44 | 6.59745E-02 | 58.56 | Sum | |
| 18 | 791.14 | 6.12733E-02 | 51.99 | | |
| 20 | 1083.37 | 9.53626E-02 | 37.12 | | |
| m 22 | 1177.30 | 9.27724E-02 | 80.41 | | |
| 23 | 1229.15 | 3.11111E-02 | 61.63 | | |
| 24 | 1261.56 | 3.08730E-02 | 43.29 | Sum | |
| 26 | 1602.04 | 1.63443E-02 | 47.76 | | |
| 28 | 1936.97 | 8.98649E-03 | 55.64 | | |
| 29 | 1947.12 | 1.76601E-02 | 37.22 | | |
| 30 | 1979.69 | 1.00316E-02 | 55.29 | | |
| 31 | 2044.07 | 7.53968E-03 | 52.36 | | |
| 32 | 2074.76 | 1.41914E-02 | 38.74 | | |
| 33 | 2176.10 | 1.44799E-02 | 40.24 | | |
| 34 | 2281.79 | 6.65771E-03 | 65.51 | | |
| 35 | 2400.72 | 4.44444E-03 | 35.36 | | |
| 36 | 2506.04 | 8.88889E-02 | 8.48 | Sum | |
| 37 | 2614.59 | 5.60601E-03 | 40.97 | Tol. | TL-208 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Analysis Report for 1510085-01
GAS-1302

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|--|-----------------|-----------------------------|-----------------------------|
| CO-57 | 0.95 | 122.06 * | | 85.51 | 7.70E+01 | 6.72E+00 |
| | | 136.48 * | | 10.60 | 9.02E+01 | 2.47E+01 |
| CO-60 | 0.98 | 1173.22 * | | 100.00 | 1.36E+02 | 1.14E+01 |
| | | 1332.49 * | | 100.00 | 1.37E+02 | 1.13E+01 |
| Y-88 | 0.70 | 898.02 * | | 93.40 | 1.90E+02 | 1.77E+02 |
| | | 1836.01 * | | 99.38 | 3.48E+02 | 7.84E+01 |
| CD-109 | 0.98 | 88.03 * | | 3.72 | 3.18E+03 | 3.81E+02 |
| SN-113 | 0.71 | 255.12 | | 1.93 | | |
| | | 391.69 * | | 64.90 | 2.69E+02 | 1.06E+02 |
| SN-126 | 0.95 | 87.57 * | | 37.00 | 8.90E+01 | 9.26E+00 |
| CS-137 | 0.99 | 661.65 * | | 85.12 | 8.90E+01 | 8.05E+00 |
| CE-139 | 0.81 | 165.85 * | | 80.35 | 1.04E+02 | 2.58E+01 |
| PB-214 | 0.42 | 295.21 | | 19.19 | | |
| | | 351.92 * | | 37.19 | 1.04E+00 | 8.50E-01 |
| TH-231 | 0.87 | 25.64 * | | 14.70 | 2.22E+03 | 1.65E+03 |
| | | 84.21 * | | 6.40 | 1.95E+01 | 6.72E+00 |
| AM-241 | 0.99 | 59.54 * | | 35.90 | 2.59E+02 | 2.01E+01 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| CO-57 | 0.951 | 7.79E+01 | 6.49E+00 | |
| CO-60 | 0.984 | 1.36E+02 | 8.05E+00 | |
| Y-88 | 0.706 | 3.22E+02 | 7.17E+01 | |
| ? CD-109 | 0.983 | 3.18E+03 | 3.81E+02 | |
| SN-113 | 0.714 | 2.69E+02 | 1.06E+02 | |
| ? SN-126 | 0.959 | 8.90E+01 | 9.26E+00 | |
| CS-137 | 0.992 | 8.90E+01 | 8.05E+00 | |
| CE-139 | 0.819 | 1.04E+02 | 2.58E+01 | |

Analysis Report for 1510085-01

GAS-1302

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-------------------------|--------------------------------------|---|---|-----------------|
| PB-214 | 0.425 | 1.04E+00 | 8.50E-01 | |
| TH-231 | 0.878 | 1.95E+01 | 6.72E+00 | |
| AM-241 | 0.999 | 2.59E+02 | 2.01E+01 | |

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-01
GAS-1302

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/5/2015 6:40:28AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| M | 1 | 22.01 | 6.17089E+01 | 0.33 | |
| | 3 | 32.15 | 1.13600E+00 | 6.46 | |
| M | 4 | 52.10 | 7.10848E+00 | 2.60 | |
| | 6 | 69.01 | 1.14692E+00 | 13.80 | |
| | 12 | 276.51 | 1.23751E-01 | 47.10 | |
| | 14 | 385.11 | 9.57335E-02 | 47.76 | |
| | 16 | 477.44 | 6.59745E-02 | 58.56 | Sum |
| | 18 | 791.14 | 6.12733E-02 | 51.99 | |
| | 20 | 1083.37 | 9.53626E-02 | 37.12 | |
| m | 22 | 1177.30 | 9.27724E-02 | 80.41 | |
| | 23 | 1229.15 | 3.11111E-02 | 61.63 | |
| | 24 | 1261.56 | 3.08730E-02 | 43.29 | Sum |
| | 26 | 1602.04 | 1.63443E-02 | 47.76 | |
| | 28 | 1936.97 | 8.98649E-03 | 55.64 | |
| | 29 | 1947.12 | 1.76601E-02 | 37.22 | |
| | 30 | 1979.69 | 1.00316E-02 | 55.29 | |
| | 31 | 2044.07 | 7.53968E-03 | 52.36 | |
| | 32 | 2074.76 | 1.41914E-02 | 38.74 | |
| | 33 | 2176.10 | 1.44799E-02 | 40.24 | |
| | 34 | 2281.79 | 6.65771E-03 | 65.51 | |
| | 35 | 2400.72 | 4.44444E-03 | 35.36 | |
| | 36 | 2506.04 | 8.88889E-02 | 8.48 | Sum |
| | 37 | 2614.59 | 5.60601E-03 | 40.97 | Tol. TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-01

GAS-1302

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | BE-7 | 477.59 | 10.42 | 2.43E+04 | 3.98E+05 | 3.98E+05 |
| + | NA-22 | 1274.54 | 99.94 | -6.01E-03 | 8.40E-01 | 8.40E-01 |
| + | @ NA-24 | 1368.53 | 99.99 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 2754.09 | 99.86 | 1.00E+26 | | 1.00E+26 |
| + | AL-26 | 1808.65 | 99.76 | 0.00E+00 | 2.54E-01 | 2.54E-01 |
| + | K-40 | 1460.81 | 10.67 | 1.48E+00 | 2.76E+00 | 2.76E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | 5.38E-01 | 4.37E-01 | 4.78E-01 |
| | | 78.34 | 96.00 | 1.06E-02 | | 4.37E-01 |
| + | SC-46 | 889.25 | 99.98 | -5.84E+02 | 9.70E+02 | 9.99E+02 |
| | | 1120.51 | 99.99 | 7.78E+01 | | 9.70E+02 |
| + | V-48 | 983.52 | 99.98 | -4.78E+15 | 6.36E+15 | 1.26E+16 |
| | | 1312.10 | 97.50 | 4.05E+14 | | 6.36E+15 |
| + | CR-51 | 320.08 | 9.83 | 9.47E+08 | 9.95E+09 | 9.95E+09 |
| + | MN-54 | 834.83 | 99.97 | -1.49E+00 | 5.00E+00 | 5.00E+00 |
| + | CO-56 | 846.75 | 99.96 | -1.41E+02 | 2.74E+02 | 1.47E+03 |
| | | 1037.75 | 14.03 | 1.48E+03 | | 1.18E+04 |
| | | 1238.25 | 67.00 | 4.75E+02 | | 1.34E+03 |
| | | 1771.40 | 15.51 | 4.33E+02 | | 3.16E+03 |
| | | 2598.48 | 16.90 | 0.00E+00 | | 2.74E+02 |
| + | CO-57 | 122.06 | * 85.51 | 7.70E+01 | 4.71E+00 | 4.71E+00 |
| | | 136.48 | * 10.60 | 9.02E+01 | | 3.80E+01 |
| + | CO-58 | 810.76 | 99.40 | -7.57E+02 | 3.24E+03 | 3.24E+03 |
| + | FE-59 | 1099.22 | 56.50 | 2.85E+05 | 6.16E+05 | 9.95E+05 |
| | | 1291.56 | 43.20 | -3.95E+05 | | 6.16E+05 |
| + | CO-60 | 1173.22 | * 100.00 | 1.36E+02 | 9.82E-01 | 1.91E+00 |
| | | 1332.49 | * 100.00 | 1.37E+02 | | 9.82E-01 |
| + | ZN-65 | 1115.52 | 50.75 | 1.35E+01 | 1.99E+01 | 1.99E+01 |
| + | @ GA-67 | 93.31 | 35.70 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 208.95 | 2.24 | 1.00E+26 | | 1.00E+26 |
| | @ | 300.22 | 16.00 | 1.00E+26 | | 1.00E+26 |
| + | SE-75 | 121.11 | 16.70 | 5.94E+03 | 7.87E+01 | 4.02E+02 |
| | | 136.00 | 59.20 | 2.79E+02 | | 7.87E+01 |
| | | 264.65 | 59.80 | 1.97E+01 | | 1.07E+02 |
| | | 279.53 | 25.20 | 2.49E+01 | | 2.56E+02 |
| | | 400.65 | 11.40 | 5.28E+02 | | 6.89E+02 |
| + | RB-82 | 776.52 | 13.00 | -3.72E+09 | 6.63E+10 | 6.63E+10 |
| + | RB-83 | 520.41 | 46.00 | -3.25E+02 | 1.22E+03 | 1.22E+03 |
| | | 529.64 | 30.30 | -4.21E+02 | | 1.83E+03 |
| | | 552.65 | 16.40 | 5.69E+02 | | 3.43E+03 |
| + | KR-85 | 513.99 | 0.43 | 5.42E+01 | 1.58E+02 | 1.58E+02 |
| + | SR-85 | 513.99 | 99.27 | 1.94E+03 | 5.64E+03 | 5.64E+03 |

Analysis Report for 1510085-01
GAS-1302

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|---|-----------------|---------------------------------|------------------------------------|---------------------------------|
| + | Y-88 | 898.02 | * | 93.40 | 1.90E+02 | 9.11E+01 | 2.89E+02 |
| | | 1836.01 | * | 99.38 | 3.48E+02 | | 9.11E+01 |
| + | NB-93M | 16.57 | | 9.43 | 2.53E+03 | 7.06E+02 | 7.06E+02 |
| + | NB-94 | 702.63 | | 100.00 | 8.10E-02 | 6.15E-01 | 6.15E-01 |
| | | 871.10 | | 100.00 | 1.44E-01 | | 8.17E-01 |
| + | NB-95 | 765.79 | | 99.81 | 4.21E+06 | 1.57E+07 | 1.57E+07 |
| + | @ NB-95M | 235.69 | | 25.00 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | ZR-95 | 724.18 | | 43.70 | 5.88E+03 | 1.27E+04 | 1.54E+04 |
| | | 756.72 | | 55.30 | 9.31E+02 | | 1.27E+04 |
| + | @ MO-99 | 181.06 | | 6.20 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 739.58 | | 12.80 | 1.00E+26 | | 1.00E+26 |
| | @ | 778.00 | | 4.50 | 1.00E+26 | | 1.00E+26 |
| + | RU-103 | 497.08 | | 89.00 | -4.88E+05 | 2.37E+06 | 2.37E+06 |
| + | RU-106 | 621.84 | | 9.80 | -7.90E+00 | 2.93E+01 | 2.93E+01 |
| + | AG-108M | 433.93 | | 89.90 | -2.79E-01 | 6.64E-01 | 6.66E-01 |
| | | 614.37 | | 90.40 | 5.77E-02 | | 6.64E-01 |
| | | 722.95 | | 90.50 | 9.13E-02 | | 6.94E-01 |
| + | CD-109 | 88.03 | * | 3.72 | 3.18E+03 | 6.78E+01 | 6.78E+01 |
| + | AG-110M | 657.75 | | 93.14 | -7.37E-01 | 1.26E+01 | 1.69E+01 |
| | | 677.61 | | 10.53 | 2.15E+01 | | 6.05E+01 |
| | | 706.67 | | 16.46 | -2.15E+01 | | 4.00E+01 |
| | | 763.93 | | 21.98 | -4.17E+00 | | 3.31E+01 |
| | | 884.67 | | 71.63 | -3.85E+00 | | 1.26E+01 |
| | | 1384.27 | | 23.94 | -2.28E+00 | | 1.29E+01 |
| + | CD-113M | 263.70 | | 0.02 | 2.44E+02 | 2.20E+03 | 2.20E+03 |
| + | SN-113 | 255.12 | | 1.93 | 3.85E+00 | 1.67E+02 | 4.05E+03 |
| | | 391.69 | * | 64.90 | 2.69E+02 | | 1.67E+02 |
| + | TE123M | 159.00 | | 84.10 | 1.83E+01 | 5.17E+01 | 5.17E+01 |
| + | SB-124 | 602.71 | | 97.87 | -2.05E+03 | 1.05E+04 | 1.14E+04 |
| | | 645.85 | | 7.26 | 6.99E+04 | | 1.65E+05 |
| | | 722.78 | | 11.10 | 1.42E+04 | | 1.08E+05 |
| | | 1691.02 | | 49.00 | 2.20E+03 | | 1.05E+04 |
| + | I-125 | 35.49 | | 6.49 | 2.32E+05 | 2.65E+05 | 2.65E+05 |
| + | SB-125 | 176.33 | | 6.89 | 2.85E+00 | 3.61E+00 | 8.20E+00 |
| | | 427.89 | | 29.33 | 6.08E-01 | | 3.61E+00 |
| | | 463.38 | | 10.35 | -6.07E-01 | | 1.10E+01 |
| | | 600.56 | | 17.80 | -6.23E-01 | | 5.84E+00 |
| | | 635.90 | | 11.32 | 8.19E-01 | | 9.56E+00 |
| + | @ SB-126 | 414.70 | | 83.30 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 666.33 | | 99.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 695.00 | | 99.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 720.50 | | 53.80 | 1.00E+26 | | 1.00E+26 |
| + | SN-126 | 87.57 | * | 37.00 | 8.90E+01 | 1.90E+00 | 1.90E+00 |
| + | @ SB-127 | 473.00 | | 25.00 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 685.20 | | 35.70 | 1.00E+26 | | 1.00E+26 |
| | @ | 783.80 | | 14.70 | 1.00E+26 | | 1.00E+26 |
| + | I-129 | 29.78 | | 57.00 | -2.69E+01 | 2.86E+00 | 2.86E+00 |
| | | 33.60 | | 13.20 | 2.21E+01 | | 8.75E+00 |

Analysis Report for 1510085-01

GAS-1302

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | I-129 | 39.58 | 7.52 | -3.86E+01 | 2.86E+00 | 9.55E+00 |
| + | @ I-131 | 284.30 | 6.05 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 364.48 | 81.20 | 1.00E+26 | | 1.00E+26 |
| | @ | 636.97 | 7.26 | 1.00E+26 | | 1.00E+26 |
| | @ | 722.89 | 1.80 | 1.00E+26 | | 1.00E+26 |
| + | @ TE-132 | 49.72 | 13.10 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 228.16 | 88.00 | 1.00E+26 | | 1.00E+26 |
| + | BA-133 | 81.00 | 33.00 | -5.66E-01 | 9.82E-01 | 1.44E+00 |
| | | 302.84 | 17.80 | -1.41E-01 | | 3.07E+00 |
| | | 356.01 | 60.00 | 1.37E-01 | | 9.82E-01 |
| + | @ I-133 | 529.87 | 86.30 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | @ XE-133 | 81.00 | 38.00 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | CS-134 | 563.23 | 8.38 | -9.73E-01 | 1.32E+00 | 1.51E+01 |
| | | 569.32 | 15.43 | -2.91E-01 | | 8.16E+00 |
| | | 604.70 | 97.60 | -2.67E-01 | | 1.32E+00 |
| | | 795.84 | 85.40 | -1.56E-01 | | 1.80E+00 |
| | | 801.93 | 8.73 | 6.33E+00 | | 1.82E+01 |
| + | CS-135 | 268.24 | 16.00 | 3.36E-01 | 2.81E+00 | 2.81E+00 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | -4.27E+19 | 2.97E+19 | 1.59E+20 |
| | | 163.89 | 4.61 | 4.00E+20 | | 2.90E+20 |
| | | 176.55 | 13.56 | 2.53E+19 | | 9.25E+19 |
| | | 273.65 | 12.66 | 4.20E+18 | | 1.44E+20 |
| | | 340.57 | 48.50 | 1.21E+18 | | 4.06E+19 |
| | | 818.50 | 99.70 | -6.03E+18 | | 2.97E+19 |
| | | 1048.07 | 79.60 | -1.44E+19 | | 4.37E+19 |
| | | 1235.34 | 19.70 | 4.79E+19 | | 1.01E+20 |
| + | CS-137 | 661.65 | * 85.12 | 8.90E+01 | 1.36E+00 | 1.36E+00 |
| + | LA-138 | 788.74 | 34.00 | -4.71E-01 | 4.58E-01 | 2.06E+00 |
| | | 1435.80 | 66.00 | 7.33E-02 | | 4.58E-01 |
| + | CE-139 | 165.85 | * 80.35 | 1.04E+02 | 3.93E+01 | 3.93E+01 |
| + | @ BA-140 | 162.64 | 6.70 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 304.84 | 4.50 | 1.00E+26 | | 1.00E+26 |
| | @ | 423.70 | 3.20 | 1.00E+26 | | 1.00E+26 |
| | @ | 437.55 | 2.00 | 1.00E+26 | | 1.00E+26 |
| | @ | 537.32 | 25.00 | 1.00E+26 | | 1.00E+26 |
| + | @ LA-140 | 328.77 | 20.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 487.03 | 45.50 | 1.00E+26 | | 1.00E+26 |
| | @ | 815.85 | 23.50 | 1.00E+26 | | 1.00E+26 |
| | @ | 1596.49 | 95.49 | 1.00E+26 | | 1.00E+26 |
| + | CE-141 | 145.44 | 48.40 | 4.76E+06 | 5.27E+07 | 5.27E+07 |
| + | @ CE-143 | 57.36 | 11.80 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 293.26 | 42.00 | 1.00E+26 | | 1.00E+26 |
| | @ | 664.55 | 5.20 | 1.00E+26 | | 1.00E+26 |
| + | CE-144 | 133.54 | 10.80 | -3.47E+01 | 2.28E+01 | 2.28E+01 |
| + | PM-144 | 476.78 | 42.00 | 4.20E+00 | 3.02E+00 | 7.66E+00 |

Analysis Report for 1510085-01
GAS-1302

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | PM-144 | 618.01 | 98.60 | -2.31E-01 | 3.02E+00 | 3.02E+00 |
| | | 696.49 | 99.49 | -1.79E+00 | | 3.11E+00 |
| + | PM-145 | 36.85 | 21.70 | 5.17E+00 | 2.19E+00 | 4.05E+00 |
| | | 37.36 | 39.70 | 1.29E-01 | | 2.19E+00 |
| | | 42.30 | 15.10 | -1.58E+00 | | 5.28E+00 |
| | | 72.40 | 2.31 | -5.76E+00 | | 1.99E+01 |
| + | PM-146 | 453.90 | 39.94 | -6.72E-02 | 2.09E+00 | 2.09E+00 |
| | | 735.90 | 14.01 | 8.42E-01 | | 6.09E+00 |
| | | 747.13 | 13.10 | -4.97E+00 | | 6.46E+00 |
| + | @ ND-147 | 91.11 | 28.90 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 531.02 | 13.10 | 1.00E+26 | | 1.00E+26 |
| + | @ PM-149 | 285.90 | 3.10 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | EU-152 | 121.78 | 20.50 | 4.02E+01 | 2.26E+00 | 2.61E+00 |
| | | 244.69 | 5.40 | 4.12E+00 | | 9.46E+00 |
| | | 344.27 | 19.13 | 2.94E-01 | | 2.91E+00 |
| | | 778.89 | 9.20 | 5.22E-01 | | 8.50E+00 |
| | | 964.01 | 10.40 | -5.87E+00 | | 1.01E+01 |
| | | 1085.78 | 7.22 | -1.12E+00 | | 1.41E+01 |
| | | 1112.02 | 9.60 | 7.21E+00 | | 1.08E+01 |
| | | 1407.95 | 14.94 | 1.00E+00 | | 2.26E+00 |
| + | GD-153 | 97.43 | 31.30 | -1.49E+00 | 1.05E+01 | 1.05E+01 |
| | | 103.18 | 22.20 | -1.58E+00 | | 1.49E+01 |
| + | EU-154 | 123.07 | 40.50 | 2.13E+01 | 1.40E+00 | 1.40E+00 |
| | | 723.30 | 19.70 | 4.98E-01 | | 3.79E+00 |
| | | 873.19 | 11.50 | -4.03E-01 | | 8.56E+00 |
| | | 996.32 | 10.30 | 3.41E+00 | | 1.02E+01 |
| | | 1004.76 | 17.90 | 3.25E+00 | | 6.00E+00 |
| | | 1274.45 | 35.50 | -1.09E-02 | | 1.52E+00 |
| + | EU-155 | 86.50 | 30.90 | 1.46E+02 | 1.91E+00 | 3.86E+00 |
| | | 105.30 | 20.70 | -7.09E-02 | | 1.91E+00 |
| + | EU-156 | 811.77 | 10.40 | 2.17E+17 | 5.58E+17 | 6.83E+17 |
| | | 1153.47 | 7.20 | -4.22E+17 | | 9.52E+17 |
| | | 1230.71 | 8.90 | 3.00E+17 | | 5.58E+17 |
| + | HO-166M | 184.41 | 72.60 | -2.08E-01 | 4.50E-01 | 4.50E-01 |
| | | 280.45 | 29.60 | 2.46E-01 | | 1.53E+00 |
| | | 410.94 | 11.10 | 5.35E+00 | | 5.12E+00 |
| | | 711.69 | 54.10 | -7.88E-02 | | 1.15E+00 |
| + | TM-171 | 66.72 | 0.14 | 6.83E+02 | 7.30E+02 | 7.30E+02 |
| + | HF-172 | 81.75 | 4.52 | -6.24E+00 | 6.19E+00 | 2.16E+01 |
| | | 125.81 | 11.30 | -1.20E+00 | | 6.19E+00 |
| + | @ LU-172 | 181.53 | 20.60 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 810.06 | 16.63 | 1.00E+26 | | 1.00E+26 |
| | @ | 912.12 | 15.25 | 1.00E+26 | | 1.00E+26 |
| | @ | 1093.66 | 62.50 | 1.00E+26 | | 1.00E+26 |
| + | LU-173 | 100.72 | 5.24 | 6.74E-02 | 6.94E+00 | 1.76E+01 |
| | | 272.11 | 21.20 | 6.11E-01 | | 6.94E+00 |
| + | HF-175 | 343.40 | 84.00 | -1.17E+03 | 2.83E+03 | 2.83E+03 |
| + | LU-176 | 88.34 | 13.30 | 2.47E+02 | 4.83E-01 | 6.33E+00 |
| | | 201.83 | 86.00 | -7.77E-02 | | 4.83E-01 |

Analysis Report for 1510085-01

GAS-1302

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | LU-176 | 306.78 | 94.00 | -1.91E-01 | 4.83E-01 | 5.03E-01 |
| + | TA-182 | 67.75 | 41.20 | 2.16E+02 | 1.92E+02 | 1.92E+02 |
| | | 1121.30 | 34.90 | 5.88E+01 | | 4.12E+02 |
| | | 1189.05 | 16.23 | 4.77E+02 | | 6.82E+02 |
| | | 1221.41 | 26.98 | 1.44E+02 | | 3.44E+02 |
| | | 1231.02 | 11.44 | -3.40E+01 | | 7.97E+02 |
| + | IR-192 | 308.46 | 29.68 | 3.08E+03 | 4.12E+03 | 4.92E+03 |
| | | 468.07 | 48.10 | 2.47E+03 | | 4.12E+03 |
| + | HG-203 | 279.19 | 77.30 | 4.09E+03 | 2.03E+05 | 2.03E+05 |
| + | BI-207 | 569.67 | 97.72 | -1.23E-01 | 6.11E-01 | 6.11E-01 |
| | | 1063.62 | 74.90 | -6.01E-01 | | 1.22E+00 |
| + | TL-208 | 583.14 | 30.22 | 3.57E-01 | 5.27E-01 | 1.93E+00 |
| | | 860.37 | 4.48 | -1.21E+00 | | 1.78E+01 |
| | | 2614.66 | 35.85 | 1.69E-02 | | 5.27E-01 |
| + | BI-210M | 262.00 | 45.00 | 4.12E-01 | 1.01E+00 | 1.01E+00 |
| | | 300.00 | 23.00 | -2.03E-01 | | 2.04E+00 |
| + | PB-210 | 46.50 | 4.25 | -1.15E+02 | 1.99E+01 | 1.99E+01 |
| + | PB-211 | 404.84 | 2.90 | -1.53E+01 | 1.89E+01 | 1.89E+01 |
| | | 831.96 | 2.90 | 1.96E+00 | | 2.58E+01 |
| + | BI-212 | 727.17 | 11.80 | 3.38E+00 | 5.36E+00 | 5.36E+00 |
| | | 1620.62 | 2.75 | 4.51E+00 | | 1.00E+01 |
| + | PB-212 | 238.63 | 44.60 | 3.45E-01 | 1.03E+00 | 1.03E+00 |
| | | 300.09 | 3.41 | -1.37E+00 | | 1.38E+01 |
| + | BI-214 | 609.31 | 46.30 | 2.17E-01 | 1.29E+00 | 1.29E+00 |
| | | 1120.29 | 15.10 | 4.31E-01 | | 5.38E+00 |
| | | 1764.49 | 15.80 | -5.03E-02 | | 1.67E+00 |
| | | 2204.22 | 4.98 | -4.87E-01 | | 5.10E+00 |
| + | PB-214 | 295.21 | 19.19 | 1.12E+00 | 1.38E+00 | 2.44E+00 |
| | | 351.92 | * 37.19 | 1.04E+00 | | 1.38E+00 |
| + | RN-219 | 401.80 | 6.50 | -4.16E+00 | 8.37E+00 | 8.37E+00 |
| + | RA-223 | 323.87 | 3.88 | -1.87E+00 | 1.22E+01 | 1.22E+01 |
| + | RA-224 | 240.98 | 3.95 | 4.46E+00 | 1.16E+01 | 1.16E+01 |
| + | RA-225 | 40.00 | 31.00 | -2.47E+18 | 6.11E+17 | 6.11E+17 |
| + | RA-226 | 186.21 | 3.28 | -3.54E+00 | 1.01E+01 | 1.01E+01 |
| + | TH-227 | 50.10 | 8.40 | 5.67E+01 | 3.98E+00 | 1.03E+01 |
| | | 236.00 | 11.50 | 2.00E+00 | | 3.98E+00 |
| | | 256.20 | 6.30 | 2.28E+00 | | 7.15E+00 |
| + | AC-228 | 338.32 | 11.40 | -3.27E-01 | 3.32E+00 | 4.29E+00 |
| | | 911.07 | 27.70 | 1.00E+00 | | 3.32E+00 |
| | | 969.11 | 16.60 | -5.66E-01 | | 5.46E+00 |
| + | TH-230 | 48.44 | 16.90 | 1.96E+01 | 5.11E+00 | 5.11E+00 |
| | | 62.85 | 4.60 | -1.04E+03 | | 1.24E+01 |
| | | 67.67 | 0.37 | 1.34E+02 | | 1.19E+02 |
| + | PA-231 | 283.67 | 1.60 | -1.51E+01 | 2.04E+01 | 2.81E+01 |
| | | 302.67 | 2.30 | -9.34E-01 | | 2.04E+01 |
| + | TH-231 | 25.64 | * 14.70 | 2.22E+03 | 1.16E+01 | 5.02E+01 |
| | | 84.21 | * 6.40 | 1.95E+01 | | 1.16E+01 |
| + | PA-233 | 311.98 | 38.60 | 2.09E+09 | 4.47E+09 | 4.47E+09 |

Analysis Report for 1510085-01

GAS-1302

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | PA-234 | 131.20 | 20.40 | -1.13E-01 | 1.42E+00 | 1.42E+00 |
| | | 733.99 | 8.80 | 2.14E+00 | | 7.23E+00 |
| | | 946.00 | 12.00 | -1.36E+00 | | 8.15E+00 |
| + | PA-234M | 1001.03 | 0.92 | -7.02E+00 | 9.51E+01 | 9.51E+01 |
| + | TH-234 | 63.29 | 3.80 | -3.96E+02 | 1.13E+01 | 1.13E+01 |
| + | U-235 | 143.76 | 10.50 | -2.11E-01 | 2.79E+00 | 2.79E+00 |
| | | 163.35 | 4.70 | 9.75E+00 | | 7.07E+00 |
| | | 205.31 | 4.70 | 1.60E+00 | | 8.98E+00 |
| + | NP-237 | 86.50 | 12.60 | 2.57E+02 | 6.82E+00 | 6.82E+00 |
| + | @ NP-239 | 106.10 | 22.70 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | | 228.18 | 10.70 | 1.00E+26 | | 1.00E+26 |
| | | 277.60 | 14.10 | 1.00E+26 | | 1.00E+26 |
| + | AM-241 | 59.54 | * 35.90 | 2.59E+02 | 3.94E+00 | 3.94E+00 |
| + | AM-243 | 74.67 | 66.00 | 3.56E-03 | 6.26E-01 | 6.26E-01 |
| + | CM-243 | 209.75 | 3.29 | -1.77E+00 | 3.45E+00 | 1.39E+01 |
| | | 228.14 | 10.60 | 1.17E+00 | | 4.54E+00 |
| | | 277.60 | 14.00 | 1.75E+00 | | 3.45E+00 |

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction
- ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| | BE-7 | 477.59 | 10.42 | 3.98E+05 | 3.98E+05 | 2.43E+04 | 1.97E+05 |
| | NA-22 | 1274.54 | 99.94 | 8.40E-01 | 8.40E-01 | -6.01E-03 | 4.06E-01 |
| @ | NA-24 | 1368.53 | 99.99 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | | 2754.09 | 99.86 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | AL-26 | 1808.65 | 99.76 | 2.54E-01 | 2.54E-01 | 0.00E+00 | 1.17E-01 |

Analysis Report for 1510085-01

GAS-1302

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| K-40 | 1460.81 | 10.67 | 2.76E+00 | 2.76E+00 | 1.48E+00 | 1.30E+00 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 4.78E-01 | 4.37E-01 | 5.38E-01 | 2.38E-01 |
| | 78.34 | 96.00 | 4.37E-01 | | 1.06E-02 | 2.17E-01 |
| SC-46 | 889.25 | 99.98 | 9.99E+02 | 9.70E+02 | -5.84E+02 | 4.93E+02 |
| | 1120.51 | 99.99 | 9.70E+02 | | 7.78E+01 | 4.77E+02 |
| V-48 | 983.52 | 99.98 | 1.26E+16 | 6.36E+15 | -4.78E+15 | 6.20E+15 |
| | 1312.10 | 97.50 | 6.36E+15 | | 4.05E+14 | 3.07E+15 |
| CR-51 | 320.08 | 9.83 | 9.95E+09 | 9.95E+09 | 9.47E+08 | 4.93E+09 |
| MN-54 | 834.83 | 99.97 | 5.00E+00 | 5.00E+00 | -1.49E+00 | 2.46E+00 |
| CO-56 | 846.75 | 99.96 | 1.47E+03 | 2.74E+02 | -1.41E+02 | 7.27E+02 |
| | 1037.75 | 14.03 | 1.18E+04 | | 1.48E+03 | 5.81E+03 |
| | 1238.25 | 67.00 | 1.34E+03 | | 4.75E+02 | 6.49E+02 |
| | 1771.40 | 15.51 | 3.16E+03 | | 4.33E+02 | 1.46E+03 |
| | 2598.48 | 16.90 | 2.74E+02 | | 0.00E+00 | 0.00E+00 |
| + CO-57 | 122.06 | * 85.51 | 4.71E+00 | 4.71E+00 | 7.70E+01 | 2.34E+00 |
| | 136.48 | * 10.60 | 3.80E+01 | | 9.02E+01 | 1.89E+01 |
| CO-58 | 810.76 | 99.40 | 3.24E+03 | 3.24E+03 | -7.57E+02 | 1.60E+03 |
| FE-59 | 1099.22 | 56.50 | 9.95E+05 | 6.16E+05 | 2.85E+05 | 4.90E+05 |
| | 1291.56 | 43.20 | 6.16E+05 | | -3.95E+05 | 2.97E+05 |
| + CO-60 | 1173.22 | * 100.00 | 1.91E+00 | 9.82E-01 | 1.36E+02 | 9.48E-01 |
| | 1332.49 | * 100.00 | 9.82E-01 | | 1.37E+02 | 4.80E-01 |
| ZN-65 | 1115.52 | 50.75 | 1.99E+01 | 1.99E+01 | 1.35E+01 | 9.79E+00 |
| @ GA-67 | 93.31 | 35.70 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 208.95 | 2.24 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 300.22 | 16.00 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| SE-75 | 121.11 | 16.70 | 4.02E+02 | 7.87E+01 | 5.94E+03 | 2.00E+02 |
| | 136.00 | 59.20 | 7.87E+01 | | 2.79E+02 | 3.91E+01 |
| | 264.65 | 59.80 | 1.07E+02 | | 1.97E+01 | 5.33E+01 |
| | 279.53 | 25.20 | 2.56E+02 | | 2.49E+01 | 1.27E+02 |
| | 400.65 | 11.40 | 6.89E+02 | | 5.28E+02 | 3.41E+02 |
| RB-82 | 776.52 | 13.00 | 6.63E+10 | 6.63E+10 | -3.72E+09 | 3.27E+10 |
| RB-83 | 520.41 | 46.00 | 1.22E+03 | 1.22E+03 | -3.25E+02 | 6.03E+02 |
| | 529.64 | 30.30 | 1.83E+03 | | -4.21E+02 | 9.05E+02 |
| | 552.65 | 16.40 | 3.43E+03 | | 5.69E+02 | 1.69E+03 |
| KR-85 | 513.99 | 0.43 | 1.58E+02 | 1.58E+02 | 5.42E+01 | 7.79E+01 |
| SR-85 | 513.99 | 99.27 | 5.64E+03 | 5.64E+03 | 1.94E+03 | 2.79E+03 |
| + Y-88 | 898.02 | * 93.40 | 2.89E+02 | 9.11E+01 | 1.90E+02 | 1.43E+02 |
| | 1836.01 | * 99.38 | 9.11E+01 | | 3.48E+02 | 4.29E+01 |
| NB-93M | 16.57 | 9.43 | 7.06E+02 | 7.06E+02 | 2.53E+03 | 3.51E+02 |
| NB-94 | 702.63 | 100.00 | 6.15E-01 | 6.15E-01 | 8.10E-02 | 3.03E-01 |
| | 871.10 | 100.00 | 8.17E-01 | | 1.44E-01 | 4.03E-01 |
| NB-95 | 765.79 | 99.81 | 1.57E+07 | 1.57E+07 | 4.21E+06 | 7.73E+06 |
| @ NB-95M | 235.69 | 25.00 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| ZR-95 | 724.18 | 43.70 | 1.54E+04 | 1.27E+04 | 5.88E+03 | 7.58E+03 |
| | 756.72 | 55.30 | 1.27E+04 | | 9.31E+02 | 6.25E+03 |
| @ MO-99 | 181.06 | 6.20 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 739.58 | 12.80 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 778.00 | 4.50 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| RU-103 | 497.08 | 89.00 | 2.37E+06 | 2.37E+06 | -4.88E+05 | 1.17E+06 |
| RU-106 | 621.84 | 9.80 | 2.93E+01 | 2.93E+01 | -7.90E+00 | 1.44E+01 |
| AG-108M | 433.93 | 89.90 | 6.66E-01 | 6.64E-01 | -2.79E-01 | 3.29E-01 |
| | 614.37 | 90.40 | 6.64E-01 | | 5.77E-02 | 3.27E-01 |

Analysis Report for 1510085-01

GAS-1302

| | Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| | AG-108M | 722.95 | 90.50 | 6.94E-01 | 6.64E-01 | 9.13E-02 | 3.42E-01 |
| + | CD-109 | 88.03 | * 3.72 | 6.78E+01 | 6.78E+01 | 3.18E+03 | 3.38E+01 |
| | AG-110M | 657.75 | 93.14 | 1.69E+01 | 1.26E+01 | -7.37E-01 | 8.42E+00 |
| | | 677.61 | 10.53 | 6.05E+01 | | 2.15E+01 | 2.98E+01 |
| | | 706.67 | 16.46 | 4.00E+01 | | -2.15E+01 | 1.97E+01 |
| | | 763.93 | 21.98 | 3.31E+01 | | -4.17E+00 | 1.63E+01 |
| | | 884.67 | 71.63 | 1.26E+01 | | -3.85E+00 | 6.23E+00 |
| | | 1384.27 | 23.94 | 1.29E+01 | | -2.28E+00 | 6.10E+00 |
| | CD-113M | 263.70 | 0.02 | 2.20E+03 | 2.20E+03 | 2.44E+02 | 1.09E+03 |
| + | SN-113 | 255.12 | 1.93 | 4.05E+03 | 1.67E+02 | 3.85E+00 | 2.01E+03 |
| | | 391.69 | * 64.90 | 1.67E+02 | | 2.69E+02 | 8.27E+01 |
| | TE123M | 159.00 | 84.10 | 5.17E+01 | 5.17E+01 | 1.83E+01 | 2.56E+01 |
| | SB-124 | 602.71 | 97.87 | 1.14E+04 | 1.05E+04 | -2.05E+03 | 5.64E+03 |
| | | 645.85 | 7.26 | 1.65E+05 | | 6.99E+04 | 8.12E+04 |
| | | 722.78 | 11.10 | 1.08E+05 | | 1.42E+04 | 5.30E+04 |
| | | 1691.02 | 49.00 | 1.05E+04 | | 2.20E+03 | 4.87E+03 |
| | I-125 | 35.49 | 6.49 | 2.65E+05 | 2.65E+05 | 2.32E+05 | 1.32E+05 |
| | SB-125 | 176.33 | 6.89 | 8.20E+00 | 3.61E+00 | 2.85E+00 | 4.06E+00 |
| | | 427.89 | 29.33 | 3.61E+00 | | 6.08E-01 | 1.79E+00 |
| | | 463.38 | 10.35 | 1.10E+01 | | -6.07E-01 | 5.46E+00 |
| | | 600.56 | 17.80 | 5.84E+00 | | -6.23E-01 | 2.88E+00 |
| | | 635.90 | 11.32 | 9.56E+00 | | 8.19E-01 | 4.72E+00 |
| | @ SB-126 | 414.70 | 83.30 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| | @ | 666.33 | 99.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | @ | 695.00 | 99.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | @ | 720.50 | 53.80 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| + | SN-126 | 87.57 | * 37.00 | 1.90E+00 | 1.90E+00 | 8.90E+01 | 9.45E-01 |
| | @ SB-127 | 473.00 | 25.00 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| | @ | 685.20 | 35.70 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | @ | 783.80 | 14.70 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | I-129 | 29.78 | 57.00 | 2.86E+00 | 2.86E+00 | -2.69E+01 | 1.42E+00 |
| | | 33.60 | 13.20 | 8.75E+00 | | 2.21E+01 | 4.35E+00 |
| | | 39.58 | 7.52 | 9.55E+00 | | -3.86E+01 | 4.74E+00 |
| | @ I-131 | 284.30 | 6.05 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| | @ | 364.48 | 81.20 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | @ | 636.97 | 7.26 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | @ | 722.89 | 1.80 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | @ TE-132 | 49.72 | 13.10 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| | @ | 228.16 | 88.00 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | BA-133 | 81.00 | 33.00 | 1.44E+00 | 9.82E-01 | -5.66E-01 | 7.17E-01 |
| | | 302.84 | 17.80 | 3.07E+00 | | -1.41E-01 | 1.52E+00 |
| | | 356.01 | 60.00 | 9.82E-01 | | 1.37E-01 | 4.86E-01 |
| | @ I-133 | 529.87 | 86.30 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| | @ XE-133 | 81.00 | 38.00 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| | CS-134 | 563.23 | 8.38 | 1.51E+01 | 1.32E+00 | -9.73E-01 | 7.47E+00 |
| | | 569.32 | 15.43 | 8.16E+00 | | -2.91E-01 | 4.03E+00 |
| | | 604.70 | 97.60 | 1.32E+00 | | -2.67E-01 | 6.53E-01 |
| | | 795.84 | 85.40 | 1.80E+00 | | -1.56E-01 | 8.89E-01 |
| | | 801.93 | 8.73 | 1.82E+01 | | 6.33E+00 | 9.00E+00 |
| | CS-135 | 268.24 | 16.00 | 2.81E+00 | 2.81E+00 | 3.36E-01 | 1.39E+00 |
| | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |

Analysis Report for 1510085-01

GAS-1302

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|----------|
| CS-136 | 153.22 | 7.46 | 1.59E+20 | 2.97E+19 | -4.27E+19 | 7.89E+19 | |
| | 163.89 | 4.61 | 2.90E+20 | | 4.00E+20 | 1.44E+20 | |
| | 176.55 | 13.56 | 9.25E+19 | | 2.53E+19 | 4.58E+19 | |
| | 273.65 | 12.66 | 1.44E+20 | | 4.20E+18 | 7.14E+19 | |
| | 340.57 | 48.50 | 4.06E+19 | | 1.21E+18 | 2.01E+19 | |
| | 818.50 | 99.70 | 2.97E+19 | | -6.03E+18 | 1.46E+19 | |
| | 1048.07 | 79.60 | 4.37E+19 | | -1.44E+19 | 2.15E+19 | |
| | 1235.34 | 19.70 | 1.01E+20 | | 4.79E+19 | 4.88E+19 | |
| + CS-137 | 661.65 * | 85.12 | 1.36E+00 | 1.36E+00 | 8.90E+01 | 6.73E-01 | |
| LA-138 | 788.74 | 34.00 | 2.06E+00 | 4.58E-01 | -4.71E-01 | 1.02E+00 | |
| | 1435.80 | 66.00 | 4.58E-01 | | 7.33E-02 | 2.17E-01 | |
| + CE-139 | 165.85 * | 80.35 | 3.93E+01 | 3.93E+01 | 1.04E+02 | 1.95E+01 | |
| @ BA-140 | 162.64 | 6.70 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 | |
| @ | 304.84 | 4.50 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| @ | 423.70 | 3.20 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| @ | 437.55 | 2.00 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| @ | 537.32 | 25.00 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| @ LA-140 | 328.77 | 20.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 | |
| @ | 487.03 | 45.50 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| @ | 815.85 | 23.50 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| @ | 1596.49 | 95.49 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| CE-141 | 145.44 | 48.40 | 5.27E+07 | 5.27E+07 | 4.76E+06 | 2.61E+07 | |
| @ CE-143 | 57.36 | 11.80 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 | |
| @ | 293.26 | 42.00 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| @ | 664.55 | 5.20 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| CE-144 | 133.54 | 10.80 | 2.28E+01 | 2.28E+01 | -3.47E+01 | 1.13E+01 | |
| PM-144 | 476.78 | 42.00 | 7.66E+00 | 3.02E+00 | 4.20E+00 | 3.79E+00 | |
| | 618.01 | 98.60 | 3.02E+00 | | -2.31E-01 | 1.49E+00 | |
| | 696.49 | 99.49 | 3.11E+00 | | -1.79E+00 | 1.53E+00 | |
| PM-145 | 36.85 | 21.70 | 4.05E+00 | 2.19E+00 | 5.17E+00 | 2.01E+00 | |
| | 37.36 | 39.70 | 2.19E+00 | | 1.29E-01 | 1.08E+00 | |
| | 42.30 | 15.10 | 5.28E+00 | | -1.58E+00 | 2.62E+00 | |
| | 72.40 | 2.31 | 1.99E+01 | | -5.76E+00 | 9.90E+00 | |
| PM-146 | 453.90 | 39.94 | 2.09E+00 | 2.09E+00 | -6.72E-02 | 1.03E+00 | |
| | 735.90 | 14.01 | 6.09E+00 | | 8.42E-01 | 3.00E+00 | |
| | 747.13 | 13.10 | 6.46E+00 | | -4.97E+00 | 3.18E+00 | |
| @ ND-147 | 91.11 | 28.90 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 | |
| @ | 531.02 | 13.10 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | |
| @ PM-149 | 285.90 | 3.10 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 | |
| EU-152 | 121.78 | 20.50 | 2.61E+00 | 2.26E+00 | 4.02E+01 | 1.30E+00 | |
| | 244.69 | 5.40 | 9.46E+00 | | 4.12E+00 | 4.69E+00 | |
| | 344.27 | 19.13 | 2.91E+00 | | 2.94E-01 | 1.44E+00 | |
| | 778.89 | 9.20 | 8.50E+00 | | 5.22E-01 | 4.19E+00 | |
| | 964.01 | 10.40 | 1.01E+01 | | -5.87E+00 | 4.97E+00 | |
| | 1085.78 | 7.22 | 1.41E+01 | | -1.12E+00 | 6.97E+00 | |
| | 1112.02 | 9.60 | 1.08E+01 | | 7.21E+00 | 5.32E+00 | |
| | 1407.95 | 14.94 | 2.26E+00 | | 1.00E+00 | 1.07E+00 | |
| | GD-153 | 97.43 | 31.30 | 1.05E+01 | 1.05E+01 | -1.49E+00 | 5.20E+00 |
| | | 103.18 | 22.20 | 1.49E+01 | | -1.58E+00 | 7.39E+00 |
| EU-154 | 123.07 | 40.50 | 1.40E+00 | 1.40E+00 | 2.13E+01 | 6.99E-01 | |
| | 723.30 | 19.70 | 3.79E+00 | | 4.98E-01 | 1.86E+00 | |
| | 873.19 | 11.50 | 8.56E+00 | | -4.03E-01 | 4.22E+00 | |
| | 996.32 | 10.30 | 1.02E+01 | | 3.41E+00 | 5.04E+00 | |

Analysis Report for 1510085-01
GAS-1302

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| EU-154 | 1004.76 | 17.90 | 6.00E+00 | 1.40E+00 | 3.25E+00 | 2.96E+00 |
| | 1274.45 | 35.50 | 1.52E+00 | | -1.09E-02 | 7.36E-01 |
| EU-155 | 86.50 | 30.90 | 3.86E+00 | 1.91E+00 | 1.46E+02 | 1.92E+00 |
| | 105.30 | 20.70 | 1.91E+00 | | -7.09E-02 | 9.49E-01 |
| EU-156 | 811.77 | 10.40 | 6.83E+17 | 5.58E+17 | 2.17E+17 | 3.37E+17 |
| | 1153.47 | 7.20 | 9.52E+17 | | -4.22E+17 | 4.67E+17 |
| | 1230.71 | 8.90 | 5.58E+17 | | 3.00E+17 | 2.71E+17 |
| HO-166M | 184.41 | 72.60 | 4.50E-01 | 4.50E-01 | -2.08E-01 | 2.23E-01 |
| | 280.45 | 29.60 | 1.53E+00 | | 2.46E-01 | 7.56E-01 |
| | 410.94 | 11.10 | 5.12E+00 | | 5.35E+00 | 2.53E+00 |
| | 711.69 | 54.10 | 1.15E+00 | | -7.88E-02 | 5.66E-01 |
| TM-171 | 66.72 | 0.14 | 7.30E+02 | 7.30E+02 | 6.83E+02 | 3.63E+02 |
| HF-172 | 81.75 | 4.52 | 2.16E+01 | 6.19E+00 | -6.24E+00 | 1.07E+01 |
| | 125.81 | 11.30 | 6.19E+00 | | -1.20E+00 | 3.07E+00 |
| @ LU-172 | 181.53 | 20.60 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| | 810.06 | 16.63 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | 912.12 | 15.25 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | 1093.66 | 62.50 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| LU-173 | 100.72 | 5.24 | 1.76E+01 | 6.94E+00 | 6.74E-02 | 8.74E+00 |
| | 272.11 | 21.20 | 6.94E+00 | | 6.11E-01 | 3.44E+00 |
| HF-175 | 343.40 | 84.00 | 2.83E+03 | 2.83E+03 | -1.17E+03 | 1.40E+03 |
| LU-176 | 88.34 | 13.30 | 6.33E+00 | 4.83E-01 | 2.47E+02 | 3.16E+00 |
| | 201.83 | 86.00 | 4.83E-01 | | -7.77E-02 | 2.40E-01 |
| | 306.78 | 94.00 | 5.03E-01 | | -1.91E-01 | 2.49E-01 |
| TA-182 | 67.75 | 41.20 | 1.92E+02 | 1.92E+02 | 2.16E+02 | 9.56E+01 |
| | 1121.30 | 34.90 | 4.12E+02 | | 5.88E+01 | 2.02E+02 |
| | 1189.05 | 16.23 | 6.82E+02 | | 4.77E+02 | 3.33E+02 |
| | 1221.41 | 26.98 | 3.44E+02 | | 1.44E+02 | 1.67E+02 |
| | 1231.02 | 11.44 | 7.97E+02 | | -3.40E+01 | 3.87E+02 |
| IR-192 | 308.46 | 29.68 | 4.92E+03 | 4.12E+03 | 3.08E+03 | 2.44E+03 |
| | 468.07 | 48.10 | 4.12E+03 | | 2.47E+03 | 2.04E+03 |
| HG-203 | 279.19 | 77.30 | 2.03E+05 | 2.03E+05 | 4.09E+03 | 1.01E+05 |
| BI-207 | 569.67 | 97.72 | 6.11E-01 | 6.11E-01 | -1.23E-01 | 3.01E-01 |
| | 1063.62 | 74.90 | 1.22E+00 | | -6.01E-01 | 6.02E-01 |
| TL-208 | 583.14 | 30.22 | 1.93E+00 | 5.27E-01 | 3.57E-01 | 9.54E-01 |
| | 860.37 | 4.48 | 1.78E+01 | | -1.21E+00 | 8.77E+00 |
| | 2614.66 | 35.85 | 5.27E-01 | | 1.69E-02 | 2.29E-01 |
| BI-210M | 262.00 | 45.00 | 1.01E+00 | 1.01E+00 | 4.12E-01 | 5.00E-01 |
| | 300.00 | 23.00 | 2.04E+00 | | -2.03E-01 | 1.01E+00 |
| PB-210 | 46.50 | 4.25 | 1.99E+01 | 1.99E+01 | -1.15E+02 | 9.91E+00 |
| PB-211 | 404.84 | 2.90 | 1.89E+01 | 1.89E+01 | -1.53E+01 | 9.34E+00 |
| | 831.96 | 2.90 | 2.58E+01 | | 1.96E+00 | 1.27E+01 |
| BI-212 | 727.17 | 11.80 | 5.36E+00 | 5.36E+00 | 3.38E+00 | 2.64E+00 |
| | 1620.62 | 2.75 | 1.00E+01 | | 4.51E+00 | 4.68E+00 |
| PB-212 | 238.63 | 44.60 | 1.03E+00 | 1.03E+00 | 3.45E-01 | 5.09E-01 |
| | 300.09 | 3.41 | 1.38E+01 | | -1.37E+00 | 6.82E+00 |
| BI-214 | 609.31 | 46.30 | 1.29E+00 | 1.29E+00 | 2.17E-01 | 6.38E-01 |
| | 1120.29 | 15.10 | 5.38E+00 | | 4.31E-01 | 2.65E+00 |
| | 1764.49 | 15.80 | 1.67E+00 | | -5.03E-02 | 7.73E-01 |
| | 2204.22 | 4.98 | 5.10E+00 | | -4.87E-01 | 2.32E+00 |
| + PB-214 | 295.21 | 19.19 | 2.44E+00 | 1.38E+00 | 1.12E+00 | 1.21E+00 |
| | 351.92 | * 37.19 | 1.38E+00 | | 1.04E+00 | 6.85E-01 |
| RN-219 | 401.80 | 6.50 | 8.37E+00 | 8.37E+00 | -4.16E+00 | 4.14E+00 |

Analysis Report for 1510085-01

GAS-1302

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| RA-223 | 323.87 | 3.88 | 1.22E+01 | 1.22E+01 | -1.87E+00 | 6.06E+00 |
| RA-224 | 240.98 | 3.95 | 1.16E+01 | 1.16E+01 | 4.46E+00 | 5.75E+00 |
| RA-225 | 40.00 | 31.00 | 6.11E+17 | 6.11E+17 | -2.47E+18 | 3.03E+17 |
| RA-226 | 186.21 | 3.28 | 1.01E+01 | 1.01E+01 | -3.54E+00 | 5.02E+00 |
| TH-227 | 50.10 | 8.40 | 1.03E+01 | 3.98E+00 | 5.67E+01 | 5.12E+00 |
| | 236.00 | 11.50 | 3.98E+00 | | 2.00E+00 | 1.97E+00 |
| | 256.20 | 6.30 | 7.15E+00 | | 2.28E+00 | 3.55E+00 |
| AC-228 | 338.32 | 11.40 | 4.29E+00 | 3.32E+00 | -3.27E-01 | 2.12E+00 |
| | 911.07 | 27.70 | 3.32E+00 | | 1.00E+00 | 1.64E+00 |
| | 969.11 | 16.60 | 5.46E+00 | | -5.66E-01 | 2.69E+00 |
| TH-230 | 48.44 | 16.90 | 5.11E+00 | 5.11E+00 | 1.96E+01 | 2.55E+00 |
| | 62.85 | 4.60 | 1.24E+01 | | -1.04E+03 | 6.17E+00 |
| | 67.67 | 0.37 | 1.19E+02 | | 1.34E+02 | 5.93E+01 |
| PA-231 | 283.67 | 1.60 | 2.81E+01 | 2.04E+01 | -1.51E+01 | 1.39E+01 |
| | 302.67 | 2.30 | 2.04E+01 | | -9.34E-01 | 1.01E+01 |
| + TH-231 | 25.64 | * 14.70 | 5.02E+01 | 1.16E+01 | 2.22E+03 | 2.50E+01 |
| | 84.21 | * 6.40 | 1.16E+01 | | 1.95E+01 | 5.76E+00 |
| PA-233 | 311.98 | 38.60 | 4.47E+09 | 4.47E+09 | 2.09E+09 | 2.21E+09 |
| PA-234 | 131.20 | 20.40 | 1.42E+00 | 1.42E+00 | -1.13E-01 | 7.04E-01 |
| | 733.99 | 8.80 | 7.23E+00 | | 2.14E+00 | 3.56E+00 |
| | 946.00 | 12.00 | 8.15E+00 | | -1.36E+00 | 4.03E+00 |
| PA-234M | 1001.03 | 0.92 | 9.51E+01 | 9.51E+01 | -7.02E+00 | 4.69E+01 |
| TH-234 | 63.29 | 3.80 | 1.13E+01 | 1.13E+01 | -3.96E+02 | 5.60E+00 |
| U-235 | 143.76 | 10.50 | 2.79E+00 | 2.79E+00 | -2.11E-01 | 1.38E+00 |
| | 163.35 | 4.70 | 7.07E+00 | | 9.75E+00 | 3.50E+00 |
| | 205.31 | 4.70 | 8.98E+00 | | 1.60E+00 | 4.46E+00 |
| NP-237 | 86.50 | 12.60 | 6.82E+00 | 6.82E+00 | 2.57E+02 | 3.40E+00 |
| @ NP-239 | 106.10 | 22.70 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 228.18 | 10.70 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 277.60 | 14.10 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| + AM-241 | 59.54 | * 35.90 | 3.94E+00 | 3.94E+00 | 2.59E+02 | 1.97E+00 |
| AM-243 | 74.67 | 66.00 | 6.26E-01 | 6.26E-01 | 3.56E-03 | 3.11E-01 |
| CM-243 | 209.75 | 3.29 | 1.39E+01 | 3.45E+00 | -1.77E+00 | 6.91E+00 |
| | 228.14 | 10.60 | 4.54E+00 | | 1.17E+00 | 2.25E+00 |
| | 277.60 | 14.00 | 3.45E+00 | | 1.75E+00 | 1.71E+00 |

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

Analysis Report for 1510085-01
GAS-1302

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: GAS-1302

Elapsed Live time: 1800
 Elapsed Real Time: 1848

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 322 | 1807 | 3249 | 6678 | 4477 | 2322 | 2726 | 2046 |
| 17: | 2113 | 2680 | 1721 | 2654 | 12505 | 64592 | 37239 | 7769 |
| 25: | 21744 | 11194 | 2206 | 1142 | 956 | 1008 | 1124 | 2175 |
| 33: | 1795 | 1176 | 957 | 1176 | 1316 | 1232 | 1229 | 1224 |
| 41: | 1414 | 1636 | 1915 | 2055 | 2188 | 2315 | 2712 | 3435 |
| 49: | 4687 | 5285 | 5004 | 4890 | 4743 | 5030 | 5227 | 5351 |
| 57: | 5736 | 6881 | 30044 | 53549 | 9249 | 1861 | 1759 | 1775 |
| 65: | 1852 | 2106 | 2114 | 2256 | 2191 | 2184 | 2202 | 2087 |
| 73: | 2121 | 2096 | 2012 | 2019 | 2171 | 2098 | 2117 | 2023 |
| 81: | 2144 | 2123 | 2216 | 2263 | 2387 | 2320 | 5118 | 24038 |
| 89: | 14540 | 1813 | 1168 | 1181 | 1128 | 1070 | 1030 | 1015 |
| 97: | 1031 | 1026 | 1024 | 998 | 1004 | 1024 | 1046 | 1008 |
| 105: | 1017 | 1045 | 1030 | 1038 | 1049 | 1042 | 1098 | 1027 |
| 113: | 1022 | 1091 | 1044 | 1057 | 1040 | 1047 | 1051 | 1067 |
| 121: | 1643 | 5452 | 3829 | 1144 | 895 | 941 | 944 | 931 |
| 129: | 914 | 946 | 893 | 928 | 895 | 945 | 945 | 1287 |
| 137: | 1493 | 983 | 857 | 859 | 886 | 900 | 824 | 857 |
| 145: | 841 | 863 | 902 | 807 | 843 | 836 | 807 | 811 |
| 153: | 839 | 829 | 783 | 825 | 822 | 820 | 844 | 825 |
| 161: | 805 | 807 | 794 | 792 | 892 | 1481 | 1032 | 779 |
| 169: | 796 | 746 | 830 | 806 | 764 | 779 | 780 | 736 |
| 177: | 761 | 806 | 726 | 734 | 724 | 777 | 780 | 760 |
| 185: | 800 | 790 | 801 | 859 | 853 | 854 | 844 | 856 |
| 193: | 838 | 828 | 818 | 850 | 828 | 811 | 785 | 843 |
| 201: | 761 | 846 | 780 | 797 | 812 | 800 | 811 | 815 |
| 209: | 797 | 799 | 832 | 874 | 835 | 808 | 888 | 881 |
| 217: | 904 | 905 | 822 | 874 | 824 | 840 | 832 | 798 |
| 225: | 827 | 814 | 757 | 797 | 831 | 822 | 763 | 770 |
| 233: | 768 | 751 | 772 | 744 | 768 | 780 | 803 | 763 |
| 241: | 693 | 741 | 742 | 705 | 724 | 692 | 643 | 749 |
| 249: | 669 | 666 | 653 | 642 | 630 | 637 | 681 | 663 |
| 257: | 703 | 607 | 665 | 627 | 644 | 670 | 635 | 618 |
| 265: | 633 | 601 | 599 | 603 | 612 | 587 | 604 | 589 |
| 273: | 573 | 567 | 591 | 661 | 598 | 615 | 557 | 549 |
| 281: | 554 | 570 | 561 | 561 | 542 | 553 | 538 | 617 |
| 289: | 571 | 549 | 556 | 547 | 577 | 534 | 551 | 618 |
| 297: | 542 | 564 | 547 | 523 | 538 | 573 | 550 | 521 |
| 305: | 535 | 529 | 523 | 535 | 565 | 552 | 554 | 538 |
| 313: | 502 | 513 | 551 | 524 | 503 | 549 | 486 | 506 |
| 321: | 493 | 521 | 496 | 483 | 475 | 499 | 491 | 512 |
| 329: | 494 | 441 | 492 | 476 | 500 | 503 | 462 | 482 |
| 337: | 497 | 523 | 469 | 476 | 497 | 470 | 491 | 454 |
| 345: | 488 | 464 | 505 | 477 | 485 | 483 | 541 | 531 |
| 353: | 526 | 466 | 467 | 444 | 475 | 485 | 460 | 473 |
| 361: | 428 | 487 | 503 | 508 | 492 | 455 | 460 | 470 |

369: 476 466 460 469 431 460 453 471

Sample Title: GAS-1302

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 457 | 491 | 438 | 474 | 451 | 461 | 440 | 509 |
| 385: | 494 | 500 | 451 | 412 | 450 | 470 | 535 | 699 |
| 393: | 525 | 460 | 479 | 436 | 453 | 508 | 459 | 460 |
| 401: | 467 | 456 | 455 | 434 | 404 | 447 | 466 | 469 |
| 409: | 510 | 467 | 448 | 483 | 420 | 482 | 379 | 436 |
| 417: | 466 | 474 | 451 | 412 | 464 | 475 | 439 | 480 |
| 425: | 457 | 480 | 472 | 476 | 502 | 440 | 461 | 471 |
| 433: | 461 | 500 | 420 | 447 | 477 | 482 | 486 | 435 |
| 441: | 439 | 454 | 539 | 472 | 498 | 453 | 454 | 481 |
| 449: | 450 | 495 | 471 | 488 | 495 | 477 | 494 | 444 |
| 457: | 448 | 501 | 453 | 453 | 482 | 507 | 462 | 435 |
| 465: | 501 | 494 | 490 | 469 | 509 | 511 | 451 | 459 |
| 473: | 498 | 483 | 428 | 452 | 454 | 491 | 371 | 408 |
| 481: | 377 | 382 | 358 | 417 | 370 | 370 | 368 | 325 |
| 489: | 354 | 335 | 349 | 376 | 382 | 351 | 356 | 366 |
| 497: | 335 | 373 | 366 | 362 | 328 | 382 | 328 | 357 |
| 505: | 348 | 307 | 327 | 314 | 333 | 339 | 365 | 353 |
| 513: | 336 | 353 | 330 | 334 | 311 | 337 | 311 | 282 |
| 521: | 337 | 299 | 320 | 326 | 304 | 343 | 307 | 295 |
| 529: | 325 | 292 | 302 | 279 | 281 | 306 | 275 | 304 |
| 537: | 304 | 292 | 270 | 304 | 269 | 277 | 290 | 305 |
| 545: | 280 | 270 | 280 | 253 | 284 | 300 | 286 | 277 |
| 553: | 291 | 270 | 275 | 282 | 291 | 279 | 302 | 283 |
| 561: | 301 | 252 | 277 | 274 | 262 | 297 | 279 | 265 |
| 569: | 274 | 244 | 272 | 250 | 269 | 273 | 255 | 249 |
| 577: | 257 | 266 | 243 | 248 | 266 | 273 | 294 | 276 |
| 585: | 267 | 257 | 282 | 258 | 259 | 243 | 231 | 295 |
| 593: | 231 | 259 | 270 | 253 | 247 | 257 | 248 | 239 |
| 601: | 239 | 271 | 248 | 243 | 258 | 250 | 246 | 267 |
| 609: | 269 | 284 | 246 | 263 | 258 | 262 | 242 | 261 |
| 617: | 231 | 245 | 214 | 227 | 250 | 221 | 232 | 245 |
| 625: | 220 | 252 | 221 | 270 | 266 | 261 | 241 | 250 |
| 633: | 236 | 256 | 265 | 238 | 257 | 225 | 236 | 252 |
| 641: | 228 | 262 | 253 | 242 | 266 | 263 | 264 | 238 |
| 649: | 241 | 227 | 247 | 245 | 244 | 247 | 262 | 273 |
| 657: | 288 | 289 | 246 | 1116 | 7248 | 11397 | 3569 | 422 |
| 665: | 284 | 255 | 213 | 264 | 237 | 236 | 209 | 205 |
| 673: | 204 | 187 | 210 | 194 | 211 | 240 | 222 | 207 |
| 681: | 191 | 218 | 194 | 199 | 191 | 197 | 178 | 220 |
| 689: | 190 | 225 | 224 | 226 | 198 | 205 | 207 | 201 |
| 697: | 235 | 200 | 213 | 232 | 212 | 229 | 203 | 203 |
| 705: | 199 | 224 | 215 | 214 | 211 | 197 | 248 | 208 |
| 713: | 218 | 204 | 211 | 216 | 217 | 176 | 207 | 194 |
| 721: | 229 | 200 | 185 | 225 | 224 | 193 | 229 | 197 |
| 729: | 210 | 217 | 195 | 206 | 210 | 208 | 219 | 220 |
| 737: | 230 | 195 | 201 | 212 | 216 | 230 | 201 | 206 |
| 745: | 209 | 187 | 223 | 192 | 214 | 187 | 230 | 224 |
| 753: | 203 | 199 | 216 | 223 | 205 | 224 | 205 | 228 |
| 761: | 207 | 216 | 229 | 199 | 213 | 254 | 244 | 245 |
| 769: | 224 | 224 | 238 | 219 | 226 | 232 | 219 | 208 |
| 777: | 225 | 230 | 245 | 239 | 216 | 235 | 227 | 228 |
| 785: | 236 | 226 | 233 | 197 | 217 | 250 | 230 | 245 |
| 793: | 227 | 215 | 217 | 226 | 209 | 220 | 255 | 238 |

801: 230 222 249 233 230 240 233 232

Sample Title: GAS-1302

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 231 | 232 | 245 | 221 | 227 | 268 | 257 | 239 |
| 817: | 222 | 236 | 244 | 214 | 241 | 239 | 236 | 235 |
| 825: | 255 | 244 | 240 | 236 | 206 | 248 | 252 | 223 |
| 833: | 238 | 238 | 250 | 231 | 232 | 235 | 244 | 233 |
| 841: | 271 | 243 | 272 | 242 | 223 | 261 | 269 | 240 |
| 849: | 267 | 258 | 254 | 249 | 247 | 260 | 256 | 250 |
| 857: | 237 | 251 | 266 | 231 | 271 | 243 | 282 | 252 |
| 865: | 266 | 243 | 260 | 265 | 258 | 272 | 250 | 264 |
| 873: | 252 | 273 | 257 | 265 | 268 | 261 | 305 | 265 |
| 881: | 286 | 262 | 264 | 304 | 253 | 256 | 261 | 279 |
| 889: | 268 | 287 | 264 | 238 | 291 | 277 | 283 | 300 |
| 897: | 304 | 401 | 342 | 274 | 271 | 315 | 306 | 292 |
| 905: | 296 | 288 | 312 | 338 | 280 | 279 | 329 | 306 |
| 913: | 314 | 316 | 280 | 318 | 306 | 317 | 280 | 317 |
| 921: | 294 | 298 | 305 | 261 | 302 | 285 | 320 | 310 |
| 929: | 304 | 314 | 326 | 320 | 292 | 301 | 324 | 315 |
| 937: | 290 | 315 | 318 | 310 | 333 | 334 | 343 | 325 |
| 945: | 315 | 335 | 306 | 314 | 351 | 326 | 337 | 305 |
| 953: | 364 | 351 | 317 | 342 | 364 | 322 | 337 | 325 |
| 961: | 298 | 293 | 290 | 291 | 277 | 286 | 264 | 301 |
| 969: | 265 | 246 | 286 | 235 | 264 | 263 | 263 | 265 |
| 977: | 238 | 256 | 279 | 235 | 243 | 242 | 254 | 235 |
| 985: | 254 | 268 | 238 | 263 | 239 | 260 | 211 | 258 |
| 993: | 244 | 224 | 246 | 250 | 216 | 245 | 245 | 217 |
| 1001: | 234 | 252 | 233 | 231 | 258 | 228 | 234 | 278 |
| 1009: | 221 | 245 | 226 | 245 | 230 | 238 | 268 | 255 |
| 1017: | 270 | 242 | 247 | 253 | 219 | 239 | 229 | 259 |
| 1025: | 207 | 203 | 204 | 226 | 210 | 217 | 237 | 259 |
| 1033: | 215 | 240 | 224 | 249 | 204 | 209 | 228 | 204 |
| 1041: | 246 | 212 | 217 | 222 | 198 | 207 | 215 | 218 |
| 1049: | 239 | 202 | 223 | 229 | 223 | 222 | 207 | 210 |
| 1057: | 221 | 225 | 224 | 218 | 213 | 220 | 207 | 198 |
| 1065: | 217 | 211 | 235 | 215 | 215 | 221 | 222 | 213 |
| 1073: | 214 | 217 | 204 | 234 | 222 | 240 | 210 | 205 |
| 1081: | 230 | 251 | 240 | 214 | 237 | 205 | 189 | 223 |
| 1089: | 242 | 212 | 236 | 205 | 234 | 221 | 213 | 228 |
| 1097: | 229 | 227 | 241 | 199 | 241 | 240 | 208 | 242 |
| 1105: | 237 | 256 | 210 | 232 | 240 | 212 | 210 | 235 |
| 1113: | 228 | 217 | 192 | 185 | 190 | 174 | 178 | 160 |
| 1121: | 165 | 163 | 145 | 153 | 148 | 131 | 145 | 118 |
| 1129: | 133 | 157 | 161 | 134 | 118 | 136 | 144 | 143 |
| 1137: | 111 | 128 | 129 | 125 | 127 | 130 | 116 | 127 |
| 1145: | 126 | 136 | 137 | 150 | 129 | 118 | 120 | 123 |
| 1153: | 116 | 118 | 124 | 135 | 126 | 122 | 136 | 129 |
| 1161: | 107 | 122 | 134 | 117 | 131 | 126 | 141 | 130 |
| 1169: | 128 | 164 | 502 | 3533 | 8558 | 5916 | 1238 | 191 |
| 1177: | 128 | 132 | 94 | 73 | 95 | 93 | 94 | 93 |
| 1185: | 74 | 94 | 79 | 95 | 79 | 86 | 86 | 87 |
| 1193: | 72 | 65 | 83 | 82 | 59 | 73 | 74 | 65 |
| 1201: | 79 | 77 | 77 | 82 | 78 | 72 | 67 | 61 |
| 1209: | 65 | 75 | 49 | 68 | 47 | 61 | 51 | 62 |
| 1217: | 64 | 66 | 68 | 52 | 66 | 56 | 45 | 50 |
| 1225: | 42 | 47 | 61 | 51 | 76 | 55 | 56 | 47 |

1233: 50 49 56 47 50 61 46 34

Sample Title: GAS-1302

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1241: | 39 | 40 | 38 | 47 | 39 | 35 | 32 | 51 |
| 1249: | 38 | 32 | 32 | 29 | 27 | 32 | 30 | 35 |
| 1257: | 28 | 29 | 39 | 35 | 38 | 38 | 43 | 23 |
| 1265: | 29 | 25 | 35 | 38 | 27 | 34 | 30 | 23 |
| 1273: | 40 | 28 | 30 | 35 | 25 | 37 | 31 | 30 |
| 1281: | 27 | 31 | 35 | 32 | 31 | 38 | 24 | 30 |
| 1289: | 27 | 39 | 26 | 24 | 28 | 29 | 38 | 34 |
| 1297: | 37 | 25 | 31 | 31 | 25 | 43 | 35 | 21 |
| 1305: | 30 | 27 | 23 | 33 | 26 | 28 | 31 | 23 |
| 1313: | 26 | 22 | 26 | 35 | 24 | 34 | 30 | 37 |
| 1321: | 35 | 27 | 40 | 33 | 27 | 28 | 32 | 34 |
| 1329: | 58 | 324 | 2167 | 6818 | 6202 | 1762 | 190 | 63 |
| 1337: | 32 | 30 | 15 | 20 | 11 | 15 | 18 | 20 |
| 1345: | 19 | 14 | 14 | 16 | 19 | 9 | 20 | 10 |
| 1353: | 13 | 16 | 9 | 16 | 6 | 12 | 12 | 6 |
| 1361: | 14 | 8 | 14 | 9 | 15 | 10 | 7 | 13 |
| 1369: | 12 | 16 | 12 | 9 | 13 | 13 | 9 | 12 |
| 1377: | 18 | 17 | 12 | 10 | 15 | 14 | 8 | 12 |
| 1385: | 7 | 7 | 11 | 12 | 12 | 7 | 11 | 15 |
| 1393: | 17 | 8 | 12 | 11 | 10 | 16 | 13 | 10 |
| 1401: | 7 | 9 | 6 | 14 | 13 | 10 | 6 | 10 |
| 1409: | 14 | 8 | 15 | 12 | 12 | 8 | 8 | 4 |
| 1417: | 6 | 14 | 5 | 11 | 10 | 14 | 13 | 14 |
| 1425: | 16 | 16 | 14 | 10 | 3 | 10 | 10 | 12 |
| 1433: | 11 | 11 | 7 | 16 | 11 | 15 | 8 | 11 |
| 1441: | 16 | 6 | 10 | 6 | 13 | 17 | 10 | 3 |
| 1449: | 7 | 10 | 15 | 8 | 10 | 10 | 7 | 6 |
| 1457: | 8 | 9 | 12 | 9 | 15 | 9 | 9 | 16 |
| 1465: | 8 | 5 | 7 | 12 | 7 | 12 | 4 | 8 |
| 1473: | 9 | 8 | 9 | 8 | 9 | 4 | 10 | 8 |
| 1481: | 7 | 12 | 9 | 8 | 12 | 7 | 7 | 8 |
| 1489: | 5 | 11 | 12 | 7 | 13 | 11 | 6 | 14 |
| 1497: | 8 | 13 | 7 | 5 | 5 | 10 | 8 | 7 |
| 1505: | 12 | 5 | 10 | 11 | 7 | 4 | 9 | 14 |
| 1513: | 10 | 10 | 12 | 4 | 6 | 14 | 9 | 10 |
| 1521: | 9 | 3 | 10 | 5 | 4 | 6 | 11 | 8 |
| 1529: | 8 | 11 | 8 | 5 | 8 | 10 | 7 | 10 |
| 1537: | 8 | 9 | 9 | 10 | 8 | 9 | 12 | 6 |
| 1545: | 15 | 6 | 10 | 6 | 7 | 7 | 12 | 8 |
| 1553: | 6 | 7 | 8 | 8 | 8 | 10 | 8 | 11 |
| 1561: | 8 | 9 | 13 | 9 | 10 | 9 | 6 | 6 |
| 1569: | 3 | 9 | 3 | 7 | 10 | 5 | 11 | 5 |
| 1577: | 5 | 11 | 7 | 8 | 1 | 10 | 5 | 12 |
| 1585: | 5 | 12 | 5 | 6 | 8 | 4 | 6 | 6 |
| 1593: | 7 | 9 | 7 | 5 | 7 | 9 | 8 | 7 |
| 1601: | 8 | 15 | 11 | 10 | 6 | 5 | 9 | 5 |
| 1609: | 8 | 1 | 13 | 8 | 9 | 8 | 3 | 4 |
| 1617: | 7 | 9 | 3 | 12 | 8 | 10 | 8 | 7 |
| 1625: | 6 | 5 | 5 | 8 | 2 | 7 | 8 | 8 |
| 1633: | 12 | 6 | 6 | 6 | 9 | 7 | 4 | 6 |
| 1641: | 6 | 6 | 8 | 10 | 5 | 4 | 7 | 9 |
| 1649: | 7 | 6 | 5 | 7 | 5 | 3 | 7 | 10 |
| 1657: | 9 | 4 | 11 | 5 | 6 | 9 | 8 | 13 |

1665: 11 7 10 9 8 9 12 3

Sample Title: GAS-1302

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|---|
| 1673: | 8 | 6 | 7 | 11 | 9 | 5 | 4 | 2 |
| 1681: | 7 | 4 | 10 | 3 | 9 | 7 | 3 | 9 |
| 1689: | 3 | 9 | 7 | 4 | 8 | 3 | 13 | 5 |
| 1697: | 9 | 1 | 8 | 9 | 4 | 5 | 4 | 5 |
| 1705: | 7 | 7 | 4 | 0 | 2 | 8 | 7 | 5 |
| 1713: | 7 | 5 | 4 | 5 | 7 | 9 | 5 | 3 |
| 1721: | 8 | 8 | 4 | 4 | 5 | 3 | 4 | 8 |
| 1729: | 7 | 9 | 3 | 10 | 8 | 3 | 6 | 4 |
| 1737: | 4 | 1 | 6 | 2 | 8 | 8 | 4 | 5 |
| 1745: | 5 | 7 | 7 | 3 | 5 | 7 | 10 | 6 |
| 1753: | 3 | 2 | 3 | 8 | 8 | 8 | 6 | 2 |
| 1761: | 6 | 7 | 6 | 8 | 8 | 4 | 4 | 9 |
| 1769: | 4 | 6 | 5 | 7 | 1 | 9 | 7 | 2 |
| 1777: | 6 | 4 | 3 | 11 | 6 | 7 | 5 | 4 |
| 1785: | 6 | 9 | 8 | 8 | 3 | 4 | 7 | 6 |
| 1793: | 5 | 4 | 3 | 8 | 5 | 3 | 3 | 5 |
| 1801: | 4 | 9 | 3 | 7 | 7 | 3 | 3 | 4 |
| 1809: | 6 | 7 | 5 | 6 | 8 | 5 | 3 | 4 |
| 1817: | 9 | 7 | 3 | 4 | 6 | 6 | 9 | 6 |
| 1825: | 10 | 6 | 3 | 7 | 2 | 3 | 7 | 6 |
| 1833: | 9 | 14 | 33 | 66 | 47 | 11 | 5 | 6 |
| 1841: | 8 | 7 | 1 | 3 | 5 | 5 | 7 | 8 |
| 1849: | 4 | 9 | 6 | 6 | 4 | 4 | 4 | 5 |
| 1857: | 5 | 5 | 5 | 8 | 5 | 8 | 5 | 7 |
| 1865: | 2 | 7 | 7 | 9 | 6 | 3 | 5 | 5 |
| 1873: | 3 | 8 | 2 | 3 | 5 | 4 | 3 | 5 |
| 1881: | 3 | 8 | 8 | 7 | 8 | 5 | 4 | 4 |
| 1889: | 4 | 5 | 4 | 5 | 5 | 5 | 2 | 4 |
| 1897: | 5 | 7 | 7 | 7 | 6 | 7 | 9 | 6 |
| 1905: | 2 | 5 | 8 | 7 | 5 | 4 | 5 | 6 |
| 1913: | 3 | 8 | 2 | 7 | 1 | 2 | 3 | 7 |
| 1921: | 5 | 5 | 12 | 4 | 2 | 4 | 5 | 4 |
| 1929: | 7 | 6 | 3 | 3 | 4 | 4 | 5 | 8 |
| 1937: | 7 | 3 | 4 | 2 | 2 | 6 | 5 | 8 |
| 1945: | 4 | 4 | 3 | 5 | 6 | 10 | 4 | 2 |
| 1953: | 3 | 7 | 1 | 7 | 5 | 4 | 6 | 5 |
| 1961: | 4 | 5 | 3 | 4 | 6 | 7 | 8 | 3 |
| 1969: | 6 | 2 | 3 | 1 | 7 | 5 | 2 | 2 |
| 1977: | 6 | 7 | 6 | 8 | 5 | 5 | 2 | 3 |
| 1985: | 4 | 2 | 5 | 2 | 7 | 5 | 5 | 5 |
| 1993: | 5 | 4 | 4 | 1 | 4 | 3 | 5 | 7 |
| 2001: | 1 | 5 | 3 | 4 | 5 | 5 | 1 | 2 |
| 2009: | 4 | 6 | 8 | 1 | 4 | 3 | 1 | 5 |
| 2017: | 7 | 1 | 6 | 4 | 2 | 7 | 6 | 7 |
| 2025: | 7 | 5 | 8 | 3 | 2 | 3 | 6 | 1 |
| 2033: | 3 | 2 | 2 | 3 | 2 | 11 | 5 | 5 |
| 2041: | 1 | 7 | 6 | 8 | 5 | 1 | 3 | 1 |
| 2049: | 5 | 5 | 3 | 4 | 7 | 5 | 2 | 3 |
| 2057: | 6 | 2 | 7 | 3 | 3 | 3 | 2 | 2 |
| 2065: | 7 | 6 | 4 | 1 | 2 | 7 | 2 | 4 |
| 2073: | 2 | 4 | 6 | 7 | 7 | 3 | 1 | 3 |
| 2081: | 7 | 3 | 2 | 6 | 2 | 6 | 3 | 6 |
| 2089: | 5 | 3 | 2 | 6 | 3 | 4 | 1 | 4 |

2097: 2 7 4 2 2 4 3 5

Sample Title: GAS-1302

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|---|---|---|---|----|
| 2105: | 6 | 3 | 4 | 4 | 5 | 5 | 3 | 5 |
| 2113: | 2 | 7 | 3 | 3 | 3 | 3 | 7 | 3 |
| 2121: | 2 | 3 | 5 | 4 | 3 | 6 | 3 | 4 |
| 2129: | 2 | 3 | 7 | 2 | 2 | 1 | 6 | 4 |
| 2137: | 7 | 2 | 2 | 3 | 5 | 6 | 4 | 6 |
| 2145: | 2 | 7 | 3 | 2 | 9 | 3 | 6 | 3 |
| 2153: | 2 | 1 | 4 | 3 | 5 | 4 | 2 | 4 |
| 2161: | 4 | 6 | 2 | 4 | 4 | 3 | 2 | 2 |
| 2169: | 2 | 3 | 2 | 4 | 5 | 3 | 5 | 7 |
| 2177: | 8 | 3 | 3 | 2 | 1 | 2 | 6 | 4 |
| 2185: | 2 | 4 | 4 | 4 | 5 | 4 | 1 | 2 |
| 2193: | 1 | 6 | 7 | 3 | 3 | 5 | 3 | 3 |
| 2201: | 0 | 7 | 1 | 8 | 5 | 1 | 4 | 7 |
| 2209: | 1 | 8 | 6 | 1 | 2 | 6 | 4 | 4 |
| 2217: | 1 | 2 | 6 | 4 | 1 | 3 | 6 | 2 |
| 2225: | 3 | 1 | 3 | 6 | 2 | 3 | 5 | 6 |
| 2233: | 2 | 1 | 2 | 2 | 3 | 4 | 4 | 2 |
| 2241: | 3 | 4 | 3 | 1 | 5 | 4 | 5 | 8 |
| 2249: | 6 | 3 | 2 | 4 | 8 | 2 | 3 | 5 |
| 2257: | 4 | 2 | 7 | 5 | 1 | 4 | 3 | 4 |
| 2265: | 5 | 3 | 1 | 4 | 5 | 6 | 3 | 3 |
| 2273: | 10 | 3 | 6 | 4 | 4 | 0 | 3 | 4 |
| 2281: | 9 | 7 | 2 | 2 | 4 | 3 | 4 | 4 |
| 2289: | 4 | 3 | 4 | 5 | 4 | 2 | 3 | 4 |
| 2297: | 1 | 3 | 2 | 4 | 2 | 2 | 1 | 2 |
| 2305: | 1 | 0 | 3 | 3 | 1 | 1 | 2 | 2 |
| 2313: | 0 | 3 | 1 | 0 | 3 | 5 | 3 | 3 |
| 2321: | 1 | 3 | 3 | 3 | 2 | 2 | 5 | 1 |
| 2329: | 1 | 6 | 2 | 0 | 4 | 3 | 5 | 1 |
| 2337: | 2 | 0 | 2 | 2 | 2 | 2 | 1 | 2 |
| 2345: | 2 | 0 | 1 | 1 | 2 | 2 | 3 | 0 |
| 2353: | 0 | 0 | 1 | 3 | 2 | 0 | 6 | 2 |
| 2361: | 1 | 2 | 0 | 1 | 0 | 1 | 3 | 2 |
| 2369: | 2 | 2 | 1 | 0 | 1 | 2 | 2 | 3 |
| 2377: | 3 | 2 | 0 | 0 | 2 | 0 | 1 | 1 |
| 2385: | 2 | 3 | 2 | 1 | 2 | 0 | 1 | 0 |
| 2393: | 1 | 2 | 0 | 0 | 0 | 1 | 2 | 2 |
| 2401: | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| 2409: | 0 | 2 | 2 | 1 | 0 | 0 | 1 | 0 |
| 2417: | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2425: | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 3 |
| 2433: | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| 2441: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2449: | 1 | 0 | 2 | 1 | 0 | 0 | 2 | 0 |
| 2457: | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 |
| 2465: | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 2473: | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 2481: | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 2489: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2497: | 0 | 1 | 0 | 2 | 2 | 0 | 5 | 27 |
| 2505: | 61 | 44 | 20 | 3 | 2 | 0 | 1 | 0 |
| 2513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2521: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |

2529: 0 0 0 0 0 0 0 0

Sample Title: GAS-1302

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 2537: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2545: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2553: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2561: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2569: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2585: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2609: | 0 | 0 | 0 | 0 | 5 | 5 | 3 | 0 |
| 2617: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2625: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2641: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2649: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2657: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2665: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2697: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2705: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 2713: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2745: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2753: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2761: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2801: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2841: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 2849: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2865: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2873: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2889: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2897: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2921: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2945: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2953: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

2961: 0 0 0 0 0 0 0 0 0

Sample Title: GAS-1302

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3097: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3105: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3249: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3329: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3345: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

3393: 0 0 0 0 0 0 0 0

Sample Title: GAS-1302

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3425: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3513: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3657: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3809: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

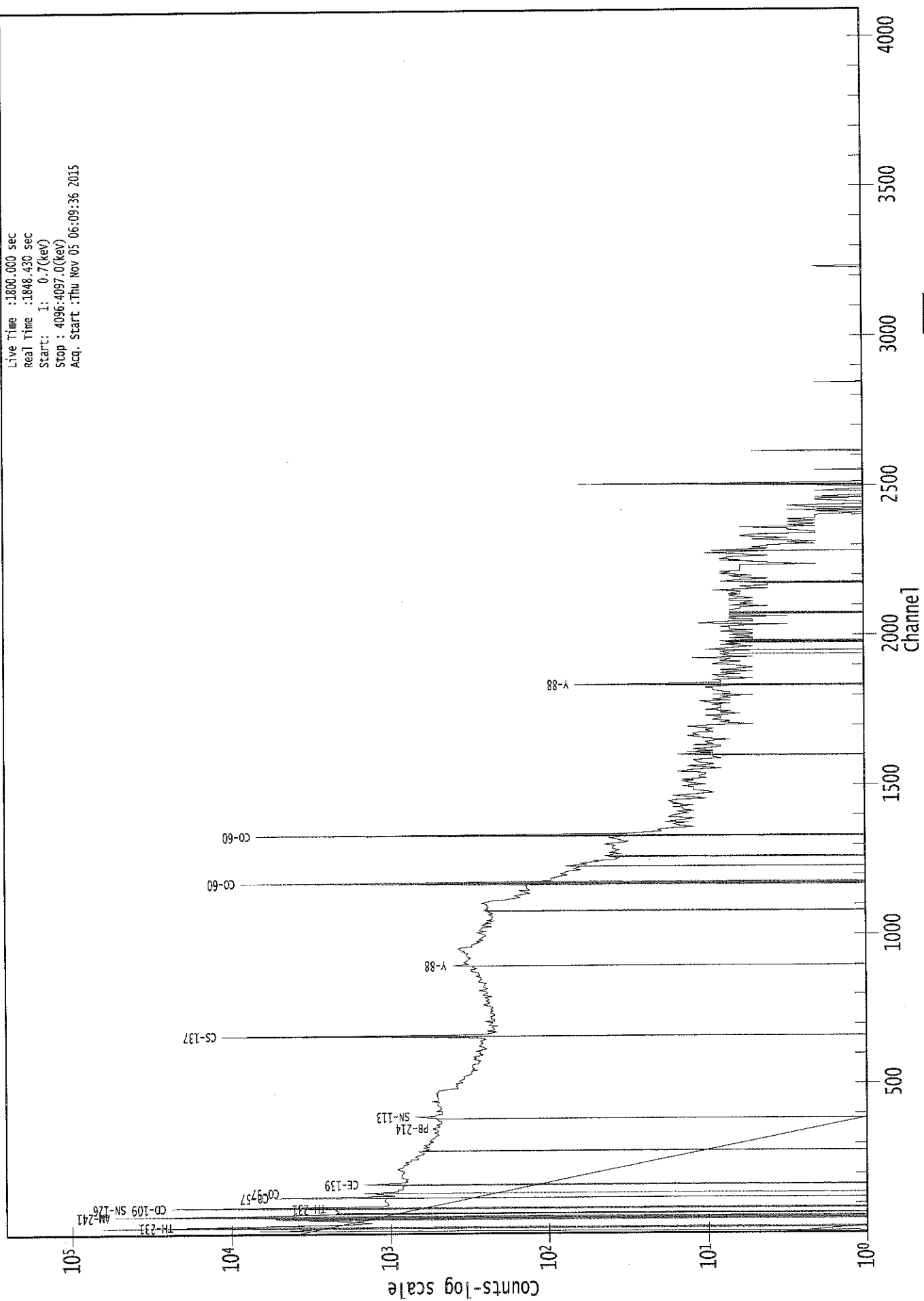
3825: 0 0 0 0 0 0 0 0 0

Sample Title: GAS-1302

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3905: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3961: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

0000029169.CNF

Live Time :1800.000 sec
Real Time :1848.430 sec
Start: 1: 0.7(kev)
Stop : 4096:4097.0(kev)
Acq. Start :Thu Nov 05 06:09:36 2015



Analysis Report for 1510085-02
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GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-02
Sample Description : BLANK
Sample Type : SOIL

Sample Size : 7.834E+02 grams
Facility : Countroom

Sample Taken On : 11/5/2015 6:01:37AM
Acquisition Started : 11/5/2015 6:09:45AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3638.6 seconds

Dead Time : 1.06 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 15 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 29170

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

Ag
11/6/15

Analysis Report for 1510085-02

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PEAK LOCATE REPORT

Peak Locate Performed on : 11/5/2015 7:10:25AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 1 | 93.82 | 93.10 | 0.0000 | 0.00 |
| 2 | 188.17 | 187.49 | 0.0000 | 0.00 |
| 3 | 444.53 | 443.96 | 0.0000 | 0.00 |
| 4 | 502.08 | 501.54 | 0.0000 | 0.00 |
| 5 | 568.41 | 567.90 | 0.0000 | 0.00 |
| 6 | 601.18 | 600.68 | 0.0000 | 0.00 |
| 7 | 676.96 | 676.50 | 0.0000 | 0.00 |
| 8 | 795.91 | 795.51 | 0.0000 | 0.00 |
| 9 | 819.81 | 819.42 | 0.0000 | 0.00 |
| 10 | 848.25 | 847.87 | 0.0000 | 0.00 |
| 11 | 1055.11 | 1054.85 | 0.0000 | 0.00 |
| 12 | 1090.91 | 1090.67 | 0.0000 | 0.00 |
| 13 | 1099.95 | 1099.71 | 0.0000 | 0.00 |
| 14 | 1111.77 | 1111.54 | 0.0000 | 0.00 |
| 15 | 1129.10 | 1128.88 | 0.0000 | 0.00 |

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510085-02

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PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/5/2015 7:10:25AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 93.82 | 86 - | 102 | 93.10 | 8.79E+01 | 61.79 | 3.24E+02 | 3.91 |
| 2 | 188.17 | 182 - | 195 | 187.49 | 3.22E+01 | 40.55 | 1.70E+02 | 4.87 |
| 3 | 444.53 | 439 - | 450 | 443.96 | 1.67E+01 | 20.10 | 4.25E+01 | 1.32 |
| 4 | 502.08 | 497 - | 504 | 501.54 | 1.03E+01 | 12.65 | 1.94E+01 | 2.00 |
| 5 | 568.41 | 565 - | 572 | 567.90 | 9.00E+00 | 11.49 | 1.60E+01 | 2.97 |
| 6 | 601.18 | 598 - | 604 | 600.68 | 1.15E+01 | 12.71 | 2.10E+01 | 2.17 |
| 7 | 676.96 | 673 - | 680 | 676.50 | 1.13E+01 | 10.77 | 1.14E+01 | 3.34 |
| 8 | 795.91 | 791 - | 799 | 795.51 | 1.41E+01 | 10.61 | 7.89E+00 | 4.70 |
| 9 | 819.81 | 814 - | 825 | 819.42 | 1.09E+01 | 9.59 | 6.21E+00 | 3.03 |
| 10 | 848.25 | 844 - | 850 | 847.87 | 8.73E+00 | 10.44 | 1.25E+01 | 2.76 |
| 11 | 1055.11 | 1052 - | 1058 | 1054.85 | 5.50E+00 | 7.78 | 7.00E+00 | 2.84 |
| 12 | 1090.91 | 1088 - | 1093 | 1090.67 | 9.00E+00 | 6.00 | 0.00E+00 | 1.66 |
| 13 | 1099.95 | 1096 - | 1102 | 1099.71 | 7.00E+00 | 5.29 | 0.00E+00 | 2.74 |
| 14 | 1111.77 | 1107 - | 1115 | 1111.54 | 1.18E+01 | 8.73 | 4.36E+00 | 6.55 |
| 15 | 1129.10 | 1125 - | 1132 | 1128.88 | 9.00E+00 | 7.75 | 4.00E+00 | 3.21 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/5/2015 7:10:25AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|

Analysis Report for 1510085-02

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| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 1 | 93.82 | 86 - | 102 | 8.79E+01 | 61.79 | 3.24E+02 | 4.84E+01 |
| 2 | 188.17 | 182 - | 195 | 3.22E+01 | 40.55 | 1.70E+02 | 3.20E+01 |
| 3 | 444.53 | 439 - | 450 | 1.67E+01 | 20.10 | 4.25E+01 | 1.51E+01 |
| 4 | 502.08 | 497 - | 504 | 1.03E+01 | 12.65 | 1.94E+01 | 8.96E+00 |
| 5 | 568.41 | 565 - | 572 | 9.00E+00 | 11.49 | 1.60E+01 | 8.05E+00 |
| 6 | 601.18 | 598 - | 604 | 1.15E+01 | 12.71 | 2.10E+01 | 8.83E+00 |
| 7 | 676.96 | 673 - | 680 | 1.13E+01 | 10.77 | 1.14E+01 | 6.92E+00 |
| 8 | 795.91 | 791 - | 799 | 1.41E+01 | 10.61 | 7.89E+00 | 6.17E+00 |
| 9 | 819.81 | 814 - | 825 | 1.09E+01 | 9.59 | 6.21E+00 | 5.72E+00 |
| 10 | 848.25 | 844 - | 850 | 8.73E+00 | 10.44 | 1.25E+01 | 7.07E+00 |
| 11 | 1055.11 | 1052 - | 1058 | 5.50E+00 | 7.78 | 7.00E+00 | 5.10E+00 |
| 12 | 1090.91 | 1088 - | 1093 | 9.00E+00 | 6.00 | 0.00E+00 | 0.00E+00 |
| 13 | 1099.95 | 1096 - | 1102 | 7.00E+00 | 5.29 | 0.00E+00 | 0.00E+00 |
| 14 | 1111.77 | 1107 - | 1115 | 1.18E+01 | 8.73 | 4.36E+00 | 4.42E+00 |
| 15 | 1129.10 | 1125 - | 1132 | 9.00E+00 | 7.75 | 4.00E+00 | 4.03E+00 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/5/2015 7:10:25AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 1 | 93.82 | 86 - | 102 | 93.10 | 8.79E+01 | 61.79 | 3.24E+02 | GA-67 |
| 2 | 188.17 | 182 - | 195 | 187.49 | 3.22E+01 | 40.55 | 1.70E+02 | ..... |
| 3 | 444.53 | 439 - | 450 | 443.96 | 1.67E+01 | 20.10 | 4.25E+01 | ..... |
| 4 | 502.08 | 497 - | 504 | 501.54 | 1.03E+01 | 12.65 | 1.94E+01 | ..... |
| 5 | 568.41 | 565 - | 572 | 567.90 | 9.00E+00 | 11.49 | 1.60E+01 | CS-134 |
| 6 | 601.18 | 598 - | 604 | 600.68 | 1.15E+01 | 12.71 | 2.10E+01 | SB-125 |
| 7 | 676.96 | 673 - | 680 | 676.50 | 1.13E+01 | 10.77 | 1.14E+01 | AG-110M |
| 8 | 795.91 | 791 - | 799 | 795.51 | 1.41E+01 | 10.61 | 7.89E+00 | CS-134 |
| 9 | 819.81 | 814 - | 825 | 819.42 | 1.09E+01 | 9.59 | 6.21E+00 | |
| 10 | 848.25 | 844 - | 850 | 847.87 | 8.73E+00 | 10.44 | 1.25E+01 | |

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Analysis Report for 1510085-02

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| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 11 | 1055.11 | 1052 - | 1058 | 1054.85 | 5.50E+00 | 7.78 | 7.00E+00 | ..... |
| 12 | 1090.91 | 1088 - | 1093 | 1090.67 | 9.00E+00 | 6.00 | 0.00E+00 | ..... |
| 13 | 1099.95 | 1096 - | 1102 | 1099.71 | 7.00E+00 | 5.29 | 0.00E+00 | FE-59 |
| 14 | 1111.77 | 1107 - | 1115 | 1111.54 | 1.18E+01 | 8.73 | 4.36E+00 | EU-152 |
| 15 | 1129.10 | 1125 - | 1132 | 1128.88 | 9.00E+00 | 7.75 | 4.00E+00 | ..... |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/5/2015 7:10:25AM

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 1 | 93.82 | 8.79E+01 | 61.79 | 1.89E-02 | 1.61E-03 |
| 2 | 188.17 | 3.22E+01 | 40.55 | 1.15E-02 | 1.14E-03 |
| 3 | 444.53 | 1.67E+01 | 20.10 | 5.28E-03 | 6.59E-04 |
| 4 | 502.08 | 1.03E+01 | 12.65 | 4.69E-03 | 5.74E-04 |
| 5 | 568.41 | 9.00E+00 | 11.49 | 4.15E-03 | 4.77E-04 |
| 6 | 601.18 | 1.15E+01 | 12.71 | 3.93E-03 | 4.29E-04 |
| 7 | 676.96 | 1.13E+01 | 10.77 | 3.49E-03 | 3.32E-04 |
| 8 | 795.91 | 1.41E+01 | 10.61 | 2.98E-03 | 2.65E-04 |
| 9 | 819.81 | 1.09E+01 | 9.59 | 2.89E-03 | 2.52E-04 |
| 10 | 848.25 | 8.73E+00 | 10.44 | 2.80E-03 | 2.36E-04 |
| 11 | 1055.11 | 5.50E+00 | 7.78 | 2.27E-03 | 1.88E-04 |
| 12 | 1090.91 | 9.00E+00 | 6.00 | 2.20E-03 | 1.83E-04 |
| 13 | 1099.95 | 7.00E+00 | 5.29 | 2.18E-03 | 1.82E-04 |
| 14 | 1111.77 | 1.18E+01 | 8.73 | 2.16E-03 | 1.80E-04 |
| 15 | 1129.10 | 9.00E+00 | 7.75 | 2.13E-03 | 1.78E-04 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000 sigma

Analysis Report for 1510085-02

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BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/5/2015 7:10:25AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 1 | 93.82 | 8.79E+01 | 61.79 | | | 8.79E+01 | 6.18E+01 |
| 2 | 188.17 | 3.22E+01 | 40.55 | | | 3.22E+01 | 4.05E+01 |
| 3 | 444.53 | 1.67E+01 | 20.10 | | | 1.67E+01 | 2.01E+01 |
| 4 | 502.08 | 1.03E+01 | 12.65 | | | 1.03E+01 | 1.26E+01 |
| 5 | 568.41 | 9.00E+00 | 11.49 | | | 9.00E+00 | 1.15E+01 |
| 6 | 601.18 | 1.15E+01 | 12.71 | | | 1.15E+01 | 1.27E+01 |
| 7 | 676.96 | 1.13E+01 | 10.77 | | | 1.13E+01 | 1.08E+01 |
| 8 | 795.91 | 1.41E+01 | 10.61 | | | 1.41E+01 | 1.06E+01 |
| 9 | 819.81 | 1.09E+01 | 9.59 | | | 1.09E+01 | 9.59E+00 |
| 10 | 848.25 | 8.73E+00 | 10.44 | | | 8.73E+00 | 1.04E+01 |
| 11 | 1055.11 | 5.50E+00 | 7.78 | | | 5.50E+00 | 7.78E+00 |
| 12 | 1090.91 | 9.00E+00 | 6.00 | | | 9.00E+00 | 6.00E+00 |
| 13 | 1099.95 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| 14 | 1111.77 | 1.18E+01 | 8.73 | | | 1.18E+01 | 8.73E+00 |
| 15 | 1129.10 | 9.00E+00 | 7.75 | | | 9.00E+00 | 7.75E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/5/2015 7:10:25AM

Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00

Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 1 | 93.82 | 8.79E+01 | 61.79 | | | 8.79E+01 | 6.18E+01 |
| 2 | 188.17 | 3.22E+01 | 40.55 | | | 3.22E+01 | 4.05E+01 |
| 3 | 444.53 | 1.67E+01 | 20.10 | | | 1.67E+01 | 2.01E+01 |

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Analysis Report for 1510085-02

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| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 4 | 502.08 | 1.03E+01 | 12.65 | | | 1.03E+01 | 1.26E+01 |
| 5 | 568.41 | 9.00E+00 | 11.49 | | | 9.00E+00 | 1.15E+01 |
| 6 | 601.18 | 1.15E+01 | 12.71 | | | 1.15E+01 | 1.27E+01 |
| 7 | 676.96 | 1.13E+01 | 10.77 | | | 1.13E+01 | 1.08E+01 |
| 8 | 795.91 | 1.41E+01 | 10.61 | | | 1.41E+01 | 1.06E+01 |
| 9 | 819.81 | 1.09E+01 | 9.59 | | | 1.09E+01 | 9.59E+00 |
| 10 | 848.25 | 8.73E+00 | 10.44 | | | 8.73E+00 | 1.04E+01 |
| 11 | 1055.11 | 5.50E+00 | 7.78 | | | 5.50E+00 | 7.78E+00 |
| 12 | 1090.91 | 9.00E+00 | 6.00 | | | 9.00E+00 | 6.00E+00 |
| 13 | 1099.95 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| 14 | 1111.77 | 1.18E+01 | 8.73 | | | 1.18E+01 | 8.73E+00 |
| 15 | 1129.10 | 9.00E+00 | 7.75 | | | 9.00E+00 | 7.75E+00 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| GA-67 | 0.574 | 93.31 * | 35.70 | 1.26E-01 | 1.67E-01 |
| | | 208.95 | 2.24 | | |
| | | 300.22 | 16.00 | | |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

Analysis Report for 1510085-02

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/5/2015 7:10:25AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| 2 | 188.17 | 8.95537E-03 | 62.88 | Sum | |
| 3 | 444.53 | 4.64912E-03 | 60.05 | | |
| 4 | 502.08 | 2.86111E-03 | 61.40 | | |
| 5 | 568.41 | 2.50000E-03 | 63.83 | Tol. | CS-134 |
| 6 | 601.18 | 3.19444E-03 | 55.25 | Tol. | SB-125 |
| 7 | 676.96 | 3.13725E-03 | 47.68 | Tol. | AG-110M |
| 8 | 795.91 | 3.90432E-03 | 37.73 | Tol. | CS-134 |
| 9 | 819.81 | 3.02579E-03 | 44.03 | | |
| 10 | 848.25 | 2.42593E-03 | 59.77 | | |
| 11 | 1055.11 | 1.52778E-03 | 70.71 | | |
| 12 | 1090.91 | 2.50000E-03 | 33.33 | | |
| 13 | 1099.95 | 1.94444E-03 | 37.80 | Tol. | FE-59 |
| 14 | 1111.77 | 3.28373E-03 | 36.93 | Tol. | EU-152 |
| 15 | 1129.10 | 2.50000E-03 | 43.03 | | |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| GA-67 | 0.57 | 93.31 * | 35.70 | 1.26E-01 | 1.67E-01 |
| | | 208.95 | 2.24 | | |
| | | 300.22 | 16.00 | | |

Analysis Report for 1510085-02

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* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| <i>Nuclide Name</i> | <i>Nuclide Id Confidence</i> | <i>Wt mean Activity (pCi/grams)</i> | <i>Wt mean Activity Uncertainty</i> | <i>Comments</i> |
|--------------------------------|---|--|--|------------------------|
| GA-67 | 0.574 | 1.26E-01 | 1.67E-01 | |

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-02

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UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/5/2015 7:10:25AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| 2 | 188.17 | 8.95537E-03 | 62.88 | Sum | |
| 3 | 444.53 | 4.64912E-03 | 60.05 | | |
| 4 | 502.08 | 2.86111E-03 | 61.40 | | |
| 5 | 568.41 | 2.50000E-03 | 63.83 | Tol. | CS-134 |
| 6 | 601.18 | 3.19444E-03 | 55.25 | Tol. | SB-125 |
| 7 | 676.96 | 3.13725E-03 | 47.68 | Tol. | AG-110M |
| 8 | 795.91 | 3.90432E-03 | 37.73 | Tol. | CS-134 |
| 9 | 819.81 | 3.02579E-03 | 44.03 | | |
| 10 | 848.25 | 2.42593E-03 | 59.77 | | |
| 11 | 1055.11 | 1.52778E-03 | 70.71 | | |
| 12 | 1090.91 | 2.50000E-03 | 33.33 | | |
| 13 | 1099.95 | 1.94444E-03 | 37.80 | Tol. | FE-59 |
| 14 | 1111.77 | 3.28373E-03 | 36.93 | Tol. | EU-152 |
| 15 | 1129.10 | 2.50000E-03 | 43.03 | | |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|--------------|--------------|----------|----------------------|-------------------------|----------------------|
| + | BE-7 | 477.59 | 10.42 | 2.51E-02 | 5.19E-01 | 5.19E-01 |
| + | NA-22 | 1274.54 | 99.94 | 6.72E-03 | 7.11E-02 | 7.11E-02 |
| + | NA-24 | 1368.53 | 99.99 | 1.07E-02 | 2.58E-02 | 7.25E-02 |

Analysis Report for 1510085-02

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| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | NA-24 | 2754.09 | 99.86 | 0.00E+00 | 2.58E-02 | 2.58E-02 |
| + | AL-26 | 1808.65 | 99.76 | -2.13E-02 | 7.36E-02 | 7.36E-02 |
| + | K-40 | 1460.81 | 10.67 | 2.18E-01 | 8.46E-01 | 8.46E-01 |
| + | AR-41 | 1293.64 | 99.16 | 1.00E-02 | 8.56E-02 | 8.56E-02 |
| + | TI-44 | 67.88 | 94.40 | -1.62E-03 | 2.61E-02 | 2.61E-02 |
| | | 78.34 | 96.00 | 1.51E-03 | | 2.75E-02 |
| + | SC-46 | 889.25 | 99.98 | 1.32E-02 | 5.37E-02 | 7.21E-02 |
| | | 1120.51 | 99.99 | -1.49E-02 | | 5.37E-02 |
| + | V-48 | 983.52 | 99.98 | -1.51E-02 | 5.94E-02 | 5.94E-02 |
| | | 1312.10 | 97.50 | -1.00E-02 | | 7.49E-02 |
| + | CR-51 | 320.08 | 9.83 | -1.57E-01 | 4.63E-01 | 4.63E-01 |
| + | MN-54 | 834.83 | 99.97 | -1.13E-02 | 6.12E-02 | 6.12E-02 |
| + | CO-56 | 846.75 | 99.96 | 2.85E-03 | 7.86E-02 | 7.86E-02 |
| | | 1037.75 | 14.03 | 9.88E-02 | | 5.38E-01 |
| | | 1238.25 | 67.00 | 1.22E-03 | | 1.16E-01 |
| | | 1771.40 | 15.51 | -1.01E-01 | | 5.67E-01 |
| | | 2598.48 | 16.90 | -7.03E-02 | | 3.88E-01 |
| + | CO-57 | 122.06 | 85.51 | -1.50E-03 | 3.41E-02 | 3.41E-02 |
| | | 136.48 | 10.60 | -7.39E-02 | | 2.87E-01 |
| + | CO-58 | 810.76 | 99.40 | 1.93E-02 | 6.83E-02 | 6.83E-02 |
| + | FE-59 | 1099.22 | 56.50 | 1.89E-02 | 1.17E-01 | 1.17E-01 |
| | | 1291.56 | 43.20 | 1.18E-02 | | 1.42E-01 |
| + | CO-60 | 1173.22 | 100.00 | 1.79E-02 | 8.13E-02 | 8.13E-02 |
| | | 1332.49 | 100.00 | 1.88E-02 | | 8.32E-02 |
| + | ZN-65 | 1115.52 | 50.75 | -2.34E-02 | 1.59E-01 | 1.59E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.26E-01 | 1.42E-01 | 1.42E-01 |
| | | 208.95 | 2.24 | -5.59E-01 | | 1.72E+00 |
| | | 300.22 | 16.00 | -2.50E-02 | | 2.55E-01 |
| + | SE-75 | 121.11 | 16.70 | -5.46E-03 | 5.24E-02 | 1.74E-01 |
| | | 136.00 | 59.20 | -4.80E-03 | | 5.24E-02 |
| | | 264.65 | 59.80 | 2.30E-05 | | 6.88E-02 |
| | | 279.53 | 25.20 | 2.70E-02 | | 1.76E-01 |
| | | 400.65 | 11.40 | -3.28E-02 | | 3.74E-01 |
| + | RB-82 | 776.52 | 13.00 | -2.25E-01 | 5.15E-01 | 5.15E-01 |
| + | RB-83 | 520.41 | 46.00 | -1.34E-02 | 1.20E-01 | 1.20E-01 |
| | | 529.64 | 30.30 | -3.61E-02 | | 1.60E-01 |
| | | 552.65 | 16.40 | 4.98E-03 | | 3.36E-01 |
| + | KR-85 | 513.99 | 0.43 | 1.42E+01 | 1.67E+01 | 1.67E+01 |
| + | SR-85 | 513.99 | 99.27 | 6.22E-02 | 7.29E-02 | 7.29E-02 |
| + | Y-88 | 898.02 | 93.40 | -1.29E-03 | 6.15E-02 | 6.15E-02 |
| | | 1836.01 | 99.38 | 3.86E-03 | | 7.48E-02 |
| + | NB-93M | 16.57 | 9.43 | 3.32E-01 | 2.26E-01 | 2.26E-01 |
| + | NB-94 | 702.63 | 100.00 | 4.43E-03 | 5.28E-02 | 6.84E-02 |
| | | 871.10 | 100.00 | -1.76E-02 | | 5.28E-02 |
| + | NB-95 | 765.79 | 99.81 | 2.56E-03 | 7.46E-02 | 7.46E-02 |
| + | NB-95M | 235.69 | 25.00 | -7.29E-02 | 1.57E-01 | 1.57E-01 |
| + | ZR-95 | 724.18 | 43.70 | 1.90E-02 | 1.30E-01 | 1.47E-01 |

Analysis Report for 1510085-02

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| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | ZR-95 | 756.72 | 55.30 | -2.24E-02 | 1.30E-01 | 1.30E-01 |
| + | MO-99 | 181.06 | 6.20 | 1.95E-01 | 4.43E-01 | 5.56E-01 |
| | | 739.58 | 12.80 | 6.02E-02 | | 4.43E-01 |
| | | 778.00 | 4.50 | -2.02E-01 | | 1.50E+00 |
| + | RU-103 | 497.08 | 89.00 | 3.21E-03 | 5.80E-02 | 5.80E-02 |
| + | RU-106 | 621.84 | 9.80 | 1.09E-02 | 6.32E-01 | 6.32E-01 |
| + | AG-108M | 433.93 | 89.90 | 1.33E-02 | 5.47E-02 | 5.47E-02 |
| | | 614.37 | 90.40 | -5.76E-03 | | 8.23E-02 |
| | | 722.95 | 90.50 | 9.70E-03 | | 6.70E-02 |
| + | CD-109 | 88.03 | 3.72 | 1.17E-01 | 7.61E-01 | 7.61E-01 |
| + | AG-110M | 657.75 | 93.14 | 1.86E-02 | 6.27E-02 | 6.27E-02 |
| | | 677.61 | 10.53 | 1.10E-01 | | 5.85E-01 |
| | | 706.67 | 16.46 | -6.65E-02 | | 3.60E-01 |
| | | 763.93 | 21.98 | -1.73E-01 | | 3.08E-01 |
| | | 884.67 | 71.63 | -1.99E-02 | | 7.90E-02 |
| | | 1384.27 | 23.94 | -9.71E-03 | | 3.40E-01 |
| + | CD-113M | 263.70 | 0.02 | -2.94E+01 | 1.75E+02 | 1.75E+02 |
| + | SN-113 | 255.12 | 1.93 | 8.95E-02 | 7.08E-02 | 2.08E+00 |
| | | 391.69 | 64.90 | 1.77E-02 | | 7.08E-02 |
| + | TE123M | 159.00 | 84.10 | -6.19E-03 | 3.89E-02 | 3.89E-02 |
| + | SB-124 | 602.71 | 97.87 | -1.03E-02 | 6.72E-02 | 6.72E-02 |
| | | 645.85 | 7.26 | 2.10E-01 | | 8.67E-01 |
| | | 722.78 | 11.10 | 1.44E-01 | | 5.62E-01 |
| | | 1691.02 | 49.00 | 5.85E-02 | | 1.86E-01 |
| + | I-125 | 35.49 | 6.49 | 9.54E-02 | 3.10E-01 | 3.10E-01 |
| + | SB-125 | 176.33 | 6.89 | 2.30E-01 | 1.80E-01 | 5.29E-01 |
| | | 427.89 | 29.33 | -2.10E-03 | | 1.80E-01 |
| | | 463.38 | 10.35 | 4.14E-02 | | 5.15E-01 |
| | | 600.56 | 17.80 | 0.00E+00 | | 3.74E-01 |
| | | 635.90 | 11.32 | -1.74E-01 | | 5.48E-01 |
| + | SB-126 | 414.70 | 83.30 | -8.95E-03 | 4.93E-02 | 5.66E-02 |
| | | 666.33 | 99.60 | -1.79E-02 | | 4.93E-02 |
| | | 695.00 | 99.60 | 1.98E-02 | | 8.10E-02 |
| | | 720.50 | 53.80 | -1.95E-02 | | 1.06E-01 |
| + | SN-126 | 87.57 | 37.00 | 1.17E-02 | 7.63E-02 | 7.63E-02 |
| + | SB-127 | 473.00 | 25.00 | 7.38E-02 | 1.67E-01 | 2.25E-01 |
| | | 685.20 | 35.70 | -9.66E-02 | | 1.67E-01 |
| | | 783.80 | 14.70 | -1.01E-01 | | 4.36E-01 |
| + | I-129 | 29.78 | 57.00 | -1.79E-02 | 3.43E-02 | 3.43E-02 |
| | | 33.60 | 13.20 | 6.06E-02 | | 1.53E-01 |
| | | 39.58 | 7.52 | -1.84E-01 | | 2.49E-01 |
| + | I-131 | 284.30 | 6.05 | -2.75E-01 | 5.59E-02 | 7.08E-01 |
| | | 364.48 | 81.20 | 4.16E-03 | | 5.59E-02 |
| | | 636.97 | 7.26 | -9.62E-02 | | 8.92E-01 |
| | | 722.89 | 1.80 | 8.90E-01 | | 3.47E+00 |
| + | TE-132 | 49.72 | 13.10 | 7.60E-02 | 4.56E-02 | 1.63E-01 |
| | | 228.16 | 88.00 | -3.71E-03 | | 4.56E-02 |
| + | BA-133 | 81.00 | 33.00 | 1.66E-02 | 7.48E-02 | 8.05E-02 |
| | | 302.84 | 17.80 | -4.33E-02 | | 2.33E-01 |

Analysis Report for 1510085-02

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| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | BA-133 | 356.01 | 60.00 | 2.37E-02 | 7.48E-02 | 7.48E-02 |
| + | I-133 | 529.87 | 86.30 | -1.29E-02 | 5.72E-02 | 5.72E-02 |
| + | XE-133 | 81.00 | 38.00 | 1.45E-02 | 7.01E-02 | 7.01E-02 |
| + | CS-134 | 563.23 | 8.38 | -6.55E-02 | 7.30E-02 | 5.98E-01 |
| | | 569.32 | 15.43 | -8.83E-02 | | 3.45E-01 |
| | | 604.70 | 97.60 | -4.01E-03 | | 7.30E-02 |
| | | 795.84 | 85.40 | 1.13E-02 | | 8.46E-02 |
| | | 801.93 | 8.73 | 2.10E-01 | | 7.92E-01 |
| + | CS-135 | 268.24 | 16.00 | -2.31E-02 | 2.67E-01 | 2.67E-01 |
| + | I-135 | 1131.51 | 22.50 | 2.86E-02 | 2.63E-01 | 4.31E-01 |
| | | 1260.41 | 28.60 | 2.38E-02 | | 2.63E-01 |
| | | 1678.03 | 9.54 | -1.20E-01 | | 6.67E-01 |
| + | CS-136 | 153.22 | 7.46 | 1.16E-01 | 6.25E-02 | 4.50E-01 |
| | | 163.89 | 4.61 | -3.41E-01 | | 7.05E-01 |
| | | 176.55 | 13.56 | 1.17E-01 | | 2.69E-01 |
| | | 273.65 | 12.66 | -4.65E-02 | | 3.49E-01 |
| | | 340.57 | 48.50 | -1.26E-02 | | 1.00E-01 |
| | | 818.50 | 99.70 | 8.49E-03 | | 6.25E-02 |
| | | 1048.07 | 79.60 | -2.46E-02 | | 7.45E-02 |
| | | 1235.34 | 19.70 | -2.21E-02 | | 3.51E-01 |
| + | CS-137 | 661.65 | 85.12 | -1.61E-03 | 6.53E-02 | 6.53E-02 |
| + | LA-138 | 788.74 | 34.00 | 2.56E-03 | 1.48E-01 | 1.83E-01 |
| | | 1435.80 | 66.00 | 8.49E-03 | | 1.48E-01 |
| + | CE-139 | 165.85 | 80.35 | 1.67E-03 | 4.18E-02 | 4.18E-02 |
| + | BA-140 | 162.64 | 6.70 | -1.47E-01 | 1.81E-01 | 4.80E-01 |
| | | 304.84 | 4.50 | -7.87E-03 | | 9.37E-01 |
| | | 423.70 | 3.20 | 5.73E-01 | | 1.70E+00 |
| | | 437.55 | 2.00 | -7.40E-01 | | 2.36E+00 |
| | | 537.32 | 25.00 | -4.49E-02 | | 1.81E-01 |
| + | LA-140 | 328.77 | 20.50 | 1.84E-02 | 5.98E-02 | 2.45E-01 |
| | | 487.03 | 45.50 | -1.51E-02 | | 1.25E-01 |
| | | 815.85 | 23.50 | 1.40E-02 | | 2.45E-01 |
| | | 1596.49 | 95.49 | -6.44E-03 | | 5.98E-02 |
| + | CE-141 | 145.44 | 48.40 | 2.63E-02 | 6.77E-02 | 6.77E-02 |
| + | CE-143 | 57.36 | 11.80 | -1.11E-01 | 1.04E-01 | 1.84E-01 |
| | | 293.26 | 42.00 | 6.13E-03 | | 1.04E-01 |
| | | 664.55 | 5.20 | 3.57E-01 | | 1.15E+00 |
| + | CE-144 | 133.54 | 10.80 | 9.94E-02 | 2.93E-01 | 2.93E-01 |
| + | PM-144 | 476.78 | 42.00 | 4.22E-02 | 7.17E-02 | 1.34E-01 |
| | | 618.01 | 98.60 | 2.30E-02 | | 7.17E-02 |
| | | 696.49 | 99.49 | -1.01E-02 | | 7.63E-02 |
| + | PM-145 | 36.85 | 21.70 | -4.02E-03 | 4.88E-02 | 9.03E-02 |
| | | 37.36 | 39.70 | -5.68E-03 | | 4.88E-02 |
| | | 42.30 | 15.10 | 2.09E-02 | | 1.33E-01 |
| | | 72.40 | 2.31 | 4.19E-01 | | 1.12E+00 |
| + | PM-146 | 453.90 | 39.94 | -8.50E-03 | 1.25E-01 | 1.25E-01 |
| | | 735.90 | 14.01 | 0.00E+00 | | 4.00E-01 |
| | | 747.13 | 13.10 | -3.68E-02 | | 5.18E-01 |
| + | ND-147 | 91.11 | 28.90 | 8.15E-02 | 1.06E-01 | 1.06E-01 |

Analysis Report for 1510085-02

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| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | ND-147 | 531.02 | 13.10 | -7.29E-02 | 1.06E-01 | 3.52E-01 |
| + | PM-149 | 285.90 | 3.10 | -4.82E-01 | 1.40E+00 | 1.40E+00 |
| + | EU-152 | 121.78 | 20.50 | -6.24E-03 | 1.42E-01 | 1.42E-01 |
| | | 244.69 | 5.40 | 1.33E-01 | | 7.64E-01 |
| | | 344.27 | 19.13 | -1.73E-02 | | 2.49E-01 |
| | | 778.89 | 9.20 | -9.85E-02 | | 7.30E-01 |
| | | 964.01 | 10.40 | 1.12E-01 | | 7.72E-01 |
| | | 1085.78 | 7.22 | -1.20E-01 | | 9.54E-01 |
| | | 1112.02 | 9.60 | 4.22E-01 | | 9.30E-01 |
| | | 1407.95 | 14.94 | 1.37E-01 | | 5.85E-01 |
| + | GD-153 | 97.43 | 31.30 | -3.02E-03 | 8.90E-02 | 8.90E-02 |
| | | 103.18 | 22.20 | -1.74E-02 | | 1.18E-01 |
| + | EU-154 | 123.07 | 40.50 | -3.31E-02 | 6.99E-02 | 6.99E-02 |
| | | 723.30 | 19.70 | 4.46E-02 | | 3.08E-01 |
| | | 873.19 | 11.50 | 2.45E-01 | | 5.56E-01 |
| | | 996.32 | 10.30 | 1.17E-01 | | 7.31E-01 |
| | | 1004.76 | 17.90 | 9.01E-02 | | 4.39E-01 |
| | | 1274.45 | 35.50 | 1.89E-02 | | 2.00E-01 |
| + | EU-155 | 86.50 | 30.90 | 2.06E-02 | 8.76E-02 | 8.76E-02 |
| | | 105.30 | 20.70 | -2.81E-02 | | 1.25E-01 |
| + | EU-156 | 811.77 | 10.40 | -4.50E-02 | 5.91E-01 | 5.94E-01 |
| | | 1153.47 | 7.20 | -2.91E-01 | | 6.88E-01 |
| | | 1230.71 | 8.90 | -3.96E-01 | | 5.91E-01 |
| + | HO-166M | 184.41 | 72.60 | 4.18E-03 | 5.00E-02 | 5.00E-02 |
| | | 280.45 | 29.60 | -9.50E-03 | | 1.48E-01 |
| | | 410.94 | 11.10 | 5.40E-02 | | 4.21E-01 |
| | | 711.69 | 54.10 | 1.07E-02 | | 1.07E-01 |
| + | TM-171 | 66.72 | 0.14 | 3.41E+00 | 1.80E+01 | 1.80E+01 |
| + | HF-172 | 81.75 | 4.52 | 2.20E-02 | 2.56E-01 | 5.74E-01 |
| | | 125.81 | 11.30 | -1.10E-01 | | 2.56E-01 |
| + | LU-172 | 181.53 | 20.60 | 3.62E-02 | 1.22E-01 | 1.71E-01 |
| | | 810.06 | 16.63 | 1.15E-01 | | 4.09E-01 |
| | | 912.12 | 15.25 | -1.45E-01 | | 3.17E-01 |
| | | 1093.66 | 62.50 | 0.00E+00 | | 1.22E-01 |
| + | LU-173 | 100.72 | 5.24 | -1.14E-01 | 2.22E-01 | 4.71E-01 |
| | | 272.11 | 21.20 | 1.42E-01 | | 2.22E-01 |
| + | HF-175 | 343.40 | 84.00 | 1.37E-03 | 5.72E-02 | 5.72E-02 |
| + | LU-176 | 88.34 | 13.30 | 1.78E-02 | 4.18E-02 | 2.20E-01 |
| | | 201.83 | 86.00 | -3.86E-03 | | 4.18E-02 |
| | | 306.78 | 94.00 | 4.45E-03 | | 4.60E-02 |
| + | TA-182 | 67.75 | 41.20 | -3.71E-03 | 5.98E-02 | 5.98E-02 |
| | | 1121.30 | 34.90 | -2.14E-03 | | 1.54E-01 |
| | | 1189.05 | 16.23 | -4.13E-02 | | 4.62E-01 |
| | | 1221.41 | 26.98 | -6.28E-02 | | 2.16E-01 |
| | | 1231.02 | 11.44 | -3.08E-01 | | 4.59E-01 |
| + | IR-192 | 308.46 | 29.68 | 4.03E-02 | 1.07E-01 | 1.51E-01 |
| | | 468.07 | 48.10 | -2.41E-02 | | 1.07E-01 |
| + | HG-203 | 279.19 | 77.30 | 8.78E-03 | 5.73E-02 | 5.73E-02 |
| + | BI-207 | 569.67 | 97.72 | -1.40E-02 | 5.44E-02 | 5.44E-02 |

Analysis Report for 1510085-02

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| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | BI-207 | 1063.62 | 74.90 | 5.68E-03 | 5.44E-02 | 9.90E-02 |
| + | TL-208 | 583.14 | 30.22 | 1.07E-02 | 1.88E-01 | 1.88E-01 |
| | | 860.37 | 4.48 | 5.17E-02 | | 1.56E+00 |
| | | 2614.66 | 35.85 | 1.04E-01 | | 3.96E-01 |
| + | BI-210M | 262.00 | 45.00 | -2.92E-02 | 8.58E-02 | 8.58E-02 |
| | | 300.00 | 23.00 | -3.37E-02 | | 1.73E-01 |
| + | PB-210 | 46.50 | 4.25 | 2.14E-01 | 4.90E-01 | 4.90E-01 |
| + | PB-211 | 404.84 | 2.90 | -4.53E-01 | 1.43E+00 | 1.43E+00 |
| | | 831.96 | 2.90 | 5.15E-01 | | 2.18E+00 |
| + | BI-212 | 727.17 | 11.80 | 9.67E-02 | 5.32E-01 | 5.32E-01 |
| | | 1620.62 | 2.75 | 6.79E-01 | | 3.19E+00 |
| + | PB-212 | 238.63 | 44.60 | 2.28E-02 | 9.31E-02 | 9.31E-02 |
| | | 300.09 | 3.41 | -2.27E-01 | | 1.16E+00 |
| + | BI-214 | 609.31 | 46.30 | 5.04E-02 | 1.66E-01 | 1.66E-01 |
| | | 1120.29 | 15.10 | -9.87E-02 | | 3.56E-01 |
| | | 1764.49 | 15.80 | 4.23E-02 | | 4.55E-01 |
| | | 2204.22 | 4.98 | -3.54E-01 | | 1.72E+00 |
| + | PB-214 | 295.21 | 19.19 | 8.55E-04 | 1.31E-01 | 2.18E-01 |
| | | 351.92 | 37.19 | 3.44E-02 | | 1.31E-01 |
| + | RN-219 | 401.80 | 6.50 | 1.18E-01 | 6.57E-01 | 6.57E-01 |
| + | RA-223 | 323.87 | 3.88 | 4.84E-03 | 1.23E+00 | 1.23E+00 |
| + | RA-224 | 240.98 | 3.95 | 5.34E-02 | 1.02E+00 | 1.02E+00 |
| + | RA-225 | 40.00 | 31.00 | -4.49E-02 | 6.08E-02 | 6.08E-02 |
| + | RA-226 | 186.21 | 3.28 | 2.49E-01 | 1.13E+00 | 1.13E+00 |
| + | TH-227 | 50.10 | 8.40 | 1.18E-01 | 2.53E-01 | 2.53E-01 |
| | | 236.00 | 11.50 | -1.58E-01 | | 3.40E-01 |
| | | 256.20 | 6.30 | -7.75E-02 | | 6.29E-01 |
| + | AC-228 | 338.32 | 11.40 | -3.40E-02 | 1.87E-01 | 4.36E-01 |
| | | 911.07 | 27.70 | -2.36E-02 | | 1.87E-01 |
| | | 969.11 | 16.60 | -1.65E-01 | | 3.91E-01 |
| + | TH-230 | 48.44 | 16.90 | 5.59E-02 | 1.23E-01 | 1.23E-01 |
| | | 62.85 | 4.60 | 2.20E-01 | | 5.38E-01 |
| | | 67.67 | 0.37 | -4.13E-01 | | 6.66E+00 |
| + | PA-231 | 283.67 | 1.60 | 1.95E-01 | 1.80E+00 | 2.78E+00 |
| | | 302.67 | 2.30 | -3.35E-01 | | 1.80E+00 |
| + | TH-231 | 25.64 | 14.70 | -9.53E-02 | 1.39E-01 | 1.39E-01 |
| | | 84.21 | 6.40 | 2.54E-02 | | 3.98E-01 |
| + | PA-233 | 311.98 | 38.60 | -4.70E-02 | 1.14E-01 | 1.14E-01 |
| + | PA-234 | 131.20 | 20.40 | 7.07E-02 | 1.55E-01 | 1.55E-01 |
| | | 733.99 | 8.80 | 2.87E-02 | | 6.12E-01 |
| | | 946.00 | 12.00 | 7.19E-02 | | 5.53E-01 |
| + | PA-234M | 1001.03 | 0.92 | -4.50E-01 | 7.92E+00 | 7.92E+00 |
| + | TH-234 | 63.29 | 3.80 | 2.49E-01 | 6.51E-01 | 6.51E-01 |
| + | U-235 | 143.76 | 10.50 | 6.33E-02 | 3.03E-01 | 3.03E-01 |
| | | 163.35 | 4.70 | -3.33E-01 | | 6.89E-01 |
| | | 205.31 | 4.70 | -3.83E-01 | | 7.71E-01 |
| + | NP-237 | 86.50 | 12.60 | 5.04E-02 | 2.15E-01 | 2.15E-01 |

Analysis Report for 1510085-02

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| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | NP-239 | 106.10 | 22.70 | -2.59E-02 | 1.16E-01 | 1.16E-01 |
| | | 228.18 | 10.70 | -6.50E-03 | | 3.81E-01 |
| | | 277.60 | 14.10 | 4.11E-02 | | 3.25E-01 |
| + | AM-241 | 59.54 | 35.90 | 3.88E-02 | 6.67E-02 | 6.67E-02 |
| + | AM-243 | 74.67 | 66.00 | 1.08E-02 | 3.95E-02 | 3.95E-02 |
| + | CM-243 | 209.75 | 3.29 | -1.93E-01 | 3.25E-01 | 1.18E+00 |
| | | 228.14 | 10.60 | -3.06E-02 | | 3.77E-01 |
| | | 277.60 | 14.00 | 4.10E-02 | | 3.25E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| BE-7 | 477.59 | 10.42 | 5.19E-01 | 5.19E-01 | 2.51E-02 | 2.34E-01 |
| NA-22 | 1274.54 | 99.94 | 7.11E-02 | 7.11E-02 | 6.72E-03 | 2.87E-02 |
| NA-24 | 1368.53 | 99.99 | 7.25E-02 | 2.58E-02 | 1.07E-02 | 2.88E-02 |
| | 2754.09 | 99.86 | 2.58E-02 | | 0.00E+00 | 0.00E+00 |
| AL-26 | 1808.65 | 99.76 | 7.36E-02 | 7.36E-02 | -2.13E-02 | 2.75E-02 |
| K-40 | 1460.81 | 10.67 | 8.46E-01 | 8.46E-01 | 2.18E-01 | 3.51E-01 |
| AR-41 | 1293.64 | 99.16 | 8.56E-02 | 8.56E-02 | 1.00E-02 | 3.39E-02 |
| TI-44 | 67.88 | 94.40 | 2.61E-02 | 2.61E-02 | -1.62E-03 | 1.25E-02 |
| | 78.34 | 96.00 | 2.75E-02 | | 1.51E-03 | 1.31E-02 |
| SC-46 | 889.25 | 99.98 | 7.21E-02 | 5.37E-02 | 1.32E-02 | 3.12E-02 |
| | 1120.51 | 99.99 | 5.37E-02 | | -1.49E-02 | 2.08E-02 |
| V-48 | 983.52 | 99.98 | 5.94E-02 | 5.94E-02 | -1.51E-02 | 2.44E-02 |
| | 1312.10 | 97.50 | 7.49E-02 | | -1.00E-02 | 3.03E-02 |
| CR-51 | 320.08 | 9.83 | 4.63E-01 | 4.63E-01 | -1.57E-01 | 2.13E-01 |
| MN-54 | 834.83 | 99.97 | 6.12E-02 | 6.12E-02 | -1.13E-02 | 2.60E-02 |

Analysis Report for 1510085-02

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| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| CO-56 | 846.75 | 99.96 | 7.86E-02 | 7.86E-02 | 2.85E-03 | 3.47E-02 |
| | 1037.75 | 14.03 | 5.38E-01 | | 9.88E-02 | 2.29E-01 |
| | 1238.25 | 67.00 | 1.16E-01 | | 1.22E-03 | 4.82E-02 |
| | 1771.40 | 15.51 | 5.67E-01 | | -1.01E-01 | 2.25E-01 |
| | 2598.48 | 16.90 | 3.88E-01 | | -7.03E-02 | 1.23E-01 |
| CO-57 | 122.06 | 85.51 | 3.41E-02 | 3.41E-02 | -1.50E-03 | 1.61E-02 |
| | 136.48 | 10.60 | 2.87E-01 | | -7.39E-02 | 1.35E-01 |
| CO-58 | 810.76 | 99.40 | 6.83E-02 | 6.83E-02 | 1.93E-02 | 2.97E-02 |
| FE-59 | 1099.22 | 56.50 | 1.17E-01 | 1.17E-01 | 1.89E-02 | 4.79E-02 |
| | 1291.56 | 43.20 | 1.42E-01 | | 1.18E-02 | 5.49E-02 |
| CO-60 | 1173.22 | 100.00 | 8.13E-02 | 8.13E-02 | 1.79E-02 | 3.43E-02 |
| | 1332.49 | 100.00 | 8.32E-02 | | 1.88E-02 | 3.45E-02 |
| ZN-65 | 1115.52 | 50.75 | 1.59E-01 | 1.59E-01 | -2.34E-02 | 6.77E-02 |
| + GA-67 | 93.31 | * | 1.42E-01 | 1.42E-01 | 1.26E-01 | 6.92E-02 |
| | 208.95 | 2.24 | 1.72E+00 | | -5.59E-01 | 8.05E-01 |
| | 300.22 | 16.00 | 2.55E-01 | | -2.50E-02 | 1.17E-01 |
| SE-75 | 121.11 | 16.70 | 1.74E-01 | 5.24E-02 | -5.46E-03 | 8.20E-02 |
| | 136.00 | 59.20 | 5.24E-02 | | -4.80E-03 | 2.47E-02 |
| | 264.65 | 59.80 | 6.88E-02 | | 2.30E-05 | 3.19E-02 |
| | 279.53 | 25.20 | 1.76E-01 | | 2.70E-02 | 8.17E-02 |
| | 400.65 | 11.40 | 3.74E-01 | | -3.28E-02 | 1.67E-01 |
| RB-82 | 776.52 | 13.00 | 5.15E-01 | 5.15E-01 | -2.25E-01 | 2.25E-01 |
| RB-83 | 520.41 | 46.00 | 1.20E-01 | 1.20E-01 | -1.34E-02 | 5.35E-02 |
| | 529.64 | 30.30 | 1.60E-01 | | -3.61E-02 | 7.02E-02 |
| | 552.65 | 16.40 | 3.36E-01 | | 4.98E-03 | 1.49E-01 |
| KR-85 | 513.99 | 0.43 | 1.67E+01 | 1.67E+01 | 1.42E+01 | 7.68E+00 |
| SR-85 | 513.99 | 99.27 | 7.29E-02 | 7.29E-02 | 6.22E-02 | 3.36E-02 |
| Y-88 | 898.02 | 93.40 | 6.15E-02 | 6.15E-02 | -1.29E-03 | 2.55E-02 |
| | 1836.01 | 99.38 | 7.48E-02 | | 3.86E-03 | 2.80E-02 |
| NB-93M | 16.57 | 9.43 | 2.26E-01 | 2.26E-01 | 3.32E-01 | 1.08E-01 |
| NB-94 | 702.63 | 100.00 | 6.84E-02 | 5.28E-02 | 4.43E-03 | 3.03E-02 |
| | 871.10 | 100.00 | 5.28E-02 | | -1.76E-02 | 2.16E-02 |
| NB-95 | 765.79 | 99.81 | 7.46E-02 | 7.46E-02 | 2.56E-03 | 3.31E-02 |
| NB-95M | 235.69 | 25.00 | 1.57E-01 | 1.57E-01 | -7.29E-02 | 7.29E-02 |
| ZR-95 | 724.18 | 43.70 | 1.47E-01 | 1.30E-01 | 1.90E-02 | 6.44E-02 |
| | 756.72 | 55.30 | 1.30E-01 | | -2.24E-02 | 5.76E-02 |
| MO-99 | 181.06 | 6.20 | 5.56E-01 | 4.43E-01 | 1.95E-01 | 2.60E-01 |
| | 739.58 | 12.80 | 4.43E-01 | | 6.02E-02 | 1.90E-01 |
| | 778.00 | 4.50 | 1.50E+00 | | -2.02E-01 | 6.55E-01 |
| RU-103 | 497.08 | 89.00 | 5.80E-02 | 5.80E-02 | 3.21E-03 | 2.59E-02 |
| RU-106 | 621.84 | 9.80 | 6.32E-01 | 6.32E-01 | 1.09E-02 | 2.81E-01 |
| AG-108M | 433.93 | 89.90 | 5.47E-02 | 5.47E-02 | 1.33E-02 | 2.47E-02 |
| | 614.37 | 90.40 | 8.23E-02 | | -5.76E-03 | 3.74E-02 |
| | 722.95 | 90.50 | 6.70E-02 | | 9.70E-03 | 2.91E-02 |
| CD-109 | 88.03 | 3.72 | 7.61E-01 | 7.61E-01 | 1.17E-01 | 3.63E-01 |
| AG-110M | 657.75 | 93.14 | 6.27E-02 | 6.27E-02 | 1.86E-02 | 2.75E-02 |
| | 677.61 | 10.53 | 5.85E-01 | | 1.10E-01 | 2.57E-01 |
| | 706.67 | 16.46 | 3.60E-01 | | -6.65E-02 | 1.57E-01 |
| | 763.93 | 21.98 | 3.08E-01 | | -1.73E-01 | 1.35E-01 |
| | 884.67 | 71.63 | 7.90E-02 | | -1.99E-02 | 3.28E-02 |
| | 1384.27 | 23.94 | 3.40E-01 | | -9.71E-03 | 1.40E-01 |
| | 263.70 | 0.02 | 1.75E+02 | | 1.75E+02 | -2.94E+01 | 8.11E+01 |
| SN-113 | 255.12 | 1.93 | 2.08E+00 | 7.08E-02 | 8.95E-02 | 9.65E-01 |

Analysis Report for 1510085-02

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| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| SN-113 | 391.69 | 64.90 | 7.08E-02 | 7.08E-02 | 1.77E-02 | 3.20E-02 |
| TE123M | 159.00 | 84.10 | 3.89E-02 | 3.89E-02 | -6.19E-03 | 1.83E-02 |
| SB-124 | 602.71 | 97.87 | 6.72E-02 | 6.72E-02 | -1.03E-02 | 3.02E-02 |
| | 645.85 | 7.26 | 8.67E-01 | | 2.10E-01 | 3.85E-01 |
| | 722.78 | 11.10 | 5.62E-01 | | 1.44E-01 | 2.45E-01 |
| | 1691.02 | 49.00 | 1.86E-01 | | 5.85E-02 | 7.50E-02 |
| I-125 | 35.49 | 6.49 | 3.10E-01 | 3.10E-01 | 9.54E-02 | 1.48E-01 |
| SB-125 | 176.33 | 6.89 | 5.29E-01 | 1.80E-01 | 2.30E-01 | 2.49E-01 |
| | 427.89 | 29.33 | 1.80E-01 | | -2.10E-03 | 8.20E-02 |
| | 463.38 | 10.35 | 5.15E-01 | | 4.14E-02 | 2.33E-01 |
| | 600.56 | 17.80 | 3.74E-01 | | 0.00E+00 | 1.69E-01 |
| | 635.90 | 11.32 | 5.48E-01 | | -1.74E-01 | 2.43E-01 |
| SB-126 | 414.70 | 83.30 | 5.66E-02 | 4.93E-02 | -8.95E-03 | 2.55E-02 |
| | 666.33 | 99.60 | 4.93E-02 | | -1.79E-02 | 2.10E-02 |
| | 695.00 | 99.60 | 8.10E-02 | | 1.98E-02 | 3.67E-02 |
| | 720.50 | 53.80 | 1.06E-01 | | -1.95E-02 | 4.56E-02 |
| SN-126 | 87.57 | 37.00 | 7.63E-02 | 7.63E-02 | 1.17E-02 | 3.64E-02 |
| SB-127 | 473.00 | 25.00 | 2.25E-01 | 1.67E-01 | 7.38E-02 | 1.02E-01 |
| | 685.20 | 35.70 | 1.67E-01 | | -9.66E-02 | 7.27E-02 |
| | 783.80 | 14.70 | 4.36E-01 | | -1.01E-01 | 1.89E-01 |
| I-129 | 29.78 | 57.00 | 3.43E-02 | 3.43E-02 | -1.79E-02 | 1.64E-02 |
| | 33.60 | 13.20 | 1.53E-01 | | 6.06E-02 | 7.33E-02 |
| | 39.58 | 7.52 | 2.49E-01 | | -1.84E-01 | 1.18E-01 |
| I-131 | 284.30 | 6.05 | 7.08E-01 | 5.59E-02 | -2.75E-01 | 3.27E-01 |
| | 364.48 | 81.20 | 5.59E-02 | | 4.16E-03 | 2.55E-02 |
| | 636.97 | 7.26 | 8.92E-01 | | -9.62E-02 | 3.98E-01 |
| | 722.89 | 1.80 | 3.47E+00 | | 8.90E-01 | 1.52E+00 |
| TE-132 | 49.72 | 13.10 | 1.63E-01 | 4.56E-02 | 7.60E-02 | 7.74E-02 |
| | 228.16 | 88.00 | 4.56E-02 | | -3.71E-03 | 2.13E-02 |
| BA-133 | 81.00 | 33.00 | 8.05E-02 | 7.48E-02 | 1.66E-02 | 3.83E-02 |
| | 302.84 | 17.80 | 2.33E-01 | | -4.33E-02 | 1.07E-01 |
| | 356.01 | 60.00 | 7.48E-02 | | 2.37E-02 | 3.41E-02 |
| I-133 | 529.87 | 86.30 | 5.72E-02 | 5.72E-02 | -1.29E-02 | 2.52E-02 |
| XE-133 | 81.00 | 38.00 | 7.01E-02 | 7.01E-02 | 1.45E-02 | 3.34E-02 |
| CS-134 | 563.23 | 8.38 | 5.98E-01 | 7.30E-02 | -6.55E-02 | 2.62E-01 |
| | 569.32 | 15.43 | 3.45E-01 | | -8.83E-02 | 1.52E-01 |
| | 604.70 | 97.60 | 7.30E-02 | | -4.01E-03 | 3.31E-02 |
| | 795.84 | 85.40 | 8.46E-02 | | 1.13E-02 | 3.72E-02 |
| | 801.93 | 8.73 | 7.92E-01 | | 2.10E-01 | 3.46E-01 |
| CS-135 | 268.24 | 16.00 | 2.67E-01 | 2.67E-01 | -2.31E-02 | 1.24E-01 |
| I-135 | 1131.51 | 22.50 | 4.31E-01 | 2.63E-01 | 2.86E-02 | 1.87E-01 |
| | 1260.41 | 28.60 | 2.63E-01 | | 2.38E-02 | 1.06E-01 |
| | 1678.03 | 9.54 | 6.67E-01 | | -1.20E-01 | 2.36E-01 |
| CS-136 | 153.22 | 7.46 | 4.50E-01 | 6.25E-02 | 1.16E-01 | 2.12E-01 |
| | 163.89 | 4.61 | 7.05E-01 | | -3.41E-01 | 3.31E-01 |
| | 176.55 | 13.56 | 2.69E-01 | | 1.17E-01 | 1.27E-01 |
| | 273.65 | 12.66 | 3.49E-01 | | -4.65E-02 | 1.62E-01 |
| | 340.57 | 48.50 | 1.00E-01 | | -1.26E-02 | 4.63E-02 |
| | 818.50 | 99.70 | 6.25E-02 | | 8.49E-03 | 2.68E-02 |
| | 1048.07 | 79.60 | 7.45E-02 | | -2.46E-02 | 3.01E-02 |
| | 1235.34 | 19.70 | 3.51E-01 | | -2.21E-02 | 1.42E-01 |
| CS-137 | 661.65 | 85.12 | 6.53E-02 | 6.53E-02 | -1.61E-03 | 2.84E-02 |
| LA-138 | 788.74 | 34.00 | 1.83E-01 | 1.48E-01 | 2.56E-03 | 7.87E-02 |

Analysis Report for 1510085-02

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| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| LA-138 | 1435.80 | 66.00 | 1.48E-01 | 1.48E-01 | 8.49E-03 | 6.25E-02 |
| CE-139 | 165.85 | 80.35 | 4.18E-02 | 4.18E-02 | 1.67E-03 | 1.96E-02 |
| BA-140 | 162.64 | 6.70 | 4.80E-01 | 1.81E-01 | -1.47E-01 | 2.25E-01 |
| | 304.84 | 4.50 | 9.37E-01 | | -7.87E-03 | 4.30E-01 |
| | 423.70 | 3.20 | 1.70E+00 | | 5.73E-01 | 7.77E-01 |
| | 437.55 | 2.00 | 2.36E+00 | | -7.40E-01 | 1.06E+00 |
| | 537.32 | 25.00 | 1.81E-01 | | -4.49E-02 | 7.88E-02 |
| LA-140 | 328.77 | 20.50 | 2.45E-01 | 5.98E-02 | 1.84E-02 | 1.14E-01 |
| | 487.03 | 45.50 | 1.25E-01 | | -1.51E-02 | 5.65E-02 |
| | 815.85 | 23.50 | 2.45E-01 | | 1.40E-02 | 1.03E-01 |
| | 1596.49 | 95.49 | 5.98E-02 | | -6.44E-03 | 2.12E-02 |
| CE-141 | 145.44 | 48.40 | 6.77E-02 | 6.77E-02 | 2.63E-02 | 3.19E-02 |
| CE-143 | 57.36 | 11.80 | 1.84E-01 | 1.04E-01 | -1.11E-01 | 8.74E-02 |
| | 293.26 | 42.00 | 1.04E-01 | | 6.13E-03 | 4.81E-02 |
| | 664.55 | 5.20 | 1.15E+00 | | 3.57E-01 | 5.04E-01 |
| CE-144 | 133.54 | 10.80 | 2.93E-01 | 2.93E-01 | 9.94E-02 | 1.39E-01 |
| PM-144 | 476.78 | 42.00 | 1.34E-01 | 7.17E-02 | 4.22E-02 | 6.09E-02 |
| | 618.01 | 98.60 | 7.17E-02 | | 2.30E-02 | 3.24E-02 |
| | 696.49 | 99.49 | 7.63E-02 | | -1.01E-02 | 3.43E-02 |
| PM-145 | 36.85 | 21.70 | 9.03E-02 | 4.88E-02 | -4.02E-03 | 4.30E-02 |
| | 37.36 | 39.70 | 4.88E-02 | | -5.68E-03 | 2.32E-02 |
| | 42.30 | 15.10 | 1.33E-01 | | 2.09E-02 | 6.33E-02 |
| | 72.40 | 2.31 | 1.12E+00 | | 4.19E-01 | 5.33E-01 |
| PM-146 | 453.90 | 39.94 | 1.25E-01 | 1.25E-01 | -8.50E-03 | 5.60E-02 |
| | 735.90 | 14.01 | 4.00E-01 | | 0.00E+00 | 1.71E-01 |
| | 747.13 | 13.10 | 5.18E-01 | | -3.68E-02 | 2.28E-01 |
| ND-147 | 91.11 | 28.90 | 1.06E-01 | 1.06E-01 | 8.15E-02 | 5.08E-02 |
| | 531.02 | 13.10 | 3.52E-01 | | -7.29E-02 | 1.54E-01 |
| PM-149 | 285.90 | 3.10 | 1.40E+00 | 1.40E+00 | -4.82E-01 | 6.46E-01 |
| EU-152 | 121.78 | 20.50 | 1.42E-01 | 1.42E-01 | -6.24E-03 | 6.70E-02 |
| | 244.69 | 5.40 | 7.64E-01 | | 1.33E-01 | 3.56E-01 |
| | 344.27 | 19.13 | 2.49E-01 | | -1.73E-02 | 1.15E-01 |
| | 778.89 | 9.20 | 7.30E-01 | | -9.85E-02 | 3.19E-01 |
| | 964.01 | 10.40 | 7.72E-01 | | 1.12E-01 | 3.36E-01 |
| | 1085.78 | 7.22 | 9.54E-01 | | -1.20E-01 | 3.96E-01 |
| | 1112.02 | 9.60 | 9.30E-01 | | 4.22E-01 | 4.03E-01 |
| | 1407.95 | 14.94 | 5.85E-01 | | 1.37E-01 | 2.43E-01 |
| GD-153 | 97.43 | 31.30 | 8.90E-02 | 8.90E-02 | -3.02E-03 | 4.23E-02 |
| | 103.18 | 22.20 | 1.18E-01 | | -1.74E-02 | 5.55E-02 |
| EU-154 | 123.07 | 40.50 | 6.99E-02 | 6.99E-02 | -3.31E-02 | 3.29E-02 |
| | 723.30 | 19.70 | 3.08E-01 | | 4.46E-02 | 1.34E-01 |
| | 873.19 | 11.50 | 5.56E-01 | | 2.45E-01 | 2.36E-01 |
| | 996.32 | 10.30 | 7.31E-01 | | 1.17E-01 | 3.13E-01 |
| | 1004.76 | 17.90 | 4.39E-01 | | 9.01E-02 | 1.89E-01 |
| | 1274.45 | 35.50 | 2.00E-01 | | 1.89E-02 | 8.08E-02 |
| EU-155 | 86.50 | 30.90 | 8.76E-02 | 8.76E-02 | 2.06E-02 | 4.17E-02 |
| | 105.30 | 20.70 | 1.25E-01 | | -2.81E-02 | 5.90E-02 |
| EU-156 | 811.77 | 10.40 | 5.94E-01 | 5.91E-01 | -4.50E-02 | 2.55E-01 |
| | 1153.47 | 7.20 | 6.88E-01 | | -2.91E-01 | 2.57E-01 |
| | 1230.71 | 8.90 | 5.91E-01 | | -3.96E-01 | 2.21E-01 |
| HO-166M | 184.41 | 72.60 | 5.00E-02 | 5.00E-02 | 4.18E-03 | 2.35E-02 |
| | 280.45 | 29.60 | 1.48E-01 | | -9.50E-03 | 6.85E-02 |
| | 410.94 | 11.10 | 4.21E-01 | | 5.40E-02 | 1.90E-01 |

Analysis Report for 1510085-02

BLANK

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| HO-166M | 711.69 | 54.10 | 1.07E-01 | 5.00E-02 | 1.07E-02 | 4.64E-02 |
| TM-171 | 66.72 | 0.14 | 1.80E+01 | 1.80E+01 | 3.41E+00 | 8.59E+00 |
| HF-172 | 81.75 | 4.52 | 5.74E-01 | 2.56E-01 | 2.20E-02 | 2.73E-01 |
| | 125.81 | 11.30 | 2.56E-01 | | -1.10E-01 | 1.21E-01 |
| LU-172 | 181.53 | 20.60 | 1.71E-01 | 1.22E-01 | 3.62E-02 | 8.04E-02 |
| | 810.06 | 16.63 | 4.09E-01 | | 1.15E-01 | 1.78E-01 |
| | 912.12 | 15.25 | 3.17E-01 | | -1.45E-01 | 1.26E-01 |
| | 1093.66 | 62.50 | 1.22E-01 | | 0.00E+00 | 5.16E-02 |
| LU-173 | 100.72 | 5.24 | 4.71E-01 | 2.22E-01 | -1.14E-01 | 2.22E-01 |
| | 272.11 | 21.20 | 2.22E-01 | | 1.42E-01 | 1.03E-01 |
| HF-175 | 343.40 | 84.00 | 5.72E-02 | 5.72E-02 | 1.37E-03 | 2.63E-02 |
| LU-176 | 88.34 | 13.30 | 2.20E-01 | 4.18E-02 | 1.78E-02 | 1.05E-01 |
| | 201.83 | 86.00 | 4.18E-02 | | -3.86E-03 | 1.95E-02 |
| | 306.78 | 94.00 | 4.60E-02 | | 4.45E-03 | 2.12E-02 |
| TA-182 | 67.75 | 41.20 | 5.98E-02 | 5.98E-02 | -3.71E-03 | 2.85E-02 |
| | 1121.30 | 34.90 | 1.54E-01 | | -2.14E-03 | 5.97E-02 |
| | 1189.05 | 16.23 | 4.62E-01 | | -4.13E-02 | 1.92E-01 |
| | 1221.41 | 26.98 | 2.16E-01 | | -6.28E-02 | 8.35E-02 |
| | 1231.02 | 11.44 | 4.59E-01 | | -3.08E-01 | 1.72E-01 |
| IR-192 | 308.46 | 29.68 | 1.51E-01 | 1.07E-01 | 4.03E-02 | 6.96E-02 |
| | 468.07 | 48.10 | 1.07E-01 | | -2.41E-02 | 4.80E-02 |
| HG-203 | 279.19 | 77.30 | 5.73E-02 | 5.73E-02 | 8.78E-03 | 2.66E-02 |
| BI-207 | 569.67 | 97.72 | 5.44E-02 | 5.44E-02 | -1.40E-02 | 2.40E-02 |
| | 1063.62 | 74.90 | 9.90E-02 | | 5.68E-03 | 4.18E-02 |
| TL-208 | 583.14 | 30.22 | 1.88E-01 | 1.88E-01 | 1.07E-02 | 8.35E-02 |
| | 860.37 | 4.48 | 1.56E+00 | | 5.17E-02 | 6.75E-01 |
| | 2614.66 | 35.85 | 3.96E-01 | | 1.04E-01 | 1.64E-01 |
| BI-210M | 262.00 | 45.00 | 8.58E-02 | 8.58E-02 | -2.92E-02 | 3.96E-02 |
| | 300.00 | 23.00 | 1.73E-01 | | -3.37E-02 | 7.89E-02 |
| PB-210 | 46.50 | 4.25 | 4.90E-01 | 4.90E-01 | 2.14E-01 | 2.33E-01 |
| PB-211 | 404.84 | 2.90 | 1.43E+00 | 1.43E+00 | -4.53E-01 | 6.38E-01 |
| | 831.96 | 2.90 | 2.18E+00 | | 5.15E-01 | 9.34E-01 |
| BI-212 | 727.17 | 11.80 | 5.32E-01 | 5.32E-01 | 9.67E-02 | 2.32E-01 |
| | 1620.62 | 2.75 | 3.19E+00 | | 6.79E-01 | 1.29E+00 |
| PB-212 | 238.63 | 44.60 | 9.31E-02 | 9.31E-02 | 2.28E-02 | 4.34E-02 |
| | 300.09 | 3.41 | 1.16E+00 | | -2.27E-01 | 5.32E-01 |
| BI-214 | 609.31 | 46.30 | 1.66E-01 | 1.66E-01 | 5.04E-02 | 7.56E-02 |
| | 1120.29 | 15.10 | 3.56E-01 | | -9.87E-02 | 1.38E-01 |
| | 1764.49 | 15.80 | 4.55E-01 | | 4.23E-02 | 1.70E-01 |
| | 2204.22 | 4.98 | 1.72E+00 | | -3.54E-01 | 6.43E-01 |
| PB-214 | 295.21 | 19.19 | 2.18E-01 | 1.31E-01 | 8.55E-04 | 1.00E-01 |
| | 351.92 | 37.19 | 1.31E-01 | | 3.44E-02 | 6.02E-02 |
| RN-219 | 401.80 | 6.50 | 6.57E-01 | 6.57E-01 | 1.18E-01 | 2.94E-01 |
| RA-223 | 323.87 | 3.88 | 1.23E+00 | 1.23E+00 | 4.84E-03 | 5.69E-01 |
| RA-224 | 240.98 | 3.95 | 1.02E+00 | 1.02E+00 | 5.34E-02 | 4.76E-01 |
| RA-225 | 40.00 | 31.00 | 6.08E-02 | 6.08E-02 | -4.49E-02 | 2.89E-02 |
| RA-226 | 186.21 | 3.28 | 1.13E+00 | 1.13E+00 | 2.49E-01 | 5.33E-01 |
| TH-227 | 50.10 | 8.40 | 2.53E-01 | 2.53E-01 | 1.18E-01 | 1.20E-01 |
| | 236.00 | 11.50 | 3.40E-01 | | -1.58E-01 | 1.58E-01 |
| | 256.20 | 6.30 | 6.29E-01 | | -7.75E-02 | 2.91E-01 |
| AC-228 | 338.32 | 11.40 | 4.36E-01 | 1.87E-01 | -3.40E-02 | 2.02E-01 |
| | 911.07 | 27.70 | 1.87E-01 | | -2.36E-02 | 7.55E-02 |
| | 969.11 | 16.60 | 3.91E-01 | | -1.65E-01 | 1.64E-01 |

Analysis Report for 1510085-02

BLANK

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| TH-230 | 48.44 | 16.90 | 1.23E-01 | 1.23E-01 | 5.59E-02 | 5.87E-02 |
| | 62.85 | 4.60 | 5.38E-01 | | 2.20E-01 | 2.57E-01 |
| | 67.67 | 0.37 | 6.66E+00 | | -4.13E-01 | 3.17E+00 |
| PA-231 | 283.67 | 1.60 | 2.78E+00 | 1.80E+00 | 1.95E-01 | 1.29E+00 |
| | 302.67 | 2.30 | 1.80E+00 | | -3.35E-01 | 8.26E-01 |
| TH-231 | 25.64 | 14.70 | 1.39E-01 | 1.39E-01 | -9.53E-02 | 6.65E-02 |
| | 84.21 | 6.40 | 3.98E-01 | | 2.54E-02 | 1.89E-01 |
| PA-233 | 311.98 | 38.60 | 1.14E-01 | 1.14E-01 | -4.70E-02 | 5.24E-02 |
| PA-234 | 131.20 | 20.40 | 1.55E-01 | 1.55E-01 | 7.07E-02 | 7.35E-02 |
| | 733.99 | 8.80 | 6.12E-01 | | 2.87E-02 | 2.61E-01 |
| | 946.00 | 12.00 | 5.53E-01 | | 7.19E-02 | 2.33E-01 |
| PA-234M | 1001.03 | 0.92 | 7.92E+00 | 7.92E+00 | -4.50E-01 | 3.37E+00 |
| TH-234 | 63.29 | 3.80 | 6.51E-01 | 6.51E-01 | 2.49E-01 | 3.11E-01 |
| U-235 | 143.76 | 10.50 | 3.03E-01 | 3.03E-01 | 6.33E-02 | 1.43E-01 |
| | 163.35 | 4.70 | 6.89E-01 | | -3.33E-01 | 3.23E-01 |
| | 205.31 | 4.70 | 7.71E-01 | | -3.83E-01 | 3.60E-01 |
| NP-237 | 86.50 | 12.60 | 2.15E-01 | 2.15E-01 | 5.04E-02 | 1.02E-01 |
| NP-239 | 106.10 | 22.70 | 1.16E-01 | 1.16E-01 | -2.59E-02 | 5.45E-02 |
| | 228.18 | 10.70 | 3.81E-01 | | -6.50E-03 | 1.78E-01 |
| | 277.60 | 14.10 | 3.25E-01 | | 4.11E-02 | 1.51E-01 |
| AM-241 | 59.54 | 35.90 | 6.67E-02 | 6.67E-02 | 3.88E-02 | 3.18E-02 |
| AM-243 | 74.67 | 66.00 | 3.95E-02 | 3.95E-02 | 1.08E-02 | 1.88E-02 |
| CM-243 | 209.75 | 3.29 | 1.18E+00 | 3.25E-01 | -1.93E-01 | 5.54E-01 |
| | 228.14 | 10.60 | 3.77E-01 | | -3.06E-02 | 1.76E-01 |
| | 277.60 | 14.00 | 3.25E-01 | | 4.10E-02 | 1.51E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date

Comment

User

Analysis Report for 1510085-02
BLANK

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: BLANK

Elapsed Live time: 3600

Elapsed Real Time: 3639

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 48 |
| 17: | 43 | 43 | 23 | 27 | 32 | 24 | 26 | 19 |
| 25: | 15 | 14 | 15 | 15 | 14 | 18 | 29 | 14 |
| 33: | 18 | 22 | 15 | 17 | 9 | 15 | 11 | 18 |
| 41: | 10 | 14 | 13 | 11 | 18 | 25 | 17 | 13 |
| 49: | 13 | 13 | 12 | 11 | 13 | 10 | 12 | 13 |
| 57: | 15 | 15 | 18 | 11 | 16 | 23 | 27 | 16 |
| 65: | 13 | 14 | 14 | 15 | 16 | 12 | 14 | 15 |
| 73: | 18 | 14 | 17 | 24 | 15 | 14 | 12 | 8 |
| 81: | 20 | 15 | 15 | 13 | 16 | 7 | 13 | 11 |
| 89: | 18 | 23 | 25 | 24 | 29 | 10 | 12 | 10 |
| 97: | 9 | 11 | 13 | 13 | 13 | 9 | 7 | 4 |
| 105: | 17 | 10 | 6 | 11 | 16 | 14 | 11 | 10 |
| 113: | 8 | 10 | 13 | 13 | 12 | 17 | 10 | 9 |
| 121: | 12 | 11 | 5 | 8 | 13 | 5 | 16 | 10 |
| 129: | 11 | 13 | 13 | 12 | 9 | 15 | 12 | 9 |
| 137: | 7 | 10 | 7 | 9 | 12 | 11 | 9 | 9 |
| 145: | 10 | 12 | 12 | 7 | 13 | 8 | 6 | 11 |
| 153: | 16 | 6 | 9 | 14 | 9 | 8 | 8 | 7 |
| 161: | 12 | 9 | 10 | 4 | 13 | 5 | 9 | 9 |
| 169: | 10 | 15 | 7 | 7 | 11 | 10 | 8 | 12 |
| 177: | 7 | 10 | 12 | 10 | 6 | 5 | 3 | 8 |
| 185: | 16 | 15 | 8 | 9 | 14 | 5 | 6 | 7 |
| 193: | 8 | 10 | 3 | 10 | 5 | 11 | 10 | 6 |
| 201: | 9 | 9 | 6 | 5 | 6 | 9 | 9 | 6 |
| 209: | 7 | 10 | 11 | 9 | 7 | 7 | 19 | 7 |
| 217: | 8 | 7 | 9 | 8 | 11 | 6 | 4 | 9 |
| 225: | 6 | 9 | 4 | 10 | 9 | 7 | 9 | 6 |
| 233: | 4 | 12 | 9 | 5 | 5 | 2 | 8 | 10 |
| 241: | 11 | 5 | 8 | 8 | 3 | 7 | 5 | 6 |
| 249: | 8 | 4 | 9 | 9 | 7 | 8 | 4 | 4 |
| 257: | 6 | 4 | 7 | 4 | 6 | 8 | 4 | 3 |
| 265: | 6 | 2 | 12 | 9 | 3 | 12 | 4 | 6 |
| 273: | 2 | 12 | 8 | 7 | 5 | 4 | 11 | 5 |
| 281: | 7 | 8 | 2 | 6 | 5 | 4 | 8 | 6 |
| 289: | 5 | 8 | 10 | 4 | 3 | 4 | 3 | 5 |
| 297: | 7 | 2 | 7 | 5 | 4 | 3 | 3 | 5 |
| 305: | 8 | 5 | 5 | 5 | 7 | 4 | 2 | 7 |
| 313: | 3 | 8 | 4 | 9 | 6 | 6 | 3 | 5 |
| 321: | 5 | 7 | 1 | 7 | 7 | 6 | 9 | 5 |
| 329: | 1 | 6 | 8 | 5 | 9 | 4 | 7 | 2 |
| 337: | 10 | 5 | 6 | 6 | 5 | 5 | 2 | 6 |
| 345: | 6 | 2 | 7 | 5 | 6 | 2 | 3 | 7 |
| 353: | 3 | 5 | 6 | 3 | 4 | 3 | 2 | 2 |
| 361: | 2 | 2 | 5 | 4 | 4 | 8 | 5 | 3 |

369: 2 5 6 3 7 4 3 6

Sample Title: BLANK

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 377: | 5 | 3 | 6 | 1 | 4 | 6 | 4 | 4 | |
| 385: | 2 | 5 | 2 | 3 | 4 | 3 | 2 | 5 | |
| 393: | 4 | 4 | 4 | 1 | 2 | 2 | 3 | 4 | |
| 401: | 3 | 3 | 4 | 3 | 1 | 3 | 2 | 0 | |
| 409: | 5 | 4 | 3 | 2 | 4 | 6 | 2 | 3 | |
| 417: | 4 | 1 | 3 | 4 | 7 | 5 | 3 | 5 | |
| 425: | 3 | 5 | 3 | 3 | 1 | 6 | 6 | 3 | |
| 433: | 4 | 1 | 3 | 1 | 4 | 3 | 0 | 2 | |
| 441: | 8 | 4 | 3 | 2 | 2 | 4 | 5 | 5 | |
| 449: | 2 | 1 | 3 | 2 | 1 | 5 | 4 | 7 | |
| 457: | 2 | 4 | 7 | 3 | 4 | 2 | 3 | 3 | |
| 465: | 3 | 1 | 4 | 1 | 4 | 2 | 5 | 4 | |
| 473: | 5 | 2 | 6 | 3 | 1 | 0 | 6 | 5 | |
| 481: | 1 | 1 | 3 | 4 | 3 | 2 | 8 | 5 | |
| 489: | 2 | 3 | 3 | 7 | 1 | 3 | 6 | 3 | |
| 497: | 1 | 3 | 1 | 3 | 3 | 4 | 5 | 0 | |
| 505: | 1 | 1 | 1 | 7 | 8 | 5 | 7 | 9 | |
| 513: | 3 | 4 | 4 | 4 | 3 | 2 | 2 | 0 | |
| 521: | 5 | 5 | 2 | 2 | 4 | 0 | 4 | 3 | |
| 529: | 1 | 3 | 2 | 0 | 1 | 2 | 3 | 2 | |
| 537: | 1 | 0 | 3 | 2 | 1 | 0 | 5 | 3 | |
| 545: | 4 | 5 | 2 | 3 | 3 | 2 | 3 | 5 | |
| 553: | 2 | 2 | 1 | 1 | 3 | 1 | 1 | 1 | |
| 561: | 4 | 2 | 1 | 1 | 1 | 2 | 4 | 3 | |
| 569: | 5 | 1 | 1 | 0 | 2 | 7 | 1 | 3 | |
| 577: | 3 | 3 | 3 | 4 | 3 | 2 | 2 | 1 | |
| 585: | 2 | 0 | 4 | 2 | 0 | 3 | 3 | 0 | |
| 593: | 1 | 1 | 2 | 4 | 2 | 1 | 3 | 6 | |
| 601: | 6 | 2 | 3 | 1 | 2 | 3 | 3 | 6 | |
| 609: | 8 | 4 | 5 | 1 | 5 | 3 | 5 | 4 | |
| 617: | 2 | 5 | 2 | 0 | 6 | 3 | 0 | 1 | |
| 625: | 3 | 0 | 1 | 3 | 0 | 7 | 0 | 3 | |
| 633: | 0 | 1 | 3 | 5 | 4 | 3 | 2 | 2 | |
| 641: | 3 | 4 | 3 | 2 | 2 | 3 | 2 | 0 | |
| 649: | 2 | 1 | 2 | 1 | 2 | 3 | 0 | 1 | |
| 657: | 1 | 2 | 1 | 5 | 2 | 0 | 0 | 3 | |
| 665: | 1 | 2 | 2 | 2 | 1 | 0 | 2 | 2 | |
| 673: | 0 | 3 | 2 | 5 | 1 | 4 | 2 | 0 | |
| 681: | 1 | 1 | 1 | 3 | 3 | 1 | 1 | 2 | |
| 689: | 3 | 3 | 7 | 3 | 4 | 2 | 5 | 1 | |
| 697: | 3 | 2 | 4 | 3 | 2 | 3 | 3 | 2 | |
| 705: | 1 | 1 | 2 | 2 | 1 | 0 | 4 | 0 | |
| 713: | 1 | 3 | 1 | 1 | 1 | 2 | 0 | 2 | |
| 721: | 3 | 2 | 1 | 1 | 2 | 3 | 1 | 2 | |
| 729: | 1 | 1 | 4 | 1 | 0 | 0 | 1 | 1 | |
| 737: | 3 | 0 | 2 | 0 | 1 | 3 | 1 | 2 | |
| 745: | 1 | 2 | 2 | 4 | 1 | 4 | 1 | 4 | |
| 753: | 5 | 0 | 4 | 1 | 2 | 1 | 2 | 1 | |
| 761: | 3 | 3 | 3 | 1 | 2 | 0 | 2 | 2 | |
| 769: | 5 | 2 | 6 | 1 | 2 | 0 | 1 | 4 | |
| 777: | 3 | 1 | 3 | 1 | 1 | 2 | 1 | 2 | |
| 785: | 1 | 2 | 1 | 3 | 1 | 1 | 1 | 1 | |
| 793: | 3 | 1 | 4 | 4 | 3 | 1 | 0 | 0 | |

801: 3 2 0 0 6 4 2 1

Sample Title: BLANK

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 809: | 1 | 3 | 0 | 4 | 0 | 0 | 1 | 1 |
| 817: | 1 | 0 | 3 | 2 | 3 | 1 | 1 | 1 |
| 825: | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 1 |
| 833: | 3 | 1 | 2 | 1 | 0 | 1 | 2 | 4 |
| 841: | 0 | 1 | 3 | 1 | 2 | 1 | 4 | 4 |
| 849: | 3 | 0 | 0 | 3 | 2 | 3 | 0 | 0 |
| 857: | 2 | 2 | 3 | 0 | 3 | 2 | 2 | 0 |
| 865: | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 873: | 3 | 2 | 0 | 1 | 3 | 0 | 0 | 1 |
| 881: | 0 | 0 | 1 | 2 | 1 | 1 | 2 | 0 |
| 889: | 1 | 1 | 3 | 1 | 4 | 2 | 1 | 1 |
| 897: | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| 905: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| 913: | 0 | 0 | 2 | 0 | 3 | 2 | 1 | 2 |
| 921: | 2 | 2 | 0 | 0 | 1 | 2 | 2 | 1 |
| 929: | 1 | 1 | 0 | 3 | 2 | 4 | 1 | 0 |
| 937: | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 |
| 945: | 1 | 2 | 1 | 1 | 2 | 2 | 0 | 1 |
| 953: | 1 | 2 | 1 | 2 | 0 | 1 | 3 | 2 |
| 961: | 2 | 1 | 2 | 3 | 0 | 2 | 3 | 0 |
| 969: | 2 | 0 | 2 | 0 | 0 | 2 | 2 | 1 |
| 977: | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 0 |
| 985: | 2 | 0 | 3 | 2 | 0 | 1 | 2 | 1 |
| 993: | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1001: | 3 | 0 | 0 | 1 | 3 | 2 | 2 | 1 |
| 1009: | 0 | 1 | 2 | 2 | 0 | 2 | 1 | 1 |
| 1017: | 1 | 0 | 2 | 1 | 0 | 0 | 1 | 2 |
| 1025: | 0 | 4 | 1 | 1 | 0 | 1 | 1 | 1 |
| 1033: | 0 | 1 | 1 | 0 | 3 | 2 | 0 | 2 |
| 1041: | 2 | 1 | 1 | 0 | 2 | 0 | 0 | 1 |
| 1049: | 0 | 2 | 1 | 0 | 1 | 3 | 2 | 2 |
| 1057: | 1 | 0 | 1 | 1 | 3 | 1 | 1 | 0 |
| 1065: | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| 1073: | 2 | 2 | 2 | 1 | 1 | 2 | 0 | 4 |
| 1081: | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 |
| 1089: | 2 | 1 | 4 | 2 | 0 | 0 | 0 | 0 |
| 1097: | 1 | 0 | 2 | 1 | 3 | 0 | 0 | 0 |
| 1105: | 0 | 1 | 0 | 3 | 1 | 1 | 0 | 4 |
| 1113: | 2 | 3 | 0 | 0 | 1 | 0 | 1 | 1 |
| 1121: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| 1129: | 3 | 3 | 1 | 0 | 1 | 2 | 0 | 1 |
| 1137: | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 |
| 1145: | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| 1153: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 2 |
| 1161: | 0 | 0 | 1 | 2 | 1 | 2 | 0 | 3 |
| 1169: | 0 | 2 | 2 | 0 | 2 | 2 | 1 | 1 |
| 1177: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 |
| 1185: | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 2 |
| 1193: | 0 | 2 | 0 | 0 | 1 | 2 | 0 | 0 |
| 1201: | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 2 |
| 1209: | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 3 |
| 1217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1225: | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |

1233: 0 0 0 0 0 3 2 1

Sample Title: BLANK

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 1241: | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | |
| 1249: | 0 | 2 | 2 | 1 | 0 | 1 | 1 | 0 | |
| 1257: | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | |
| 1265: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | |
| 1273: | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | |
| 1281: | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | |
| 1289: | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | |
| 1297: | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | |
| 1305: | 1 | 0 | 1 | 2 | 0 | 0 | 2 | 0 | |
| 1313: | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 0 | |
| 1321: | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | |
| 1329: | 0 | 2 | 0 | 1 | 2 | 0 | 0 | 2 | |
| 1337: | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | |
| 1345: | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | |
| 1353: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | |
| 1361: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | |
| 1369: | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | |
| 1377: | 1 | 2 | 0 | 0 | 1 | 1 | 2 | 0 | |
| 1385: | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | |
| 1393: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | |
| 1401: | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 | |
| 1409: | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | |
| 1417: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | |
| 1425: | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | |
| 1433: | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 3 | |
| 1441: | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | |
| 1449: | 1 | 2 | 0 | 2 | 0 | 0 | 1 | 1 | |
| 1457: | 2 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | |
| 1465: | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | |
| 1473: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 1481: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1489: | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | |
| 1497: | 1 | 2 | 2 | 1 | 0 | 1 | 0 | 1 | |
| 1505: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 1513: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | |
| 1521: | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | |
| 1529: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 1537: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | |
| 1545: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 1553: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | |
| 1561: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | |
| 1569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 1577: | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | |
| 1585: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 1593: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 1601: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 1609: | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | |
| 1617: | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 0 | |
| 1625: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | |
| 1633: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 1641: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 1649: | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | |
| 1657: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | |

1665: 0 1 0 0 0 0 2 0

Sample Title: BLANK

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 1673: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1681: | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| 1689: | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 |
| 1697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1705: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1713: | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |
| 1721: | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 |
| 1729: | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| 1737: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1753: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1761: | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 |
| 1769: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 1777: | 2 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1785: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 1793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1801: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 1809: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1817: | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 2 |
| 1825: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1833: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1841: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 1849: | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 |
| 1857: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 1865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 1873: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1881: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 1889: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 1897: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1913: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1921: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 1929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1937: | 0 | 2 | 0 | 1 | 1 | 1 | 0 | 0 |
| 1945: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 1953: | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 1961: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1977: | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 0 |
| 1985: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2017: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| 2025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2033: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 2041: | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 3 |
| 2049: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2057: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2065: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2081: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2089: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |

2097: 0 0 0 0 0 0 1 0

Sample Title: BLANK

| Channel | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---------|---|---|---|---|---|---|---|---|
| 2105: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2113: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2121: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2129: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2137: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 2145: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 2153: | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2161: | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 1 |
| 2169: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2177: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2193: | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 |
| 2201: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2209: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2217: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2225: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2233: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2241: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2249: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2257: | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 |
| 2265: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2273: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2281: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2289: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2305: | 1 | 1 | 0 | 0 | 4 | 1 | 0 | 0 |
| 2313: | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 2321: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2329: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2337: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2345: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2353: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2361: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2369: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2377: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2385: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2393: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2401: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2409: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2417: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2425: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2433: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2441: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2449: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2465: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2473: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 2481: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2489: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2497: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2521: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

2529: 1 0 0 0 0 1 0 0

Sample Title: BLANK

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2537: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2553: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2569: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2577: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2585: | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2601: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2609: | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 2 |
| 2617: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2633: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2641: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2649: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2657: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2665: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2681: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2689: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2721: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2729: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2737: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2745: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2761: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2769: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2793: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2801: | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2825: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2841: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2865: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2873: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2881: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2889: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2897: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2905: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2913: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2921: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2945: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2953: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

2961: 0 1 0 0 1 0 0 0

Sample Title: BLANK

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2977: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2985: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2993: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3001: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3041: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3049: | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3097: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3145: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3153: | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| 3161: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3185: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3233: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3241: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3257: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3329: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3337: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3377: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |

3393: 0 0 0 1 0 0 0 0

Sample Title: BLANK

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 |
| 3417: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3425: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3457: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3465: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3601: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3609: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3657: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3681: | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3705: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3737: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

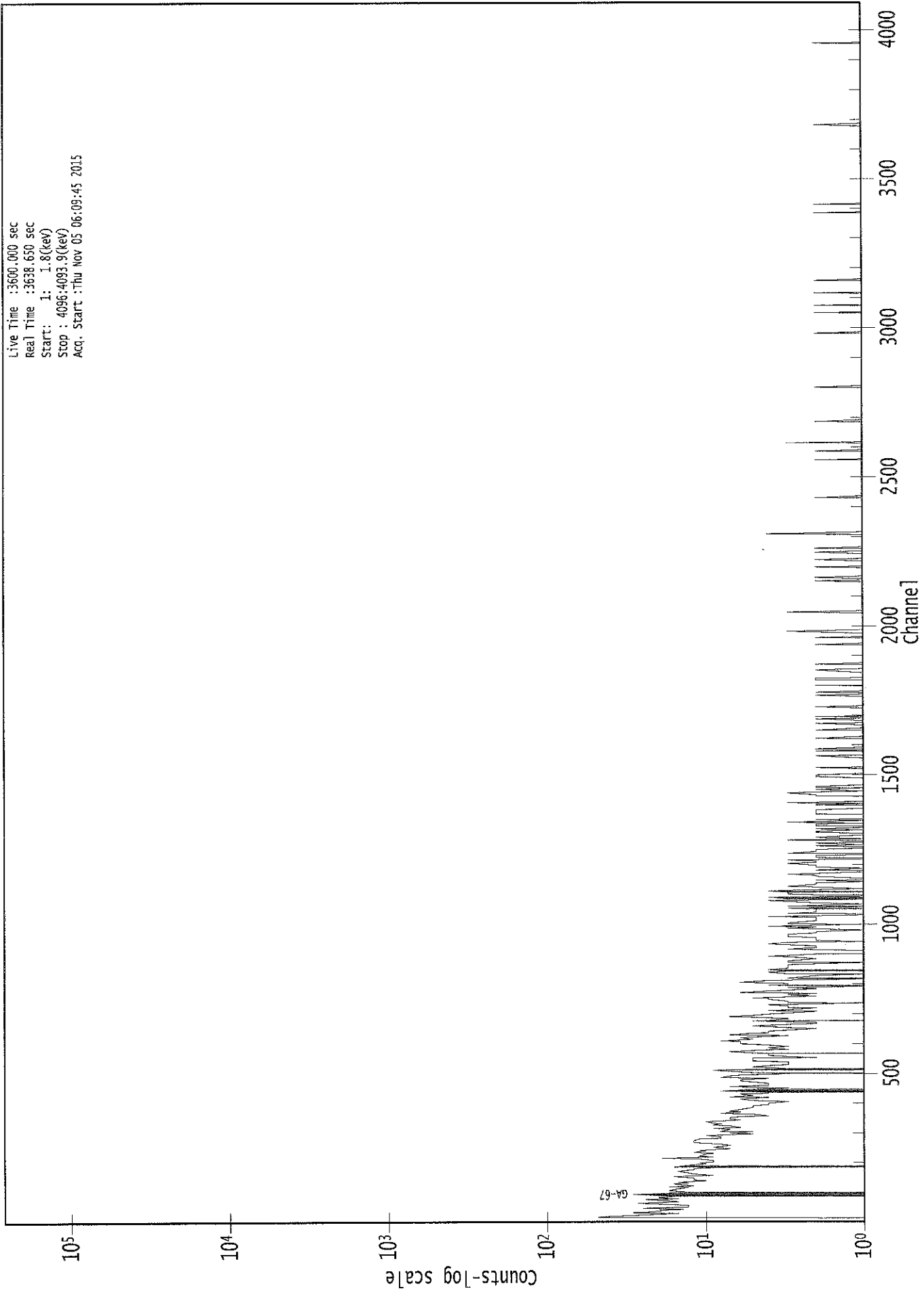
3825: 0 0 0 1 0 0 0 1

Sample Title: BLANK

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3849: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3889: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

0000029170.CNF

Live Time :3600.000 sec
Real Time :3638.650 sec
Start: 1: 1.8(keV)
Stop : 4096:4093.9(keV)
Acq. Start :Thu Nov 05 06:09:45 2015



ROI Type: 1

Analysis Report for 1510085-03
CP5007S01-02

1116

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-03
Sample Description : CP5007S01-02
Sample Type : SOIL

Sample Size : 6.362E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:36:13AM
Acquisition Started : 11/6/2015 6:08:09AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE1
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.6 seconds

Dead Time : 0.05 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 19 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29233

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-03
CP5007S01-02

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 7:08:14AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 46.22 | 46.57 | 0.0000 | 0.00 |
| 2 | 63.29 | 63.64 | 0.0000 | 0.00 |
| 3 | 76.32 | 76.66 | 0.0000 | 0.00 |
| 4 | 87.99 | 88.32 | 0.0000 | 0.00 |
| 5 | 93.04 | 93.37 | 0.0000 | 0.00 |
| 6 | 105.15 | 105.48 | 0.0000 | 0.00 |
| 7 | 128.06 | 128.39 | 0.0000 | 0.00 |
| 8 | 186.01 | 186.32 | 0.0000 | 0.00 |
| 9 | 238.63 | 238.91 | 0.0000 | 0.00 |
| 10 | 241.87 | 242.15 | 0.0000 | 0.00 |
| 11 | 270.49 | 270.76 | 0.0000 | 0.00 |
| 12 | 279.42 | 279.70 | 0.0000 | 0.00 |
| 13 | 295.49 | 295.76 | 0.0000 | 0.00 |
| 14 | 300.62 | 300.89 | 0.0000 | 0.00 |
| 15 | 338.59 | 338.84 | 0.0000 | 0.00 |
| 16 | 341.87 | 342.12 | 0.0000 | 0.00 |
| 17 | 352.14 | 352.39 | 0.0000 | 0.00 |
| 18 | 409.53 | 409.76 | 0.0000 | 0.00 |
| 19 | 463.58 | 463.79 | 0.0000 | 0.00 |
| 20 | 507.61 | 507.80 | 0.0000 | 0.00 |
| 21 | 511.06 | 511.25 | 0.0000 | 0.00 |
| 22 | 583.37 | 583.54 | 0.0000 | 0.00 |
| 23 | 609.64 | 609.80 | 0.0000 | 0.00 |
| 24 | 733.74 | 733.86 | 0.0000 | 0.00 |
| 25 | 768.48 | 768.59 | 0.0000 | 0.00 |
| 26 | 786.51 | 786.61 | 0.0000 | 0.00 |
| 27 | 794.91 | 795.00 | 0.0000 | 0.00 |
| 28 | 911.65 | 911.71 | 0.0000 | 0.00 |
| 29 | 934.03 | 934.08 | 0.0000 | 0.00 |
| 30 | 965.94 | 965.98 | 0.0000 | 0.00 |
| 31 | 969.55 | 969.58 | 0.0000 | 0.00 |
| 32 | 998.76 | 998.78 | 0.0000 | 0.00 |
| 33 | 1110.89 | 1110.88 | 0.0000 | 0.00 |
| 34 | 1120.78 | 1120.76 | 0.0000 | 0.00 |
| 35 | 1183.48 | 1183.44 | 0.0000 | 0.00 |
| 36 | 1238.68 | 1238.62 | 0.0000 | 0.00 |
| 37 | 1378.40 | 1378.28 | 0.0000 | 0.00 |
| 38 | 1386.24 | 1386.12 | 0.0000 | 0.00 |
| 39 | 1461.44 | 1461.30 | 0.0000 | 0.00 |
| 40 | 1510.20 | 1510.03 | 0.0000 | 0.00 |
| 41 | 1528.55 | 1528.38 | 0.0000 | 0.00 |
| 42 | 1571.62 | 1571.43 | 0.0000 | 0.00 |

Analysis Report for 1510085-03
CP5007S01-02

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1589.39 | 1589.20 | 0.0000 | 0.00 |
| 44 | 1593.45 | 1593.26 | 0.0000 | 0.00 |
| 45 | 1662.61 | 1662.40 | 0.0000 | 0.00 |
| 46 | 1688.46 | 1688.23 | 0.0000 | 0.00 |
| 47 | 1692.00 | 1691.77 | 0.0000 | 0.00 |
| 48 | 1730.54 | 1730.30 | 0.0000 | 0.00 |
| 49 | 1743.47 | 1743.22 | 0.0000 | 0.00 |
| 50 | 1765.29 | 1765.03 | 0.0000 | 0.00 |
| 51 | 1844.52 | 1844.23 | 0.0000 | 0.00 |
| 52 | 1848.05 | 1847.77 | 0.0000 | 0.00 |
| 53 | 1901.08 | 1900.77 | 0.0000 | 0.00 |
| 54 | 1933.35 | 1933.03 | 0.0000 | 0.00 |
| 55 | 1956.59 | 1956.26 | 0.0000 | 0.00 |
| 56 | 2105.39 | 2105.00 | 0.0000 | 0.00 |
| 57 | 2154.16 | 2153.75 | 0.0000 | 0.00 |
| 58 | 2204.99 | 2204.57 | 0.0000 | 0.00 |
| 59 | 2239.00 | 2238.56 | 0.0000 | 0.00 |
| 60 | 2302.96 | 2302.50 | 0.0000 | 0.00 |
| 61 | 2317.59 | 2317.13 | 0.0000 | 0.00 |
| 62 | 2347.87 | 2347.39 | 0.0000 | 0.00 |
| 63 | 2447.95 | 2447.43 | 0.0000 | 0.00 |
| 64 | 2615.48 | 2614.89 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-03

CP5007S01-02

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 7:08:14AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 46.22 | 43 - | 50 | 46.57 | 2.44E+02 | 99.70 | 1.51E+03 | 1.24 |
| 2 | 63.29 | 60 - | 67 | 63.64 | 2.36E+02 | 135.45 | 2.92E+03 | 1.29 |
| 3 | 76.32 | 72 - | 83 | 76.66 | 1.39E+03 | 203.82 | 4.49E+03 | 3.69 |
| 4 | 87.99 | 86 - | 91 | 88.32 | 3.07E+02 | 108.58 | 2.12E+03 | 1.50 |
| 5 | 93.04 | 91 - | 96 | 93.37 | 3.46E+02 | 106.94 | 1.93E+03 | 1.34 |
| 6 | 105.15 | 103 - | 108 | 105.48 | 8.93E+01 | 80.90 | 1.24E+03 | 1.92 |
| 7 | 128.06 | 124 - | 132 | 128.39 | 1.44E+02 | 107.55 | 1.69E+03 | 4.72 |
| 8 | 186.01 | 183 - | 190 | 186.32 | 3.14E+02 | 95.62 | 1.31E+03 | 1.83 |
| M | 9 | 233 - | 249 | 238.91 | 9.79E+02 | 79.95 | 5.65E+02 | 1.68 |
| m | 10 | 233 - | 249 | 242.15 | 3.26E+02 | 68.64 | 5.39E+02 | 1.68 |
| | 11 | 268 - | 274 | 270.76 | 8.17E+01 | 63.08 | 6.69E+02 | 1.81 |
| | 12 | 275 - | 285 | 279.70 | 1.03E+02 | 87.58 | 9.53E+02 | 2.04 |
| M | 13 | 286 - | 309 | 295.76 | 6.86E+02 | 63.99 | 3.29E+02 | 1.78 |
| m | 14 | 286 - | 309 | 300.89 | 9.34E+01 | 56.07 | 4.11E+02 | 2.32 |
| M | 15 | 334 - | 344 | 338.84 | 2.13E+02 | 47.55 | 3.10E+02 | 1.77 |
| m | 16 | 334 - | 344 | 342.12 | 3.68E+01 | 44.95 | 2.79E+02 | 1.78 |
| | 17 | 347 - | 357 | 352.39 | 1.19E+03 | 96.48 | 6.04E+02 | 1.89 |
| | 18 | 407 - | 413 | 409.76 | 4.94E+01 | 43.85 | 3.11E+02 | 1.30 |
| | 19 | 460 - | 468 | 463.79 | 6.89E+01 | 49.14 | 3.30E+02 | 2.53 |
| M | 20 | 505 - | 520 | 507.80 | 3.96E+01 | 34.29 | 1.84E+02 | 2.54 |
| m | 21 | 505 - | 520 | 511.25 | 1.77E+02 | 48.41 | 2.41E+02 | 2.54 |
| | 22 | 579 - | 589 | 583.54 | 3.46E+02 | 61.32 | 3.25E+02 | 2.00 |
| | 23 | 605 - | 614 | 609.80 | 8.42E+02 | 76.73 | 3.60E+02 | 1.64 |
| | 24 | 732 - | 736 | 733.86 | 2.05E+01 | 21.31 | 8.30E+01 | 2.47 |
| | 25 | 765 - | 772 | 768.59 | 5.24E+01 | 37.31 | 1.99E+02 | 2.11 |
| | 26 | 783 - | 790 | 786.61 | 3.21E+01 | 33.59 | 1.64E+02 | 2.21 |
| | 27 | 792 - | 800 | 795.00 | 3.78E+01 | 36.08 | 1.80E+02 | 1.81 |
| | 28 | 907 - | 917 | 911.71 | 1.94E+02 | 50.14 | 2.35E+02 | 1.98 |
| | 29 | 928 - | 939 | 934.08 | 6.53E+01 | 44.00 | 2.07E+02 | 2.24 |
| M | 30 | 960 - | 973 | 965.98 | 4.70E+01 | 33.72 | 1.27E+02 | 2.29 |
| m | 31 | 960 - | 973 | 969.58 | 1.22E+02 | 35.11 | 1.23E+02 | 2.41 |
| | 32 | 992 - | 1008 | 998.78 | 4.04E+01 | 50.74 | 2.31E+02 | 13.54 |
| M | 33 | 1104 - | 1127 | 1110.88 | 2.22E+01 | 24.06 | 1.11E+02 | 2.48 |
| m | 34 | 1104 - | 1127 | 1120.76 | 1.81E+02 | 34.33 | 8.93E+01 | 2.45 |
| | 35 | 1178 - | 1188 | 1183.44 | 3.99E+01 | 32.64 | 1.20E+02 | 7.79 |
| | 36 | 1235 - | 1244 | 1238.62 | 7.15E+01 | 41.98 | 2.13E+02 | 2.05 |
| M | 37 | 1372 - | 1389 | 1378.28 | 4.86E+01 | 21.11 | 2.70E+01 | 2.88 |
| m | 38 | 1372 - | 1389 | 1386.12 | 1.89E+01 | 14.34 | 2.10E+01 | 2.88 |
| | 39 | 1455 - | 1466 | 1461.30 | 9.14E+02 | 65.42 | 7.83E+01 | 2.03 |
| | 40 | 1510 - | 1514 | 1510.03 | 2.46E+01 | 18.17 | 3.47E+01 | 2.21 |

Analysis Report for 1510085-03

CP5007S01-02

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|---|----------|--------------|-------------|---------|---------------|---------------|----------------------|------------------|------------|
| | 41 | 1528.55 | 1527 - 1531 | | 1528.38 | 7.90E+00 | 10.19 | 1.42E+01 | 1.52 |
| | 42 | 1571.62 | 1568 - 1574 | | 1571.43 | 1.05E+01 | 8.97 | 7.00E+00 | 2.83 |
| M | 43 | 1589.39 | 1586 - 1597 | | 1589.20 | 1.57E+01 | 15.56 | 3.15E+01 | 2.99 |
| m | 44 | 1593.45 | 1586 - 1597 | | 1593.26 | 1.34E+01 | 17.94 | 2.69E+01 | 2.99 |
| | 45 | 1662.61 | 1659 - 1665 | | 1662.40 | 1.36E+01 | 13.33 | 1.89E+01 | 1.20 |
| M | 46 | 1688.46 | 1687 - 1695 | | 1688.23 | 7.17E+00 | 3.46 | 0.00E+00 | 2.51 |
| m | 47 | 1692.00 | 1687 - 1695 | | 1691.77 | 1.44E+01 | 8.00 | 0.00E+00 | 2.51 |
| | 48 | 1730.54 | 1724 - 1736 | | 1730.30 | 3.05E+01 | 16.93 | 1.91E+01 | 2.42 |
| | 49 | 1743.47 | 1739 - 1746 | | 1743.22 | 1.10E+01 | 8.25 | 4.00E+00 | 2.90 |
| | 50 | 1765.29 | 1760 - 1771 | | 1765.03 | 1.48E+02 | 27.93 | 2.19E+01 | 2.29 |
| M | 51 | 1844.52 | 1843 - 1852 | | 1844.23 | 8.76E+00 | 4.12 | 1.85E+00 | 2.57 |
| m | 52 | 1848.05 | 1843 - 1852 | | 1847.77 | 1.68E+01 | 10.95 | 3.35E+00 | 2.57 |
| | 53 | 1901.08 | 1899 - 1903 | | 1900.77 | 7.13E+00 | 6.18 | 1.75E+00 | 2.46 |
| | 54 | 1933.35 | 1931 - 1935 | | 1933.03 | 5.61E+00 | 7.40 | 6.78E+00 | 2.83 |
| | 55 | 1956.59 | 1954 - 1958 | | 1956.26 | 4.92E+00 | 5.50 | 2.17E+00 | 1.88 |
| | 56 | 2105.39 | 2102 - 2109 | | 2105.00 | 1.40E+01 | 12.33 | 1.60E+01 | 3.74 |
| | 57 | 2154.16 | 2150 - 2157 | | 2153.75 | 1.13E+01 | 10.58 | 9.38E+00 | 1.55 |
| | 58 | 2204.99 | 2201 - 2210 | | 2204.57 | 5.28E+01 | 16.91 | 1.25E+01 | 2.35 |
| | 59 | 2239.00 | 2234 - 2242 | | 2238.56 | 8.21E+00 | 10.81 | 1.16E+01 | 6.12 |
| | 60 | 2302.96 | 2298 - 2306 | | 2302.50 | 1.20E+01 | 10.22 | 8.00E+00 | 3.80 |
| | 61 | 2317.59 | 2314 - 2320 | | 2317.13 | 5.14E+00 | 6.34 | 3.71E+00 | 2.97 |
| | 62 | 2347.87 | 2344 - 2350 | | 2347.39 | 6.25E+00 | 6.65 | 3.50E+00 | 1.58 |
| | 63 | 2447.95 | 2443 - 2452 | | 2447.43 | 1.09E+01 | 10.68 | 1.03E+01 | 2.88 |
| | 64 | 2615.48 | 2610 - 2618 | | 2614.89 | 1.20E+02 | 21.91 | 0.00E+00 | 2.87 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 7:08:14AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 1 | 46.22 | 43 - | 50 | 2.44E+02 | 99.70 | 1.51E+03 | 7.78E+01 |
| 2 | 63.29 | 60 - | 67 | 2.36E+02 | 135.45 | 2.92E+03 | 1.08E+02 |
| 3 | 76.32 | 72 - | 83 | 1.39E+03 | 203.82 | 4.49E+03 | 1.56E+02 |
| 4 | 87.99 | 86 - | 91 | 3.07E+02 | 108.58 | 2.12E+03 | 8.45E+01 |

Analysis Report for 1510085-03

CP5007S01-02

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| | 5 | 93.04 | 91 - | 96 | 3.46E+02 | 106.94 | 1.93E+03 | 8.24E+01 |
| | 6 | 105.15 | 103 - | 108 | 8.93E+01 | 80.90 | 1.24E+03 | 6.47E+01 |
| | 7 | 128.06 | 124 - | 132 | 1.44E+02 | 107.55 | 1.69E+03 | 8.62E+01 |
| | 8 | 186.01 | 183 - | 190 | 3.14E+02 | 95.62 | 1.31E+03 | 7.30E+01 |
| M | 9 | 238.63 | 233 - | 249 | 9.79E+02 | 79.95 | 5.65E+02 | 3.91E+01 |
| m | 10 | 241.87 | 233 - | 249 | 3.26E+02 | 68.64 | 5.39E+02 | 3.82E+01 |
| | 11 | 270.49 | 268 - | 274 | 8.17E+01 | 63.08 | 6.69E+02 | 4.97E+01 |
| | 12 | 279.42 | 275 - | 285 | 1.03E+02 | 87.58 | 9.53E+02 | 7.00E+01 |
| M | 13 | 295.49 | 286 - | 309 | 6.86E+02 | 63.99 | 3.29E+02 | 2.98E+01 |
| m | 14 | 300.62 | 286 - | 309 | 9.34E+01 | 56.07 | 4.11E+02 | 3.33E+01 |
| M | 15 | 338.59 | 334 - | 344 | 2.13E+02 | 47.55 | 3.10E+02 | 2.89E+01 |
| m | 16 | 341.87 | 334 - | 344 | 3.68E+01 | 44.95 | 2.79E+02 | 2.75E+01 |
| | 17 | 352.14 | 347 - | 357 | 1.19E+03 | 96.48 | 6.04E+02 | 5.54E+01 |
| | 18 | 409.53 | 407 - | 413 | 4.94E+01 | 43.85 | 3.11E+02 | 3.41E+01 |
| | 19 | 463.58 | 460 - | 468 | 6.89E+01 | 49.14 | 3.30E+02 | 3.80E+01 |
| M | 20 | 507.61 | 505 - | 520 | 3.96E+01 | 34.29 | 1.84E+02 | 2.23E+01 |
| m | 21 | 511.06 | 505 - | 520 | 1.77E+02 | 48.41 | 2.41E+02 | 2.55E+01 |
| | 22 | 583.37 | 579 - | 589 | 3.46E+02 | 61.32 | 3.25E+02 | 4.01E+01 |
| | 23 | 609.64 | 605 - | 614 | 8.42E+02 | 76.73 | 3.60E+02 | 4.13E+01 |
| | 24 | 733.74 | 732 - | 736 | 2.05E+01 | 21.31 | 8.30E+01 | 1.59E+01 |
| | 25 | 768.48 | 765 - | 772 | 5.24E+01 | 37.31 | 1.99E+02 | 2.83E+01 |
| | 26 | 786.51 | 783 - | 790 | 3.21E+01 | 33.59 | 1.64E+02 | 2.60E+01 |
| | 27 | 794.91 | 792 - | 800 | 3.78E+01 | 36.08 | 1.80E+02 | 2.79E+01 |
| | 28 | 911.65 | 907 - | 917 | 1.94E+02 | 50.14 | 2.35E+02 | 3.43E+01 |
| | 29 | 934.03 | 928 - | 939 | 6.53E+01 | 44.00 | 2.07E+02 | 3.36E+01 |
| M | 30 | 965.94 | 960 - | 973 | 4.70E+01 | 33.72 | 1.27E+02 | 1.86E+01 |
| m | 31 | 969.55 | 960 - | 973 | 1.22E+02 | 35.11 | 1.23E+02 | 1.82E+01 |
| | 32 | 998.76 | 992 - | 1008 | 4.04E+01 | 50.74 | 2.31E+02 | 4.04E+01 |
| M | 33 | 1110.89 | 1104 - | 1127 | 2.22E+01 | 24.06 | 1.11E+02 | 1.73E+01 |
| m | 34 | 1120.78 | 1104 - | 1127 | 1.81E+02 | 34.33 | 8.93E+01 | 1.55E+01 |
| | 35 | 1183.48 | 1178 - | 1188 | 3.99E+01 | 32.64 | 1.20E+02 | 2.47E+01 |
| | 36 | 1238.68 | 1235 - | 1244 | 7.15E+01 | 41.98 | 2.13E+02 | 3.16E+01 |
| M | 37 | 1378.40 | 1372 - | 1389 | 4.86E+01 | 21.11 | 2.70E+01 | 8.54E+00 |
| m | 38 | 1386.24 | 1372 - | 1389 | 1.89E+01 | 14.34 | 2.10E+01 | 7.53E+00 |
| | 39 | 1461.44 | 1455 - | 1466 | 9.14E+02 | 65.42 | 7.83E+01 | 2.05E+01 |
| | 40 | 1510.20 | 1506 - | 1514 | 2.46E+01 | 18.17 | 3.47E+01 | 1.25E+01 |
| | 41 | 1528.55 | 1527 - | 1531 | 7.90E+00 | 10.19 | 1.42E+01 | 6.98E+00 |
| | 42 | 1571.62 | 1568 - | 1574 | 1.05E+01 | 8.97 | 7.00E+00 | 5.10E+00 |
| M | 43 | 1589.39 | 1586 - | 1597 | 1.57E+01 | 15.56 | 3.15E+01 | 9.23E+00 |
| m | 44 | 1593.45 | 1586 - | 1597 | 1.34E+01 | 17.94 | 2.69E+01 | 8.53E+00 |
| | 45 | 1662.61 | 1659 - | 1665 | 1.36E+01 | 13.33 | 1.89E+01 | 9.13E+00 |
| M | 46 | 1688.46 | 1687 - | 1695 | 7.17E+00 | 3.46 | 0.00E+00 | 0.00E+00 |
| m | 47 | 1692.00 | 1687 - | 1695 | 1.44E+01 | 8.00 | 0.00E+00 | 0.00E+00 |
| | 48 | 1730.54 | 1724 - | 1736 | 3.05E+01 | 16.93 | 1.91E+01 | 1.06E+01 |
| | 49 | 1743.47 | 1739 - | 1746 | 1.10E+01 | 8.25 | 4.00E+00 | 4.03E+00 |
| | 50 | 1765.29 | 1760 - | 1771 | 1.48E+02 | 27.93 | 2.19E+01 | 1.13E+01 |
| M | 51 | 1844.52 | 1843 - | 1852 | 8.76E+00 | 4.12 | 1.85E+00 | 2.23E+00 |
| m | 52 | 1848.05 | 1843 - | 1852 | 1.68E+01 | 10.95 | 3.35E+00 | 3.01E+00 |
| | 53 | 1901.08 | 1899 - | 1903 | 7.13E+00 | 6.18 | 1.75E+00 | 2.57E+00 |
| | 54 | 1933.35 | 1931 - | 1935 | 5.61E+00 | 7.40 | 6.78E+00 | 4.67E+00 |
| | 55 | 1956.59 | 1954 - | 1958 | 4.92E+00 | 5.50 | 2.17E+00 | 2.67E+00 |

Analysis Report for 1510085-03
CP5007S01-02

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 56 | 2105.39 | 2102 - | 2109 | 1.40E+01 | 12.33 | 1.60E+01 | 8.05E+00 |
| 57 | 2154.16 | 2150 - | 2157 | 1.13E+01 | 10.58 | 9.38E+00 | 6.72E+00 |
| 58 | 2204.99 | 2201 - | 2210 | 5.28E+01 | 16.91 | 1.25E+01 | 7.12E+00 |
| 59 | 2239.00 | 2234 - | 2242 | 8.21E+00 | 10.81 | 1.16E+01 | 7.53E+00 |
| 60 | 2302.96 | 2298 - | 2306 | 1.20E+01 | 10.22 | 8.00E+00 | 6.18E+00 |
| 61 | 2317.59 | 2314 - | 2320 | 5.14E+00 | 6.34 | 3.71E+00 | 3.65E+00 |
| 62 | 2347.87 | 2344 - | 2350 | 6.25E+00 | 6.65 | 3.50E+00 | 3.61E+00 |
| 63 | 2447.95 | 2443 - | 2452 | 1.09E+01 | 10.68 | 1.03E+01 | 6.90E+00 |
| 64 | 2615.48 | 2610 - | 2618 | 1.20E+02 | 21.91 | 0.00E+00 | 0.00E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 7:08:14AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| 1 | 46.22 | 43 - | 50 | 46.57 | 2.44E+02 | 99.70 | 1.51E+03 | PB-210 |
| 2 | 63.29 | 60 - | 67 | 63.64 | 2.36E+02 | 135.45 | 2.92E+03 | TH-234 TH-230 |
| 3 | 76.32 | 72 - | 83 | 76.66 | 1.39E+03 | 203.82 | 4.49E+03 | ..... |
| 4 | 87.99 | 86 - | 91 | 88.32 | 3.07E+02 | 108.58 | 2.12E+03 | CD-109 LU-176 SN-126 |
| 5 | 93.04 | 91 - | 96 | 93.37 | 3.46E+02 | 106.94 | 1.93E+03 | GA-67 |
| 6 | 105.15 | 103 - | 108 | 105.48 | 8.93E+01 | 80.90 | 1.24E+03 | EU-155 NP-239 |
| 7 | 128.06 | 124 - | 132 | 128.39 | 1.44E+02 | 107.55 | 1.69E+03 | ..... |
| 8 | 186.01 | 183 - | 190 | 186.32 | 3.14E+02 | 95.62 | 1.31E+03 | RA-226 |
| M 9 | 238.63 | 233 - | 249 | 238.91 | 9.79E+02 | 79.95 | 5.65E+02 | PB-212 |
| m 10 | 241.87 | 233 - | 249 | 242.15 | 3.26E+02 | 68.64 | 5.39E+02 | RA-224 |
| 11 | 270.49 | 268 - | 274 | 270.76 | 8.17E+01 | 63.08 | 6.69E+02 | ..... |
| 12 | 279.42 | 275 - | 285 | 279.70 | 1.03E+02 | 87.58 | 9.53E+02 | SE-75 HG-203 |

Analysis Report for 1510085-03

CP5007S01-02

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| M | 13 | 295.49 | 286 - | 309 | 295.76 | 6.86E+02 | 63.99 | 3.29E+02 | PB-214 |
| m | 14 | 300.62 | 286 - | 309 | 300.89 | 9.34E+01 | 56.07 | 4.11E+02 | GA-67 PB-212 BI-210M |
| M | 15 | 338.59 | 334 - | 344 | 338.84 | 2.13E+02 | 47.55 | 3.10E+02 | AC-228 |
| m | 16 | 341.87 | 334 - | 344 | 342.12 | 3.68E+01 | 44.95 | 2.79E+02 | ..... |
| | 17 | 352.14 | 347 - | 357 | 352.39 | 1.19E+03 | 96.48 | 6.04E+02 | PB-214 |
| | 18 | 409.53 | 407 - | 413 | 409.76 | 4.94E+01 | 43.85 | 3.11E+02 | ..... |
| | 19 | 463.58 | 460 - | 468 | 463.79 | 6.89E+01 | 49.14 | 3.30E+02 | SB-125 |
| M | 20 | 507.61 | 505 - | 520 | 507.80 | 3.96E+01 | 34.29 | 1.84E+02 | ..... |
| m | 21 | 511.06 | 505 - | 520 | 511.25 | 1.77E+02 | 48.41 | 2.41E+02 | ..... |
| | 22 | 583.37 | 579 - | 589 | 583.54 | 3.46E+02 | 61.32 | 3.25E+02 | TL-208 |
| | 23 | 609.64 | 605 - | 614 | 609.80 | 8.42E+02 | 76.73 | 3.60E+02 | BI-214 |
| | 24 | 733.74 | 732 - | 736 | 733.86 | 2.05E+01 | 21.31 | 8.30E+01 | PA-234 |
| | 25 | 768.48 | 765 - | 772 | 768.59 | 5.24E+01 | 37.31 | 1.99E+02 | ..... |
| | 26 | 786.51 | 783 - | 790 | 786.61 | 3.21E+01 | 33.59 | 1.64E+02 | ..... |
| | 27 | 794.91 | 792 - | 800 | 795.00 | 3.78E+01 | 36.08 | 1.80E+02 | CS-134 |
| | 28 | 911.65 | 907 - | 917 | 911.71 | 1.94E+02 | 50.14 | 2.35E+02 | LU-172 AC-228 |
| | 29 | 934.03 | 928 - | 939 | 934.08 | 6.53E+01 | 44.00 | 2.07E+02 | ..... |
| M | 30 | 965.94 | 960 - | 973 | 965.98 | 4.70E+01 | 33.72 | 1.27E+02 | ..... |
| m | 31 | 969.55 | 960 - | 973 | 969.58 | 1.22E+02 | 35.11 | 1.23E+02 | AC-228 |
| | 32 | 998.76 | 992 - | 1008 | 998.78 | 4.04E+01 | 50.74 | 2.31E+02 | ..... |
| M | 33 | 1110.89 | 1104 - | 1127 | 1110.88 | 2.22E+01 | 24.06 | 1.11E+02 | ..... |
| m | 34 | 1120.78 | 1104 - | 1127 | 1120.76 | 1.81E+02 | 34.33 | 8.93E+01 | SC-46 BI-214 TA-182 |
| | 35 | 1183.48 | 1178 - | 1188 | 1183.44 | 3.99E+01 | 32.64 | 1.20E+02 | ..... |
| | 36 | 1238.68 | 1235 - | 1244 | 1238.62 | 7.15E+01 | 41.98 | 2.13E+02 | CO-56 |
| M | 37 | 1378.40 | 1372 - | 1389 | 1378.28 | 4.86E+01 | 21.11 | 2.70E+01 | ..... |
| m | 38 | 1386.24 | 1372 - | 1389 | 1386.12 | 1.89E+01 | 14.34 | 2.10E+01 | ..... |
| | 39 | 1461.44 | 1455 - | 1466 | 1461.30 | 9.14E+02 | 65.42 | 7.83E+01 | K-40 |
| | 40 | 1510.20 | 1506 - | 1514 | 1510.03 | 2.46E+01 | 18.17 | 3.47E+01 | ..... |
| | 41 | 1528.55 | 1527 - | 1531 | 1528.38 | 7.90E+00 | 10.19 | 1.42E+01 | ..... |
| | 42 | 1571.62 | 1568 - | 1574 | 1571.43 | 1.05E+01 | 8.97 | 7.00E+00 | ..... |
| M | 43 | 1589.39 | 1586 - | 1597 | 1589.20 | 1.57E+01 | 15.56 | 3.15E+01 | ..... |
| m | 44 | 1593.45 | 1586 - | 1597 | 1593.26 | 1.34E+01 | 17.94 | 2.69E+01 | ..... |
| | 45 | 1662.61 | 1659 - | 1665 | 1662.40 | 1.36E+01 | 13.33 | 1.89E+01 | ..... |
| M | 46 | 1688.46 | 1687 - | 1695 | 1688.23 | 7.17E+00 | 3.46 | 0.00E+00 | ..... |
| m | 47 | 1692.00 | 1687 - | 1695 | 1691.77 | 1.44E+01 | 8.00 | 0.00E+00 | SB-124 |
| | 48 | 1730.54 | 1724 - | 1736 | 1730.30 | 3.05E+01 | 16.93 | 1.91E+01 | ..... |
| | 49 | 1743.47 | 1739 - | 1746 | 1743.22 | 1.10E+01 | 8.25 | 4.00E+00 | ..... |
| | 50 | 1765.29 | 1760 - | 1771 | 1765.03 | 1.48E+02 | 27.93 | 2.19E+01 | BI-214 |
| M | 51 | 1844.52 | 1843 - | 1852 | 1844.23 | 8.76E+00 | 4.12 | 1.85E+00 | ..... |
| m | 52 | 1848.05 | 1843 - | 1852 | 1847.77 | 1.68E+01 | 10.95 | 3.35E+00 | ..... |
| | 53 | 1901.08 | 1899 - | 1903 | 1900.77 | 7.13E+00 | 6.18 | 1.75E+00 | ..... |
| | 54 | 1933.35 | 1931 - | 1935 | 1933.03 | 5.61E+00 | 7.40 | 6.78E+00 | ..... |
| | 55 | 1956.59 | 1954 - | 1958 | 1956.26 | 4.92E+00 | 5.50 | 2.17E+00 | ..... |
| | 56 | 2105.39 | 2102 - | 2109 | 2105.00 | 1.40E+01 | 12.33 | 1.60E+01 | ..... |
| | 57 | 2154.16 | 2150 - | 2157 | 2153.75 | 1.13E+01 | 10.58 | 9.38E+00 | ..... |
| | 58 | 2204.99 | 2201 - | 2210 | 2204.57 | 5.28E+01 | 16.91 | 1.25E+01 | BI-214 |
| | 59 | 2239.00 | 2234 - | 2242 | 2238.56 | 8.21E+00 | 10.81 | 1.16E+01 | ..... |
| | 60 | 2302.96 | 2298 - | 2306 | 2302.50 | 1.20E+01 | 10.22 | 8.00E+00 | ..... |
| | 61 | 2317.59 | 2314 - | 2320 | 2317.13 | 5.14E+00 | 6.34 | 3.71E+00 | ..... |

Analysis Report for 1510085-03
CP5007S01-02

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 62 | 2347.87 | 2344 - | 2350 | 2347.39 | 6.25E+00 | 6.65 | 3.50E+00 | ..... |
| 63 | 2447.95 | 2443 - | 2452 | 2447.43 | 1.09E+01 | 10.68 | 1.03E+01 | ..... |
| 64 | 2615.48 | 2610 - | 2618 | 2614.89 | 1.20E+02 | 21.91 | 0.00E+00 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 7:08:14AM

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 1 | 46.22 | 2.44E+02 | 99.70 | 1.66E-02 | 1.78E-03 |
| 2 | 63.29 | 2.36E+02 | 135.45 | 2.49E-02 | 1.91E-03 |
| 3 | 76.32 | 1.39E+03 | 203.82 | 2.77E-02 | 2.35E-03 |
| 4 | 87.99 | 3.07E+02 | 108.58 | 2.85E-02 | 2.74E-03 |
| 5 | 93.04 | 3.46E+02 | 106.94 | 2.86E-02 | 2.64E-03 |
| 6 | 105.15 | 8.93E+01 | 80.90 | 2.83E-02 | 2.40E-03 |
| 7 | 128.06 | 1.44E+02 | 107.55 | 2.68E-02 | 2.08E-03 |
| 8 | 186.01 | 3.14E+02 | 95.62 | 2.24E-02 | 2.03E-03 |
| M | 9 | 238.63 | 9.79E+02 | 1.92E-02 | 1.64E-03 |
| m | 10 | 241.87 | 3.26E+02 | 1.91E-02 | 1.61E-03 |
| | 11 | 270.49 | 8.17E+01 | 1.77E-02 | 1.40E-03 |
| | 12 | 279.42 | 1.03E+02 | 1.73E-02 | 1.34E-03 |
| M | 13 | 295.49 | 6.86E+02 | 1.67E-02 | 1.31E-03 |
| m | 14 | 300.62 | 9.34E+01 | 1.65E-02 | 1.30E-03 |
| M | 15 | 338.59 | 2.13E+02 | 1.52E-02 | 1.22E-03 |
| m | 16 | 341.87 | 3.68E+01 | 1.51E-02 | 1.21E-03 |
| | 17 | 352.14 | 1.19E+03 | 1.48E-02 | 1.19E-03 |
| | 18 | 409.53 | 4.94E+01 | 1.32E-02 | 1.10E-03 |
| | 19 | 463.58 | 6.89E+01 | 1.21E-02 | 1.04E-03 |
| M | 20 | 507.61 | 3.96E+01 | 1.13E-02 | 9.94E-04 |
| m | 21 | 511.06 | 1.77E+02 | 1.12E-02 | 9.90E-04 |
| | 22 | 583.37 | 3.46E+02 | 1.02E-02 | 9.15E-04 |
| | 23 | 609.64 | 8.42E+02 | 76.73 | 9.82E-03 |
| | 24 | 733.74 | 2.05E+01 | 21.31 | 8.50E-03 |
| | 25 | 768.48 | 5.24E+01 | 37.31 | 8.19E-03 |
| | 26 | 786.51 | 3.21E+01 | 33.59 | 8.04E-03 |
| | 27 | 794.91 | 3.78E+01 | 36.08 | 7.97E-03 |
| | | | | | 7.15E-04 |

Analysis Report for 1510085-03
CP5007S01-02

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 28 | 911.65 | 1.94E+02 | 50.14 | 7.14E-03 | 6.15E-04 |
| | 29 | 934.03 | 6.53E+01 | 44.00 | 7.01E-03 | 6.04E-04 |
| M | 30 | 965.94 | 4.70E+01 | 33.72 | 6.82E-03 | 5.87E-04 |
| m | 31 | 969.55 | 1.22E+02 | 35.11 | 6.80E-03 | 5.85E-04 |
| | 32 | 998.76 | 4.04E+01 | 50.74 | 6.64E-03 | 5.70E-04 |
| M | 33 | 1110.89 | 2.22E+01 | 24.06 | 6.11E-03 | 5.12E-04 |
| m | 34 | 1120.78 | 1.81E+02 | 34.33 | 6.06E-03 | 5.06E-04 |
| | 35 | 1183.48 | 3.99E+01 | 32.64 | 5.81E-03 | 4.77E-04 |
| | 36 | 1238.68 | 7.15E+01 | 41.98 | 5.61E-03 | 4.68E-04 |
| M | 37 | 1378.40 | 4.86E+01 | 21.11 | 5.18E-03 | 4.40E-04 |
| m | 38 | 1386.24 | 1.89E+01 | 14.34 | 5.16E-03 | 4.38E-04 |
| | 39 | 1461.44 | 9.14E+02 | 65.42 | 4.97E-03 | 4.19E-04 |
| | 40 | 1510.20 | 2.46E+01 | 18.17 | 4.86E-03 | 4.07E-04 |
| | 41 | 1528.55 | 7.90E+00 | 10.19 | 4.82E-03 | 4.02E-04 |
| | 42 | 1571.62 | 1.05E+01 | 8.97 | 4.73E-03 | 3.92E-04 |
| M | 43 | 1589.39 | 1.57E+01 | 15.56 | 4.69E-03 | 3.87E-04 |
| m | 44 | 1593.45 | 1.34E+01 | 17.94 | 4.68E-03 | 3.86E-04 |
| | 45 | 1662.61 | 1.36E+01 | 13.33 | 4.56E-03 | 3.69E-04 |
| M | 46 | 1688.46 | 7.17E+00 | 3.46 | 4.51E-03 | 3.63E-04 |
| m | 47 | 1692.00 | 1.44E+01 | 8.00 | 4.51E-03 | 3.62E-04 |
| | 48 | 1730.54 | 3.05E+01 | 16.93 | 4.45E-03 | 3.52E-04 |
| | 49 | 1743.47 | 1.10E+01 | 8.25 | 4.43E-03 | 3.49E-04 |
| | 50 | 1765.29 | 1.48E+02 | 27.93 | 4.39E-03 | 3.43E-04 |
| M | 51 | 1844.52 | 8.76E+00 | 4.12 | 4.29E-03 | 3.26E-04 |
| m | 52 | 1848.05 | 1.68E+01 | 10.95 | 4.28E-03 | 3.26E-04 |
| | 53 | 1901.08 | 7.13E+00 | 6.18 | 4.22E-03 | 3.26E-04 |
| | 54 | 1933.35 | 5.61E+00 | 7.40 | 4.18E-03 | 3.26E-04 |
| | 55 | 1956.59 | 4.92E+00 | 5.50 | 4.16E-03 | 3.26E-04 |
| | 56 | 2105.39 | 1.40E+01 | 12.33 | 4.02E-03 | 3.26E-04 |
| | 57 | 2154.16 | 1.13E+01 | 10.58 | 3.98E-03 | 3.26E-04 |
| | 58 | 2204.99 | 5.28E+01 | 16.91 | 3.95E-03 | 3.26E-04 |
| | 59 | 2239.00 | 8.21E+00 | 10.81 | 3.93E-03 | 3.26E-04 |
| | 60 | 2302.96 | 1.20E+01 | 10.22 | 3.89E-03 | 3.26E-04 |
| | 61 | 2317.59 | 5.14E+00 | 6.34 | 3.88E-03 | 3.26E-04 |
| | 62 | 2347.87 | 6.25E+00 | 6.65 | 3.87E-03 | 3.26E-04 |
| | 63 | 2447.95 | 1.09E+01 | 10.68 | 3.83E-03 | 3.26E-04 |
| | 64 | 2615.48 | 1.20E+02 | 21.91 | 3.79E-03 | 3.26E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 7:08:14AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

: 00404

Analysis Report for 1510085-03

CP5007S01-02

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 1 | 46.22 | 2.44E+02 | 99.70 | 4.50E+01 | 8.46E+00 | 1.99E+02 | 1.00E+02 |
| 2 | 63.29 | 2.36E+02 | 135.45 | 7.80E+01 | 1.33E+01 | 1.58E+02 | 1.36E+02 |
| 3 | 76.32 | 1.39E+03 | 203.82 | 9.75E+00 | 8.28E+00 | 1.38E+03 | 2.04E+02 |
| 4 | 87.99 | 3.07E+02 | 108.58 | | | 3.07E+02 | 1.09E+02 |
| 5 | 93.04 | 3.46E+02 | 106.94 | 1.34E+02 | 9.83E+00 | 2.12E+02 | 1.07E+02 |
| 6 | 105.15 | 8.93E+01 | 80.90 | | | 8.93E+01 | 8.09E+01 |
| 7 | 128.06 | 1.44E+02 | 107.55 | | | 1.44E+02 | 1.08E+02 |
| 8 | 186.01 | 3.14E+02 | 95.62 | 6.41E+01 | 7.38E+00 | 2.50E+02 | 9.59E+01 |
| M 9 | 238.63 | 9.79E+02 | 79.95 | 2.34E+01 | 6.34E+00 | 9.56E+02 | 8.02E+01 |
| m 10 | 241.87 | 3.26E+02 | 68.64 | | | 3.26E+02 | 6.86E+01 |
| 11 | 270.49 | 8.17E+01 | 63.08 | | | 8.17E+01 | 6.31E+01 |
| 12 | 279.42 | 1.03E+02 | 87.58 | | | 1.03E+02 | 8.76E+01 |
| M 13 | 295.49 | 6.86E+02 | 63.99 | 4.17E+00 | 5.50E+00 | 6.82E+02 | 6.42E+01 |
| m 14 | 300.62 | 9.34E+01 | 56.07 | | | 9.34E+01 | 5.61E+01 |
| M 15 | 338.59 | 2.13E+02 | 47.55 | 2.22E-01 | 4.54E+00 | 2.13E+02 | 4.78E+01 |
| m 16 | 341.87 | 3.68E+01 | 44.95 | | | 3.68E+01 | 4.50E+01 |
| 17 | 352.14 | 1.19E+03 | 96.48 | 8.83E+00 | 4.91E+00 | 1.18E+03 | 9.66E+01 |
| 18 | 409.53 | 4.94E+01 | 43.85 | | | 4.94E+01 | 4.38E+01 |
| 19 | 463.58 | 6.89E+01 | 49.14 | | | 6.89E+01 | 4.91E+01 |
| M 20 | 507.61 | 3.96E+01 | 34.29 | | | 3.96E+01 | 3.43E+01 |
| m 21 | 511.06 | 1.77E+02 | 48.41 | 8.12E+01 | 5.49E+00 | 9.53E+01 | 4.87E+01 |
| 22 | 583.37 | 3.46E+02 | 61.32 | 6.34E+00 | 3.74E+00 | 3.40E+02 | 6.14E+01 |
| 23 | 609.64 | 8.42E+02 | 76.73 | 5.20E+00 | 3.69E+00 | 8.37E+02 | 7.68E+01 |
| 24 | 733.74 | 2.05E+01 | 21.31 | | | 2.05E+01 | 2.13E+01 |
| 25 | 768.48 | 5.24E+01 | 37.31 | | | 5.24E+01 | 3.73E+01 |
| 26 | 786.51 | 3.21E+01 | 33.59 | | | 3.21E+01 | 3.36E+01 |
| 27 | 794.91 | 3.78E+01 | 36.08 | | | 3.78E+01 | 3.61E+01 |
| 28 | 911.65 | 1.94E+02 | 50.14 | 3.28E+00 | 2.53E+00 | 1.90E+02 | 5.02E+01 |
| 29 | 934.03 | 6.53E+01 | 44.00 | | | 6.53E+01 | 4.40E+01 |
| M 30 | 965.94 | 4.70E+01 | 33.72 | | | 4.70E+01 | 3.37E+01 |
| m 31 | 969.55 | 1.22E+02 | 35.11 | | | 1.22E+02 | 3.51E+01 |
| 32 | 998.76 | 4.04E+01 | 50.74 | | | 4.04E+01 | 5.07E+01 |
| M 33 | 1110.89 | 2.22E+01 | 24.06 | | | 2.22E+01 | 2.41E+01 |
| m 34 | 1120.78 | 1.81E+02 | 34.33 | 2.28E+00 | 2.55E+00 | 1.78E+02 | 3.44E+01 |
| 35 | 1183.48 | 3.99E+01 | 32.64 | 2.04E+00 | 2.23E+00 | 3.79E+01 | 3.27E+01 |
| 36 | 1238.68 | 7.15E+01 | 41.98 | | | 7.15E+01 | 4.20E+01 |
| M 37 | 1378.40 | 4.86E+01 | 21.11 | | | 4.86E+01 | 2.11E+01 |
| m 38 | 1386.24 | 1.89E+01 | 14.34 | | | 1.89E+01 | 1.43E+01 |
| 39 | 1461.44 | 9.14E+02 | 65.42 | 6.46E+00 | 2.33E+00 | 9.07E+02 | 6.55E+01 |
| 40 | 1510.20 | 2.46E+01 | 18.17 | | | 2.46E+01 | 1.82E+01 |
| 41 | 1528.55 | 7.90E+00 | 10.19 | | | 7.90E+00 | 1.02E+01 |
| 42 | 1571.62 | 1.05E+01 | 8.97 | | | 1.05E+01 | 8.97E+00 |
| M 43 | 1589.39 | 1.57E+01 | 15.56 | | | 1.57E+01 | 1.56E+01 |
| m 44 | 1593.45 | 1.34E+01 | 17.94 | | | 1.34E+01 | 1.79E+01 |
| 45 | 1662.61 | 1.36E+01 | 13.33 | | | 1.36E+01 | 1.33E+01 |
| M 46 | 1688.46 | 7.17E+00 | 3.46 | | | 7.17E+00 | 3.46E+00 |
| m 47 | 1692.00 | 1.44E+01 | 8.00 | | | 1.44E+01 | 8.00E+00 |
| 48 | 1730.54 | 3.05E+01 | 16.93 | | | 3.05E+01 | 1.69E+01 |
| 49 | 1743.47 | 1.10E+01 | 8.25 | | | 1.10E+01 | 8.25E+00 |
| 50 | 1765.29 | 1.48E+02 | 27.93 | | | 1.48E+02 | 2.79E+01 |
| M 51 | 1844.52 | 8.76E+00 | 4.12 | | | 8.76E+00 | 4.12E+00 |

Analysis Report for 1510085-03

CP5007S01-02

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| m | 52 | 1848.05 | 1.68E+01 | 10.95 | | | 1.68E+01 | 1.10E+01 |
| | 53 | 1901.08 | 7.13E+00 | 6.18 | | | 7.13E+00 | 6.18E+00 |
| | 54 | 1933.35 | 5.61E+00 | 7.40 | | | 5.61E+00 | 7.40E+00 |
| | 55 | 1956.59 | 4.92E+00 | 5.50 | | | 4.92E+00 | 5.50E+00 |
| | 56 | 2105.39 | 1.40E+01 | 12.33 | | | 1.40E+01 | 1.23E+01 |
| | 57 | 2154.16 | 1.13E+01 | 10.58 | | | 1.13E+01 | 1.06E+01 |
| | 58 | 2204.99 | 5.28E+01 | 16.91 | | | 5.28E+01 | 1.69E+01 |
| | 59 | 2239.00 | 8.21E+00 | 10.81 | | | 8.21E+00 | 1.08E+01 |
| | 60 | 2302.96 | 1.20E+01 | 10.22 | | | 1.20E+01 | 1.02E+01 |
| | 61 | 2317.59 | 5.14E+00 | 6.34 | | | 5.14E+00 | 6.34E+00 |
| | 62 | 2347.87 | 6.25E+00 | 6.65 | | | 6.25E+00 | 6.65E+00 |
| | 63 | 2447.95 | 1.09E+01 | 10.68 | | | 1.09E+01 | 1.07E+01 |
| | 64 | 2615.48 | 1.20E+02 | 21.91 | 3.47E+00 | 1.48E+00 | 1.17E+02 | 2.20E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 7:08:14AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Corrected Area is: Original * Peak Ratio - Background

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 1 | 46.22 | 2.44E+02 | 99.70 | 4.50E+01 | 8.46E+00 | 1.99E+02 | 1.00E+02 |
| | 2 | 63.29 | 2.36E+02 | 135.45 | 7.80E+01 | 1.33E+01 | 1.58E+02 | 1.36E+02 |
| | 3 | 76.32 | 1.39E+03 | 203.82 | 9.75E+00 | 8.28E+00 | 1.38E+03 | 2.04E+02 |
| | 4 | 87.99 | 3.07E+02 | 108.58 | | | 3.07E+02 | 1.09E+02 |
| | 5 | 93.04 | 3.46E+02 | 106.94 | 1.34E+02 | 9.83E+00 | 2.12E+02 | 1.07E+02 |
| | 6 | 105.15 | 8.93E+01 | 80.90 | | | 8.93E+01 | 8.09E+01 |
| | 7 | 128.06 | 1.44E+02 | 107.55 | | | 1.44E+02 | 1.08E+02 |
| | 8 | 186.01 | 3.14E+02 | 95.62 | 6.41E+01 | 7.38E+00 | 2.50E+02 | 9.59E+01 |
| M | 9 | 238.63 | 9.79E+02 | 79.95 | 2.34E+01 | 6.34E+00 | 9.56E+02 | 8.02E+01 |
| m | 10 | 241.87 | 3.26E+02 | 68.64 | | | 3.26E+02 | 6.86E+01 |
| | 11 | 270.49 | 8.17E+01 | 63.08 | | | 8.17E+01 | 6.31E+01 |
| | 12 | 279.42 | 1.03E+02 | 87.58 | | | 1.03E+02 | 8.76E+01 |
| M | 13 | 295.49 | 6.86E+02 | 63.99 | 4.17E+00 | 5.50E+00 | 6.82E+02 | 6.42E+01 |
| m | 14 | 300.62 | 9.34E+01 | 56.07 | | | 9.34E+01 | 5.61E+01 |
| M | 15 | 338.59 | 2.13E+02 | 47.55 | 2.22E-01 | 4.54E+00 | 2.13E+02 | 4.78E+01 |

Analysis Report for 1510085-03

CP5007S01-02

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| m | 16 | 341.87 | 3.68E+01 | 44.95 | | | 3.68E+01 | 4.50E+01 |
| | 17 | 352.14 | 1.19E+03 | 96.48 | 8.83E+00 | 4.91E+00 | 1.18E+03 | 9.66E+01 |
| | 18 | 409.53 | 4.94E+01 | 43.85 | | | 4.94E+01 | 4.38E+01 |
| | 19 | 463.58 | 6.89E+01 | 49.14 | | | 6.89E+01 | 4.91E+01 |
| M | 20 | 507.61 | 3.96E+01 | 34.29 | | | 3.96E+01 | 3.43E+01 |
| m | 21 | 511.06 | 1.77E+02 | 48.41 | 8.12E+01 | 5.49E+00 | 9.53E+01 | 4.87E+01 |
| | 22 | 583.37 | 3.46E+02 | 61.32 | 6.34E+00 | 3.74E+00 | 3.40E+02 | 6.14E+01 |
| | 23 | 609.64 | 8.42E+02 | 76.73 | 5.20E+00 | 3.69E+00 | 8.37E+02 | 7.68E+01 |
| | 24 | 733.74 | 2.05E+01 | 21.31 | | | 2.05E+01 | 2.13E+01 |
| | 25 | 768.48 | 5.24E+01 | 37.31 | | | 5.24E+01 | 3.73E+01 |
| | 26 | 786.51 | 3.21E+01 | 33.59 | | | 3.21E+01 | 3.36E+01 |
| | 27 | 794.91 | 3.78E+01 | 36.08 | | | 3.78E+01 | 3.61E+01 |
| | 28 | 911.65 | 1.94E+02 | 50.14 | 3.28E+00 | 2.53E+00 | 1.90E+02 | 5.02E+01 |
| | 29 | 934.03 | 6.53E+01 | 44.00 | | | 6.53E+01 | 4.40E+01 |
| M | 30 | 965.94 | 4.70E+01 | 33.72 | | | 4.70E+01 | 3.37E+01 |
| m | 31 | 969.55 | 1.22E+02 | 35.11 | | | 1.22E+02 | 3.51E+01 |
| | 32 | 998.76 | 4.04E+01 | 50.74 | | | 4.04E+01 | 5.07E+01 |
| M | 33 | 1110.89 | 2.22E+01 | 24.06 | | | 2.22E+01 | 2.41E+01 |
| m | 34 | 1120.78 | 1.81E+02 | 34.33 | 2.28E+00 | 2.55E+00 | 1.78E+02 | 3.44E+01 |
| | 35 | 1183.48 | 3.99E+01 | 32.64 | 2.04E+00 | 2.23E+00 | 3.79E+01 | 3.27E+01 |
| | 36 | 1238.68 | 7.15E+01 | 41.98 | | | 7.15E+01 | 4.20E+01 |
| M | 37 | 1378.40 | 4.86E+01 | 21.11 | | | 4.86E+01 | 2.11E+01 |
| m | 38 | 1386.24 | 1.89E+01 | 14.34 | | | 1.89E+01 | 1.43E+01 |
| | 39 | 1461.44 | 9.14E+02 | 65.42 | 6.46E+00 | 2.33E+00 | 9.07E+02 | 6.55E+01 |
| | 40 | 1510.20 | 2.46E+01 | 18.17 | | | 2.46E+01 | 1.82E+01 |
| | 41 | 1528.55 | 7.90E+00 | 10.19 | | | 7.90E+00 | 1.02E+01 |
| | 42 | 1571.62 | 1.05E+01 | 8.97 | | | 1.05E+01 | 8.97E+00 |
| M | 43 | 1589.39 | 1.57E+01 | 15.56 | | | 1.57E+01 | 1.56E+01 |
| m | 44 | 1593.45 | 1.34E+01 | 17.94 | | | 1.34E+01 | 1.79E+01 |
| | 45 | 1662.61 | 1.36E+01 | 13.33 | | | 1.36E+01 | 1.33E+01 |
| M | 46 | 1688.46 | 7.17E+00 | 3.46 | | | 7.17E+00 | 3.46E+00 |
| m | 47 | 1692.00 | 1.44E+01 | 8.00 | | | 1.44E+01 | 8.00E+00 |
| | 48 | 1730.54 | 3.05E+01 | 16.93 | | | 3.05E+01 | 1.69E+01 |
| | 49 | 1743.47 | 1.10E+01 | 8.25 | | | 1.10E+01 | 8.25E+00 |
| | 50 | 1765.29 | 1.48E+02 | 27.93 | | | 1.48E+02 | 2.79E+01 |
| M | 51 | 1844.52 | 8.76E+00 | 4.12 | | | 8.76E+00 | 4.12E+00 |
| m | 52 | 1848.05 | 1.68E+01 | 10.95 | | | 1.68E+01 | 1.10E+01 |
| | 53 | 1901.08 | 7.13E+00 | 6.18 | | | 7.13E+00 | 6.18E+00 |
| | 54 | 1933.35 | 5.61E+00 | 7.40 | | | 5.61E+00 | 7.40E+00 |
| | 55 | 1956.59 | 4.92E+00 | 5.50 | | | 4.92E+00 | 5.50E+00 |
| | 56 | 2105.39 | 1.40E+01 | 12.33 | | | 1.40E+01 | 1.23E+01 |
| | 57 | 2154.16 | 1.13E+01 | 10.58 | | | 1.13E+01 | 1.06E+01 |
| | 58 | 2204.99 | 5.28E+01 | 16.91 | | | 5.28E+01 | 1.69E+01 |
| | 59 | 2239.00 | 8.21E+00 | 10.81 | | | 8.21E+00 | 1.08E+01 |
| | 60 | 2302.96 | 1.20E+01 | 10.22 | | | 1.20E+01 | 1.02E+01 |
| | 61 | 2317.59 | 5.14E+00 | 6.34 | | | 5.14E+00 | 6.34E+00 |
| | 62 | 2347.87 | 6.25E+00 | 6.65 | | | 6.25E+00 | 6.65E+00 |
| | 63 | 2447.95 | 1.09E+01 | 10.68 | | | 1.09E+01 | 1.07E+01 |
| | 64 | 2615.48 | 1.20E+02 | 21.91 | 3.47E+00 | 1.48E+00 | 1.17E+02 | 2.20E+01 |

Analysis Report for 1510085-03
CP5007S01-02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|-------------------------|-------------------------|
| K-40 | 0.939 | 1460.81 * | 10.67 | 2.02E+01 | 2.28E+00 |
| GA-67 | 0.606 | 93.31 * | 35.70 | 1.43E+02 | 5.85E+02 |
| | | 208.95 | 2.24 | | |
| | | 300.22 * | 16.00 | 2.44E+02 | 1.00E+03 |
| CD-109 | 1.000 | 88.03 * | 3.72 | 3.57E+00 | 1.33E+00 |
| SN-126 | 0.973 | 87.57 * | 37.00 | 3.44E-01 | 1.26E-01 |
| HG-203 | 0.989 | 279.19 * | 77.30 | 1.41E-01 | 1.21E-01 |
| TL-208 | 0.834 | 583.14 * | 30.22 | 1.31E+00 | 2.64E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 1.01E+00 | 2.09E-01 |
| PB-210 | 0.987 | 46.50 * | 4.25 | 3.34E+00 | 1.72E+00 |
| PB-212 | 0.997 | 238.63 * | 44.60 | 1.32E+00 | 1.57E-01 |
| | | 300.09 * | 3.41 | 1.96E+00 | 1.19E+00 |
| BI-214 | 0.959 | 609.31 * | 46.30 | 2.17E+00 | 2.80E-01 |
| | | 1120.29 * | 15.10 | 2.30E+00 | 4.83E-01 |
| | | 1764.49 * | 15.80 | 2.52E+00 | 5.14E-01 |
| | | 2204.22 * | 4.98 | 3.17E+00 | 1.05E+00 |
| PB-214 | 0.991 | 295.21 * | 19.19 | 2.52E+00 | 3.08E-01 |
| | | 351.92 * | 37.19 | 2.55E+00 | 2.92E-01 |
| RA-224 | 0.882 | 240.98 * | 3.95 | 5.11E+00 | 1.16E+00 |
| RA-226 | 0.994 | 186.21 * | 3.28 | 4.01E+00 | 7.50E+00 |
| AC-228 | 0.962 | 338.32 * | 11.40 | 1.45E+00 | 3.46E-01 |
| | | 911.07 * | 27.70 | 1.13E+00 | 3.15E-01 |
| | | 969.11 * | 16.60 | 1.27E+00 | 3.83E-01 |
| TH-234 | 1.000 | 63.29 * | 3.80 | 1.97E+00 | 1.70E+00 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-03
 CP5007S01-02

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 7:08:14AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| 3 | 76.32 | 3.83619E-01 | 7.39 | | |
| 6 | 105.15 | 2.47965E-02 | 45.31 | Tol. | EU-155 NP-239 |
| 7 | 128.06 | 4.01305E-02 | 37.22 | | |
| 11 | 270.49 | 2.27040E-02 | 38.59 | | |
| m 16 | 341.87 | 1.02190E-02 | 61.10 | Sum | |
| 18 | 409.53 | 1.37249E-02 | 44.37 | | |
| 19 | 463.58 | 1.91489E-02 | 35.64 | Tol. | SB-125 |
| M 20 | 507.61 | 1.09991E-02 | 43.30 | | |
| m 21 | 511.06 | 2.64803E-02 | 25.56 | | |
| 24 | 733.74 | 5.68772E-03 | 52.04 | Tol. | PA-234 |
| 25 | 768.48 | 1.45678E-02 | 35.57 | Sum | |
| 26 | 786.51 | 8.92788E-03 | 52.25 | | |
| 27 | 794.91 | 1.05046E-02 | 47.70 | Sum | |
| 29 | 934.03 | 1.81435E-02 | 33.68 | | |
| M 30 | 965.94 | 1.30582E-02 | 35.86 | | |
| 32 | 998.76 | 1.12260E-02 | 62.78 | Sum | |
| M 33 | 1110.89 | 6.15671E-03 | 54.27 | | |
| 35 | 1183.48 | 1.05258E-02 | 43.17 | D-Esc | |
| 36 | 1238.68 | 1.98502E-02 | 29.37 | | |
| M 37 | 1378.40 | 1.34910E-02 | 21.73 | | |
| m 38 | 1386.24 | 5.26041E-03 | 37.85 | | |
| 40 | 1510.20 | 6.84524E-03 | 36.86 | | |
| 41 | 1528.55 | 2.19444E-03 | 64.47 | | |
| 42 | 1571.62 | 2.91667E-03 | 42.72 | | |
| M 43 | 1589.39 | 4.36368E-03 | 49.51 | | |
| m 44 | 1593.45 | 3.72574E-03 | 66.89 | D-Esc | |
| 45 | 1662.61 | 3.76812E-03 | 49.14 | | |
| M 46 | 1688.46 | 1.99268E-03 | 24.14 | | |
| m 47 | 1692.00 | 3.98905E-03 | 27.85 | | |
| 48 | 1730.54 | 8.46181E-03 | 27.79 | Sum | |
| 49 | 1743.47 | 3.05556E-03 | 37.48 | | |
| M 51 | 1844.52 | 2.43238E-03 | 23.54 | | |
| m 52 | 1848.05 | 4.67325E-03 | 32.56 | | |
| 53 | 1901.08 | 1.97917E-03 | 43.40 | | |
| 54 | 1933.35 | 1.55864E-03 | 65.93 | | |
| 55 | 1956.59 | 1.36574E-03 | 55.93 | | |
| 56 | 2105.39 | 3.88889E-03 | 44.03 | S-Esc | |
| 57 | 2154.16 | 3.14236E-03 | 46.78 | | |
| 59 | 2239.00 | 2.28175E-03 | 65.77 | | |
| 60 | 2302.96 | 3.33333E-03 | 42.59 | | |
| 61 | 2317.59 | 1.42857E-03 | 61.68 | | |

Analysis Report for 1510085-03
CP5007S01-02

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| 62 | 2347.87 | 1.73611E-03 | 53.22 | Sum | |
| 63 | 2447.95 | 3.02083E-03 | 49.09 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.93 | 1460.81 * | 10.67 | 2.02E+01 | 2.28E+00 |
| GA-67 | 0.60 | 93.31 * | 35.70 | 1.43E+02 | 5.85E+02 |
| | | 208.95 | 2.24 | | |
| | | 300.22 * | 16.00 | 2.44E+02 | 1.00E+03 |
| CD-109 | 1.00 | 88.03 * | 3.72 | 3.57E+00 | 1.33E+00 |
| SN-126 | 0.97 | 87.57 * | 37.00 | 3.44E-01 | 1.26E-01 |
| HG-203 | 0.98 | 279.19 * | 77.30 | 1.41E-01 | 1.21E-01 |
| TL-208 | 0.83 | 583.14 * | 30.22 | 1.31E+00 | 2.64E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 1.01E+00 | 2.09E-01 |
| PB-210 | 0.98 | 46.50 * | 4.25 | 3.34E+00 | 1.72E+00 |
| PB-212 | 0.99 | 238.63 * | 44.60 | 1.32E+00 | 1.57E-01 |
| | | 300.09 * | 3.41 | 1.96E+00 | 1.19E+00 |
| BI-214 | 0.95 | 609.31 * | 46.30 | 2.17E+00 | 2.80E-01 |
| | | 1120.29 * | 15.10 | 2.30E+00 | 4.83E-01 |
| | | 1764.49 * | 15.80 | 2.52E+00 | 5.14E-01 |
| | | 2204.22 * | 4.98 | 3.17E+00 | 1.05E+00 |
| PB-214 | 0.99 | 295.21 * | 19.19 | 2.52E+00 | 3.08E-01 |
| | | 351.92 * | 37.19 | 2.55E+00 | 2.92E-01 |
| RA-224 | 0.88 | 240.98 * | 3.95 | 5.11E+00 | 1.16E+00 |
| RA-226 | 0.99 | 186.21 * | 3.28 | 4.01E+00 | 7.50E+00 |
| AC-228 | 0.96 | 338.32 * | 11.40 | 1.45E+00 | 3.46E-01 |
| | | 911.07 * | 27.70 | 1.13E+00 | 3.15E-01 |
| | | 969.11 * | 16.60 | 1.27E+00 | 3.83E-01 |
| TH-234 | 1.00 | 63.29 * | 3.80 | 1.97E+00 | 1.70E+00 |

Analysis Report for 1510085-03
CP5007S01-02

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-----------------|-----------------------------|------------------------------------|------------------------------------|----------|
| K-40 | 0.939 | 2.02E+01 | 2.28E+00 | |
| GA-67 | 0.606 | 1.31E+02 | 5.14E+02 | |
| ? CD-109 | 1.000 | 3.57E+00 | 1.33E+00 | |
| ? SN-126 | 0.973 | 3.44E-01 | 1.26E-01 | |
| HG-203 | 0.989 | 1.41E-01 | 1.21E-01 | |
| TL-208 | 0.834 | 1.13E+00 | 1.64E-01 | |
| PB-210 | 0.987 | 3.34E+00 | 1.72E+00 | |
| PB-212 | 0.997 | 1.31E+00 | 1.56E-01 | |
| BI-214 | 0.959 | 2.30E+00 | 2.14E-01 | |
| PB-214 | 0.991 | 2.53E+00 | 2.12E-01 | |
| RA-224 | 0.882 | 5.11E+00 | 1.16E+00 | |
| RA-226 | 0.994 | 4.01E+00 | 7.50E+00 | |
| AC-228 | 0.962 | 1.28E+00 | 1.99E-01 | |
| TH-234 | 1.000 | 1.97E+00 | 1.70E+00 | |

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-03
CP5007S01-02

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 7:08:14AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 3 | 76.32 | 3.83619E-01 | 7.39 | | |
| 6 | 105.15 | 2.47965E-02 | 45.31 | Tol. | EU-155 NP-239 |
| 7 | 128.06 | 4.01305E-02 | 37.22 | | |
| 11 | 270.49 | 2.27040E-02 | 38.59 | | |
| m 16 | 341.87 | 1.02190E-02 | 61.10 | Sum | |
| 18 | 409.53 | 1.37249E-02 | 44.37 | | |
| 19 | 463.58 | 1.91489E-02 | 35.64 | Tol. | SB-125 |
| M 20 | 507.61 | 1.09991E-02 | 43.30 | | |
| m 21 | 511.06 | 2.64803E-02 | 25.56 | | |
| 24 | 733.74 | 5.68772E-03 | 52.04 | Tol. | PA-234 |
| 25 | 768.48 | 1.45678E-02 | 35.57 | Sum | |
| 26 | 786.51 | 8.92788E-03 | 52.25 | | |
| 27 | 794.91 | 1.05046E-02 | 47.70 | Sum | |
| 29 | 934.03 | 1.81435E-02 | 33.68 | | |
| M 30 | 965.94 | 1.30582E-02 | 35.86 | | |
| 32 | 998.76 | 1.12260E-02 | 62.78 | Sum | |
| M 33 | 1110.89 | 6.15671E-03 | 54.27 | | |
| 35 | 1183.48 | 1.05258E-02 | 43.17 | D-Esc | |
| 36 | 1238.68 | 1.98502E-02 | 29.37 | | |
| M 37 | 1378.40 | 1.34910E-02 | 21.73 | | |
| m 38 | 1386.24 | 5.26041E-03 | 37.85 | | |
| 40 | 1510.20 | 6.84524E-03 | 36.86 | | |
| 41 | 1528.55 | 2.19444E-03 | 64.47 | | |
| 42 | 1571.62 | 2.91667E-03 | 42.72 | | |
| M 43 | 1589.39 | 4.36368E-03 | 49.51 | | |
| m 44 | 1593.45 | 3.72574E-03 | 66.89 | D-Esc | |
| 45 | 1662.61 | 3.76812E-03 | 49.14 | | |
| M 46 | 1688.46 | 1.99268E-03 | 24.14 | | |
| m 47 | 1692.00 | 3.98905E-03 | 27.85 | | |
| 48 | 1730.54 | 8.46181E-03 | 27.79 | Sum | |
| 49 | 1743.47 | 3.05556E-03 | 37.48 | | |
| M 51 | 1844.52 | 2.43238E-03 | 23.54 | | |
| m 52 | 1848.05 | 4.67325E-03 | 32.56 | | |
| 53 | 1901.08 | 1.97917E-03 | 43.40 | | |

Analysis Report for 1510085-03
CP5007S01-02

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| 54 | 1933.35 | 1.55864E-03 | 65.93 | | |
| 55 | 1956.59 | 1.36574E-03 | 55.93 | | |
| 56 | 2105.39 | 3.88889E-03 | 44.03 | S-Esc | |
| 57 | 2154.16 | 3.14236E-03 | 46.78 | | |
| 59 | 2239.00 | 2.28175E-03 | 65.77 | | |
| 60 | 2302.96 | 3.33333E-03 | 42.59 | | |
| 61 | 2317.59 | 1.42857E-03 | 61.68 | | |
| 62 | 2347.87 | 1.73611E-03 | 53.22 | Sum | |
| 63 | 2447.95 | 3.02083E-03 | 49.09 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|--------------|--------------|----------|----------------------|-------------------------|----------------------|
| + | BE-7 | 477.59 | 10.42 | 1.05E-01 | 8.21E-01 | 8.21E-01 |
| + | NA-22 | 1274.54 | 99.94 | 2.02E-02 | 7.60E-02 | 7.60E-02 |
| + | NA-24 | 1368.53 | 99.99 | 2.56E+12 | 6.18E+12 | 1.72E+13 |
| | | 2754.09 | 99.86 | -3.64E+12 | | 6.18E+12 |
| + | AL-26 | 1808.65 | 99.76 | 2.73E-02 | 5.97E-02 | 5.97E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.02E+01 | 9.98E-01 | 9.98E-01 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | 4.39E-04 | 6.95E-02 | 6.95E-02 |
| | | 78.34 | 96.00 | 2.99E-01 | | 8.82E-02 |
| + | SC-46 | 889.25 | 99.98 | -3.47E-02 | 8.28E-02 | 8.28E-02 |
| | | 1120.51 | 99.99 | 3.75E-01 | | 1.76E-01 |
| + | V-48 | 983.52 | 99.98 | -6.47E-02 | 2.53E-01 | 2.53E-01 |
| | | 1312.10 | 97.50 | 1.79E-01 | | 2.77E-01 |
| + | CR-51 | 320.08 | 9.83 | 6.00E-01 | 1.08E+00 | 1.08E+00 |
| + | MN-54 | 834.83 | 99.97 | 2.33E-02 | 7.91E-02 | 7.91E-02 |
| + | CO-56 | 846.75 | 99.96 | -1.32E-02 | 7.86E-02 | 7.86E-02 |
| | | 1037.75 | 14.03 | -7.74E-02 | | 6.27E-01 |
| | | 1238.25 | 67.00 | 2.72E-01 | | 2.37E-01 |
| | | 1771.40 | 15.51 | -1.24E-01 | | 3.93E-01 |

Analysis Report for 1510085-03

CP5007S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | CO-56 | 2598.48 | 16.90 | 1.60E-02 | 7.86E-02 | 2.22E-01 |
| + | CO-57 | 122.06 | 85.51 | 1.59E-02 | 5.80E-02 | 5.80E-02 |
| | | 136.48 | 10.60 | -2.60E-01 | | 4.94E-01 |
| + | CO-58 | 810.76 | 99.40 | -3.30E-02 | 8.94E-02 | 8.94E-02 |
| + | FE-59 | 1099.22 | 56.50 | -1.13E-02 | 2.08E-01 | 2.08E-01 |
| | | 1291.56 | 43.20 | 7.71E-02 | | 2.66E-01 |
| + | CO-60 | 1173.22 | 100.00 | 5.82E-02 | 7.84E-02 | 8.60E-02 |
| | | 1332.49 | 100.00 | 4.17E-02 | | 7.84E-02 |
| + | ZN-65 | 1115.52 | 50.75 | -9.55E-01 | 1.62E-01 | 1.62E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.43E+02 | 1.17E+02 | 1.17E+02 |
| | | 208.95 | 2.24 | 9.89E+02 | | 1.50E+03 |
| | | 300.22 | * 16.00 | 2.44E+02 | | 6.05E+02 |
| + | SE-75 | 121.11 | 16.70 | 6.79E-02 | 9.74E-02 | 3.30E-01 |
| | | 136.00 | 59.20 | 3.01E-02 | | 9.74E-02 |
| | | 264.65 | 59.80 | 1.96E-02 | | 1.00E-01 |
| | | 279.53 | 25.20 | -3.23E-02 | | 2.50E-01 |
| | | 400.65 | 11.40 | -1.51E-01 | | 5.03E-01 |
| + | RB-82 | 776.52 | 13.00 | -1.16E+00 | 9.84E-01 | 9.84E-01 |
| + | RB-83 | 520.41 | 46.00 | 3.19E-02 | 1.51E-01 | 1.51E-01 |
| | | 529.64 | 30.30 | -2.23E-02 | | 2.55E-01 |
| | | 552.65 | 16.40 | 3.27E-01 | | 4.68E-01 |
| + | KR-85 | 513.99 | 0.43 | 2.71E+01 | 1.96E+01 | 1.96E+01 |
| + | SR-85 | 513.99 | 99.27 | 1.62E-01 | 1.17E-01 | 1.17E-01 |
| + | Y-88 | 898.02 | 93.40 | -2.56E-02 | 6.32E-02 | 8.48E-02 |
| | | 1836.01 | 99.38 | -4.48E-03 | | 6.32E-02 |
| + | NB-93M | 16.57 | 9.43 | -4.95E+01 | 6.85E+01 | 6.85E+01 |
| + | NB-94 | 702.63 | 100.00 | 1.42E-02 | 5.98E-02 | 6.91E-02 |
| | | 871.10 | 100.00 | -2.99E-02 | | 5.98E-02 |
| + | NB-95 | 765.79 | 99.81 | 2.22E-02 | 1.46E-01 | 1.46E-01 |
| + | NB-95M | 235.69 | 25.00 | -6.27E+02 | 7.93E+01 | 7.93E+01 |
| + | ZR-95 | 724.18 | 43.70 | -1.08E-01 | 1.72E-01 | 2.33E-01 |
| | | 756.72 | 55.30 | 1.05E-01 | | 1.72E-01 |
| + | MO-99 | 181.06 | 6.20 | 5.94E+02 | 1.08E+03 | 1.57E+03 |
| | | 739.58 | 12.80 | 6.40E+02 | | 1.08E+03 |
| | | 778.00 | 4.50 | -1.83E+03 | | 2.49E+03 |
| + | RU-103 | 497.08 | 89.00 | -8.06E-02 | 1.15E-01 | 1.15E-01 |
| + | RU-106 | 621.84 | 9.80 | -3.63E-01 | 6.27E-01 | 6.27E-01 |
| + | AG-108M | 433.93 | 89.90 | -5.22E-02 | 6.11E-02 | 6.11E-02 |
| | | 614.37 | 90.40 | 4.43E-02 | | 7.46E-02 |
| | | 722.95 | 90.50 | -1.38E-01 | | 7.37E-02 |
| + | CD-109 | 88.03 | * 3.72 | 3.57E+00 | 2.00E+00 | 2.00E+00 |
| + | AG-110M | 657.75 | 93.14 | 1.59E-02 | 6.82E-02 | 6.82E-02 |
| | | 677.61 | 10.53 | -2.29E-02 | | 6.53E-01 |
| | | 706.67 | 16.46 | 3.49E-02 | | 4.60E-01 |
| | | 763.93 | 21.98 | 6.00E-02 | | 3.09E-01 |
| | | 884.67 | 71.63 | 2.94E-02 | | 1.10E-01 |
| | | 1384.27 | 23.94 | -3.28E-01 | | 2.97E-01 |
| + | CD-113M | 263.70 | 0.02 | 5.60E+01 | 2.22E+02 | 2.22E+02 |

Analysis Report for 1510085-03
CP5007S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SN-113 | 255.12 | 1.93 | -4.78E-01 | 8.78E-02 | 3.06E+00 |
| | | 391.69 | 64.90 | -5.50E-02 | | 8.78E-02 |
| + | TE123M | 159.00 | 84.10 | 5.54E-02 | 7.11E-02 | 7.11E-02 |
| + | SB-124 | 602.71 | 97.87 | 4.96E-03 | 9.22E-02 | 9.22E-02 |
| | | 645.85 | 7.26 | 3.50E-01 | | 1.21E+00 |
| | | 722.78 | 11.10 | -1.59E+00 | | 8.47E-01 |
| | | 1691.02 | 49.00 | 1.21E-01 | | 1.61E-01 |
| + | I-125 | 35.49 | 6.49 | 1.43E+00 | 3.05E+00 | 3.05E+00 |
| + | SB-125 | 176.33 | 6.89 | -6.10E-01 | 2.12E-01 | 7.45E-01 |
| | | 427.89 | 29.33 | 1.22E-01 | | 2.12E-01 |
| | | 463.38 | 10.35 | 7.06E-01 | | 6.62E-01 |
| | | 600.56 | 17.80 | -1.44E-02 | | 3.73E-01 |
| | | 635.90 | 11.32 | 7.61E-02 | | 5.64E-01 |
| + | SB-126 | 414.70 | 83.30 | -9.46E-02 | 3.49E-01 | 3.63E-01 |
| | | 666.33 | 99.60 | 7.57E-02 | | 3.63E-01 |
| | | 695.00 | 99.60 | 1.30E-03 | | 3.49E-01 |
| | | 720.50 | 53.80 | 1.90E-01 | | 6.72E-01 |
| + | SN-126 | 87.57 | * 37.00 | 3.44E-01 | 1.92E-01 | 1.92E-01 |
| + | SB-127 | 473.00 | 25.00 | 2.48E+01 | 3.94E+01 | 5.25E+01 |
| | | 685.20 | 35.70 | 2.94E+00 | | 3.94E+01 |
| | | 783.80 | 14.70 | 2.74E+01 | | 1.14E+02 |
| + | I-129 | 29.78 | 57.00 | -1.75E-02 | 4.37E-01 | 4.37E-01 |
| | | 33.60 | 13.20 | 3.77E-01 | | 1.24E+00 |
| | | 39.58 | 7.52 | 5.39E-01 | | 1.38E+00 |
| + | I-131 | 284.30 | 6.05 | -6.99E+00 | 8.05E-01 | 1.08E+01 |
| | | 364.48 | 81.20 | 2.88E-01 | | 8.05E-01 |
| | | 636.97 | 7.26 | 4.75E+00 | | 1.16E+01 |
| | | 722.89 | 1.80 | -9.21E+01 | | 4.90E+01 |
| + | TE-132 | 49.72 | 13.10 | -1.19E+02 | 3.50E+01 | 3.13E+02 |
| | | 228.16 | 88.00 | 1.29E+01 | | 3.50E+01 |
| + | BA-133 | 81.00 | 33.00 | -1.42E+00 | 9.00E-02 | 1.79E-01 |
| | | 302.84 | 17.80 | 1.68E-01 | | 3.06E-01 |
| | | 356.01 | 60.00 | -9.91E-01 | | 9.00E-02 |
| + | I-133 | 529.87 | 86.30 | -1.57E+08 | 1.80E+09 | 1.80E+09 |
| + | XE-133 | 81.00 | 38.00 | -6.42E+01 | 8.13E+00 | 8.13E+00 |
| + | CS-134 | 563.23 | 8.38 | 6.44E-01 | 7.41E-02 | 7.95E-01 |
| | | 569.32 | 15.43 | -7.59E-02 | | 3.98E-01 |
| | | 604.70 | 97.60 | 1.37E-02 | | 7.41E-02 |
| | | 795.84 | 85.40 | 6.74E-02 | | 9.15E-02 |
| | | 801.93 | 8.73 | -1.81E-01 | | 7.45E-01 |
| + | CS-135 | 268.24 | 16.00 | 9.20E-02 | 3.43E-01 | 3.43E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 1.15E+00 | 2.81E-01 | 3.32E+00 |
| | | 163.89 | 4.61 | 2.83E+00 | | 5.42E+00 |
| | | 176.55 | 13.56 | -1.47E+00 | | 1.80E+00 |
| | | 273.65 | 12.66 | -3.26E+00 | | 1.99E+00 |
| | | 340.57 | 48.50 | 9.94E-01 | | 6.63E-01 |

Analysis Report for 1510085-03

CP5007S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | CS-136 | 818.50 | 99.70 | -8.28E-02 | 2.81E-01 | 2.81E-01 |
| | | 1048.07 | 79.60 | -4.62E-02 | | 4.58E-01 |
| | | 1235.34 | 19.70 | -1.31E-01 | | 2.60E+00 |
| + | CS-137 | 661.65 | 85.12 | -1.84E-02 | 7.35E-02 | 7.35E-02 |
| + | LA-138 | 788.74 | 34.00 | -1.13E-02 | 9.86E-02 | 2.06E-01 |
| | | 1435.80 | 66.00 | -5.33E-03 | | 9.86E-02 |
| + | CE-139 | 165.85 | 80.35 | 2.10E-02 | 7.46E-02 | 7.46E-02 |
| + | BA-140 | 162.64 | 6.70 | 1.31E-01 | 1.25E+00 | 3.88E+00 |
| | | 304.84 | 4.50 | -2.67E+00 | | 5.50E+00 |
| | | 423.70 | 3.20 | -1.24E+00 | | 9.63E+00 |
| | | 437.55 | 2.00 | 5.08E+00 | | 1.53E+01 |
| | | 537.32 | 25.00 | -8.82E-03 | | 1.25E+00 |
| + | LA-140 | 328.77 | 20.50 | 6.59E-01 | 3.15E-01 | 1.33E+00 |
| | | 487.03 | 45.50 | -6.23E-02 | | 6.67E-01 |
| | | 815.85 | 23.50 | 7.73E-01 | | 1.44E+00 |
| | | 1596.49 | 95.49 | 0.00E+00 | | 3.15E-01 |
| + | CE-141 | 145.44 | 48.40 | 1.44E-01 | 2.09E-01 | 2.09E-01 |
| + | CE-143 | 57.36 | 11.80 | -3.22E+05 | 8.11E+05 | 2.06E+06 |
| | | 293.26 | 42.00 | 3.27E+06 | | 8.11E+05 |
| | | 664.55 | 5.20 | 2.56E+06 | | 4.73E+06 |
| + | CE-144 | 133.54 | 10.80 | -5.23E-02 | 4.62E-01 | 4.62E-01 |
| + | PM-144 | 476.78 | 42.00 | 3.63E-03 | 6.51E-02 | 1.46E-01 |
| | | 618.01 | 98.60 | -2.61E-03 | | 6.51E-02 |
| | | 696.49 | 99.49 | -2.28E-02 | | 6.68E-02 |
| + | PM-145 | 36.85 | 21.70 | -2.13E-01 | 3.06E-01 | 5.72E-01 |
| | | 37.36 | 39.70 | 1.93E-03 | | 3.06E-01 |
| | | 42.30 | 15.10 | 1.83E-02 | | 5.91E-01 |
| | | 72.40 | 2.31 | -1.14E+00 | | 3.27E+00 |
| + | PM-146 | 453.90 | 39.94 | 4.15E-02 | 1.51E-01 | 1.51E-01 |
| | | 735.90 | 14.01 | -3.21E-02 | | 4.90E-01 |
| | | 747.13 | 13.10 | -1.74E-01 | | 4.70E-01 |
| + | ND-147 | 91.11 | 28.90 | -2.45E+00 | 1.57E+00 | 1.57E+00 |
| | | 531.02 | 13.10 | 2.36E-01 | | 3.15E+00 |
| + | PM-149 | 285.90 | 3.10 | -5.40E+03 | 1.96E+04 | 1.96E+04 |
| + | EU-152 | 121.78 | 20.50 | 6.17E-02 | 2.25E-01 | 2.25E-01 |
| | | 244.69 | 5.40 | -1.15E-01 | | 1.12E+00 |
| | | 344.27 | 19.13 | 6.59E-02 | | 2.41E-01 |
| | | 778.89 | 9.20 | 5.87E-02 | | 6.71E-01 |
| | | 964.01 | 10.40 | -6.87E-01 | | 9.02E-01 |
| | | 1085.78 | 7.22 | -7.68E-01 | | 9.82E-01 |
| | | 1112.02 | 9.60 | 3.32E-01 | | 8.19E-01 |
| | | 1407.95 | 14.94 | 2.24E-01 | | 5.22E-01 |
| + | GD-153 | 97.43 | 31.30 | 1.21E-02 | 1.72E-01 | 1.72E-01 |
| | | 103.18 | 22.20 | 4.09E-03 | | 2.36E-01 |
| + | EU-154 | 123.07 | 40.50 | 1.49E-02 | 1.15E-01 | 1.15E-01 |
| | | 723.30 | 19.70 | -6.40E-01 | | 3.41E-01 |
| | | 873.19 | 11.50 | -5.56E-02 | | 5.28E-01 |
| | | 996.32 | 10.30 | -6.85E-02 | | 6.97E-01 |
| | | 1004.76 | 17.90 | -2.43E-03 | | 4.01E-01 |

Analysis Report for 1510085-03

CP5007S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | EU-154 | 1274.45 | 35.50 | 5.61E-02 | 1.15E-01 | 2.11E-01 |
| + | EU-155 | 86.50 | 30.90 | -5.27E-02 | 2.15E-01 | 2.15E-01 |
| | | 105.30 | 20.70 | 1.33E-01 | | 2.37E-01 |
| + | EU-156 | 811.77 | 10.40 | -1.81E-01 | 2.56E+00 | 2.56E+00 |
| | | 1153.47 | 7.20 | 1.23E+00 | | 4.69E+00 |
| | | 1230.71 | 8.90 | -1.77E-01 | | 3.99E+00 |
| + | HO-166M | 184.41 | 72.60 | 2.27E-01 | 9.35E-02 | 9.35E-02 |
| | | 280.45 | 29.60 | -1.50E-01 | | 1.70E-01 |
| | | 410.94 | 11.10 | 1.77E-01 | | 5.55E-01 |
| | | 711.69 | 54.10 | 1.59E-02 | | 1.28E-01 |
| + | TM-171 | 66.72 | 0.14 | 1.68E+00 | 4.88E+01 | 4.88E+01 |
| + | HF-172 | 81.75 | 4.52 | -1.28E+00 | 4.46E-01 | 1.35E+00 |
| | | 125.81 | 11.30 | -2.93E-02 | | 4.46E-01 |
| + | LU-172 | 181.53 | 20.60 | 1.28E+00 | 2.65E+00 | 5.53E+00 |
| | | 810.06 | 16.63 | 1.21E+00 | | 9.29E+00 |
| | | 912.12 | 15.25 | 4.42E+01 | | 1.89E+01 |
| | | 1093.66 | 62.50 | -1.08E+00 | | 2.65E+00 |
| + | LU-173 | 100.72 | 5.24 | -8.06E-02 | 2.84E-01 | 9.46E-01 |
| | | 272.11 | 21.20 | 2.65E-01 | | 2.84E-01 |
| + | HF-175 | 343.40 | 84.00 | 2.01E-02 | 7.97E-02 | 7.97E-02 |
| + | LU-176 | 88.34 | 13.30 | 9.93E-01 | 5.08E-02 | 5.17E-01 |
| | | 201.83 | 86.00 | 1.14E-02 | | 6.31E-02 |
| | | 306.78 | 94.00 | 1.46E-02 | | 5.08E-02 |
| + | TA-182 | 67.75 | 41.20 | 1.21E-03 | 1.91E-01 | 1.91E-01 |
| | | 1121.30 | 34.90 | 9.48E-01 | | 4.68E-01 |
| | | 1189.05 | 16.23 | -1.40E-01 | | 5.88E-01 |
| | | 1221.41 | 26.98 | -4.40E-01 | | 3.53E-01 |
| | | 1231.02 | 11.44 | -4.21E-02 | | 9.49E-01 |
| + | IR-192 | 308.46 | 29.68 | -7.85E-02 | 1.69E-01 | 2.05E-01 |
| | | 468.07 | 48.10 | 3.65E-02 | | 1.69E-01 |
| + | HG-203 | 279.19 | * 77.30 | 1.41E-01 | 1.97E-01 | 1.97E-01 |
| + | BI-207 | 569.67 | 97.72 | -6.63E-03 | 6.17E-02 | 6.17E-02 |
| | | 1063.62 | 74.90 | -3.12E-04 | | 9.68E-02 |
| + | TL-208 | 583.14 | * 30.22 | 1.31E+00 | 8.07E-02 | 3.21E-01 |
| | | 860.37 | 4.48 | 2.89E-01 | | 1.72E+00 |
| | | 2614.66 | * 35.85 | 1.01E+00 | | 8.07E-02 |
| + | BI-210M | 262.00 | 45.00 | -1.67E-02 | 1.12E-01 | 1.12E-01 |
| | | 300.00 | 23.00 | -1.14E+00 | | 2.44E-01 |
| + | PB-210 | 46.50 | * 4.25 | 3.34E+00 | 2.69E+00 | 2.69E+00 |
| + | PB-211 | 404.84 | 2.90 | 1.38E-01 | 1.75E+00 | 1.75E+00 |
| | | 831.96 | 2.90 | -1.02E-01 | | 2.40E+00 |
| + | BI-212 | 727.17 | 11.80 | 7.19E-01 | 6.66E-01 | 6.66E-01 |
| | | 1620.62 | 2.75 | 3.24E-01 | | 2.23E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.32E+00 | 3.02E-01 | 3.02E-01 |
| | | 300.09 | * 3.41 | 1.96E+00 | | 4.87E+00 |
| + | BI-214 | 609.31 | * 46.30 | 2.17E+00 | 2.23E-01 | 2.23E-01 |
| | | 1120.29 | * 15.10 | 2.30E+00 | | 1.39E+00 |
| | | 1764.49 | * 15.80 | 2.52E+00 | | 4.29E-01 |

Analysis Report for 1510085-03
CP5007S01-02

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|--------------|--------------|---|----------|----------------------|-------------------------|----------------------|
| | BI-214 | 2204.22 | * | 4.98 | 3.17E+00 | 2.23E-01 | 1.02E+00 |
| + | PB-214 | 295.21 | * | 19.19 | 2.52E+00 | 2.46E-01 | 8.52E-01 |
| | | 351.92 | * | 37.19 | 2.55E+00 | | 2.46E-01 |
| + | RN-219 | 401.80 | | 6.50 | -1.04E-01 | 7.56E-01 | 7.56E-01 |
| + | RA-223 | 323.87 | | 3.88 | -2.81E-01 | 1.28E+00 | 1.28E+00 |
| + | RA-224 | 240.98 | * | 3.95 | 5.11E+00 | 3.42E+00 | 3.42E+00 |
| + | RA-225 | 40.00 | | 31.00 | 5.18E-01 | 1.32E+00 | 1.32E+00 |
| + | RA-226 | 186.21 | * | 3.28 | 4.01E+00 | 2.44E+00 | 2.44E+00 |
| + | TH-227 | 50.10 | | 8.40 | -3.12E-01 | 5.48E-01 | 8.24E-01 |
| | | 236.00 | | 11.50 | -4.33E+00 | | 5.48E-01 |
| | | 256.20 | | 6.30 | -2.34E-01 | | 7.90E-01 |
| + | AC-228 | 338.32 | * | 11.40 | 1.45E+00 | 4.28E-01 | 7.60E-01 |
| | | 911.07 | * | 27.70 | 1.13E+00 | | 4.28E-01 |
| | | 969.11 | * | 16.60 | 1.27E+00 | | 7.99E-01 |
| + | TH-230 | 48.44 | | 16.90 | 4.83E-01 | 4.82E-01 | 4.82E-01 |
| | | 62.85 | | 4.60 | 2.61E+00 | | 1.66E+00 |
| | | 67.67 | | 0.37 | 1.12E-01 | | 1.77E+01 |
| + | PA-231 | 283.67 | | 1.60 | -9.33E-01 | 2.35E+00 | 3.09E+00 |
| | | 302.67 | | 2.30 | 1.29E+00 | | 2.35E+00 |
| + | TH-231 | 25.64 | | 14.70 | 1.69E+00 | 9.51E-01 | 3.74E+00 |
| | | 84.21 | | 6.40 | 9.29E-01 | | 9.51E-01 |
| + | PA-233 | 311.98 | | 38.60 | 5.53E-02 | 2.64E-01 | 2.64E-01 |
| + | PA-234 | 131.20 | | 20.40 | 5.74E-02 | 2.36E-01 | 2.36E-01 |
| | | 733.99 | | 8.80 | -3.79E-01 | | 7.04E-01 |
| | | 946.00 | | 12.00 | -1.15E-01 | | 5.94E-01 |
| + | PA-234M | 1001.03 | | 0.92 | 1.70E+00 | 8.05E+00 | 8.05E+00 |
| + | TH-234 | 63.29 | * | 3.80 | 1.97E+00 | 2.78E+00 | 2.78E+00 |
| + | U-235 | 143.76 | | 10.50 | 8.68E-02 | 4.92E-01 | 4.92E-01 |
| | | 163.35 | | 4.70 | 5.72E-01 | | 1.10E+00 |
| | | 205.31 | | 4.70 | -9.19E-01 | | 1.11E+00 |
| + | NP-237 | 86.50 | | 12.60 | -1.28E-01 | 5.22E-01 | 5.22E-01 |
| + | NP-239 | 106.10 | | 22.70 | 8.13E+02 | 1.45E+03 | 1.45E+03 |
| | | 228.18 | | 10.70 | 1.22E+03 | | 3.31E+03 |
| | | 277.60 | | 14.10 | 2.00E+03 | | 2.68E+03 |
| + | AM-241 | 59.54 | | 35.90 | -1.57E-02 | 1.89E-01 | 1.89E-01 |
| + | AM-243 | 74.67 | | 66.00 | -2.37E-01 | 1.33E-01 | 1.33E-01 |
| + | CM-243 | 209.75 | | 3.29 | 7.22E-01 | 4.01E-01 | 1.74E+00 |
| | | 228.14 | | 10.60 | 1.83E-01 | | 4.96E-01 |
| | | 277.60 | | 14.00 | 2.99E-01 | | 4.01E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510085-03
CP5007S01-02

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 8.21E-01 | 8.21E-01 | 1.05E-01 | 3.92E-01 |
| NA-22 | 1274.54 | 99.94 | 7.60E-02 | 7.60E-02 | 2.02E-02 | 3.50E-02 |
| NA-24 | 1368.53 | 99.99 | 1.72E+13 | 6.18E+12 | 2.56E+12 | 7.77E+12 |
| | 2754.09 | 99.86 | 6.18E+12 | | -3.64E+12 | 1.95E+12 |
| AL-26 | 1808.65 | 99.76 | 5.97E-02 | 5.97E-02 | 2.73E-02 | 2.62E-02 |
| + K-40 | 1460.81 | * 10.67 | 9.98E-01 | 9.98E-01 | 2.02E+01 | 4.69E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 6.95E-02 | 6.95E-02 | 4.39E-04 | 3.41E-02 |
| | 78.34 | 96.00 | 8.82E-02 | | 2.99E-01 | 4.35E-02 |
| SC-46 | 889.25 | 99.98 | 8.28E-02 | 8.28E-02 | -3.47E-02 | 3.86E-02 |
| | 1120.51 | 99.99 | 1.76E-01 | | 3.75E-01 | 8.44E-02 |
| V-48 | 983.52 | 99.98 | 2.53E-01 | 2.53E-01 | -6.47E-02 | 1.18E-01 |
| | 1312.10 | 97.50 | 2.77E-01 | | 1.79E-01 | 1.28E-01 |
| CR-51 | 320.08 | 9.83 | 1.08E+00 | 1.08E+00 | 6.00E-01 | 5.20E-01 |
| MN-54 | 834.83 | 99.97 | 7.91E-02 | 7.91E-02 | 2.33E-02 | 3.73E-02 |
| CO-56 | 846.75 | 99.96 | 7.86E-02 | 7.86E-02 | -1.32E-02 | 3.65E-02 |
| | 1037.75 | 14.03 | 6.27E-01 | | -7.74E-02 | 2.90E-01 |
| | 1238.25 | 67.00 | 2.37E-01 | | 2.72E-01 | 1.13E-01 |
| | 1771.40 | 15.51 | 3.93E-01 | | -1.24E-01 | 1.66E-01 |
| | 2598.48 | 16.90 | 2.22E-01 | | 1.60E-02 | 7.88E-02 |
| CO-57 | 122.06 | 85.51 | 5.80E-02 | 5.80E-02 | 1.59E-02 | 2.83E-02 |
| | 136.48 | 10.60 | 4.94E-01 | | -2.60E-01 | 2.41E-01 |
| CO-58 | 810.76 | 99.40 | 8.94E-02 | 8.94E-02 | -3.30E-02 | 4.19E-02 |
| FE-59 | 1099.22 | 56.50 | 2.08E-01 | 2.08E-01 | -1.13E-02 | 9.65E-02 |
| | 1291.56 | 43.20 | 2.66E-01 | | 7.71E-02 | 1.22E-01 |
| CO-60 | 1173.22 | 100.00 | 8.60E-02 | 7.84E-02 | 5.82E-02 | 4.02E-02 |
| | 1332.49 | 100.00 | 7.84E-02 | | 4.17E-02 | 3.62E-02 |
| ZN-65 | 1115.52 | 50.75 | 1.62E-01 | 1.62E-01 | -9.55E-01 | 7.56E-02 |
| + GA-67 | 93.31 | * 35.70 | 1.17E+02 | 1.17E+02 | 1.43E+02 | 5.74E+01 |
| | 208.95 | 2.24 | 1.50E+03 | | 9.89E+02 | 7.30E+02 |
| | 300.22 | * 16.00 | 6.05E+02 | | 2.44E+02 | 2.99E+02 |
| SE-75 | 121.11 | 16.70 | 3.30E-01 | 9.74E-02 | 6.79E-02 | 1.61E-01 |
| | 136.00 | 59.20 | 9.74E-02 | | 3.01E-02 | 4.75E-02 |
| | 264.65 | 59.80 | 1.00E-01 | | 1.96E-02 | 4.82E-02 |
| | 279.53 | 25.20 | 2.50E-01 | | -3.23E-02 | 1.21E-01 |
| | 400.65 | 11.40 | 5.03E-01 | | -1.51E-01 | 2.39E-01 |
| RB-82 | 776.52 | 13.00 | 9.84E-01 | 9.84E-01 | -1.16E+00 | 4.58E-01 |

Analysis Report for 1510085-03

CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| RB-83 | 520.41 | 46.00 | 1.51E-01 | 1.51E-01 | 3.19E-02 | 7.15E-02 |
| | 529.64 | 30.30 | 2.55E-01 | | -2.23E-02 | 1.22E-01 |
| | 552.65 | 16.40 | 4.68E-01 | | 3.27E-01 | 2.22E-01 |
| KR-85 | 513.99 | 0.43 | 1.96E+01 | 1.96E+01 | 2.71E+01 | 9.46E+00 |
| SR-85 | 513.99 | 99.27 | 1.17E-01 | 1.17E-01 | 1.62E-01 | 5.66E-02 |
| Y-88 | 898.02 | 93.40 | 8.48E-02 | 6.32E-02 | -2.56E-02 | 3.95E-02 |
| | 1836.01 | 99.38 | 6.32E-02 | | -4.48E-03 | 2.71E-02 |
| NB-93M | 16.57 | 9.43 | 6.85E+01 | 6.85E+01 | -4.95E+01 | 3.22E+01 |
| NB-94 | 702.63 | 100.00 | 6.91E-02 | 5.98E-02 | 1.42E-02 | 3.28E-02 |
| | 871.10 | 100.00 | 5.98E-02 | | -2.99E-02 | 2.77E-02 |
| NB-95 | 765.79 | 99.81 | 1.46E-01 | 1.46E-01 | 2.22E-02 | 6.93E-02 |
| NB-95M | 235.69 | 25.00 | 7.93E+01 | 7.93E+01 | -6.27E+02 | 3.86E+01 |
| ZR-95 | 724.18 | 43.70 | 2.33E-01 | 1.72E-01 | -1.08E-01 | 1.10E-01 |
| | 756.72 | 55.30 | 1.72E-01 | | 1.05E-01 | 8.12E-02 |
| MO-99 | 181.06 | 6.20 | 1.57E+03 | 1.08E+03 | 5.94E+02 | 7.63E+02 |
| | 739.58 | 12.80 | 1.08E+03 | | 6.40E+02 | 5.11E+02 |
| | 778.00 | 4.50 | 2.49E+03 | | -1.83E+03 | 1.16E+03 |
| RU-103 | 497.08 | 89.00 | 1.15E-01 | 1.15E-01 | -8.06E-02 | 5.49E-02 |
| RU-106 | 621.84 | 9.80 | 6.27E-01 | 6.27E-01 | -3.63E-01 | 2.95E-01 |
| AG-108M | 433.93 | 89.90 | 6.11E-02 | 6.11E-02 | -5.22E-02 | 2.92E-02 |
| | 614.37 | 90.40 | 7.46E-02 | | 4.43E-02 | 3.55E-02 |
| | 722.95 | 90.50 | 7.37E-02 | | -1.38E-01 | 3.48E-02 |
| + CD-109 | 88.03 | * | 2.00E+00 | 2.00E+00 | 3.57E+00 | 9.84E-01 |
| AG-110M | 657.75 | 93.14 | 6.82E-02 | 6.82E-02 | 1.59E-02 | 3.21E-02 |
| | 677.61 | 10.53 | 6.53E-01 | | -2.29E-02 | 3.08E-01 |
| | 706.67 | 16.46 | 4.60E-01 | | 3.49E-02 | 2.18E-01 |
| | 763.93 | 21.98 | 3.09E-01 | | 6.00E-02 | 1.45E-01 |
| | 884.67 | 71.63 | 1.10E-01 | | 2.94E-02 | 5.15E-02 |
| | 1384.27 | 23.94 | 2.97E-01 | | -3.28E-01 | 1.34E-01 |
| CD-113M | 263.70 | 0.02 | 2.22E+02 | 2.22E+02 | 5.60E+01 | 1.07E+02 |
| SN-113 | 255.12 | 1.93 | 3.06E+00 | 8.78E-02 | -4.78E-01 | 1.48E+00 |
| | 391.69 | 64.90 | 8.78E-02 | | -5.50E-02 | 4.17E-02 |
| TE123M | 159.00 | 84.10 | 7.11E-02 | 7.11E-02 | 5.54E-02 | 3.46E-02 |
| SB-124 | 602.71 | 97.87 | 9.22E-02 | 9.22E-02 | 4.96E-03 | 4.38E-02 |
| | 645.85 | 7.26 | 1.21E+00 | | 3.50E-01 | 5.71E-01 |
| | 722.78 | 11.10 | 8.47E-01 | | -1.59E+00 | 4.00E-01 |
| | 1691.02 | 49.00 | 1.61E-01 | | 1.21E-01 | 7.02E-02 |
| | I-125 | 35.49 | 6.49 | 3.05E+00 | 3.05E+00 | 1.43E+00 | 1.48E+00 |
| SB-125 | 176.33 | 6.89 | 7.45E-01 | 2.12E-01 | -6.10E-01 | 3.62E-01 |
| | 427.89 | 29.33 | 2.12E-01 | | 1.22E-01 | 1.02E-01 |
| | 463.38 | 10.35 | 6.62E-01 | | 7.06E-01 | 3.18E-01 |
| | 600.56 | 17.80 | 3.73E-01 | | -1.44E-02 | 1.77E-01 |
| | 635.90 | 11.32 | 5.64E-01 | | 7.61E-02 | 2.67E-01 |
| | SB-126 | 414.70 | 83.30 | 3.63E-01 | 3.49E-01 | -9.46E-02 | 1.74E-01 |
| SB-126 | 666.33 | 99.60 | 3.63E-01 | | 7.57E-02 | 1.72E-01 |
| | 695.00 | 99.60 | 3.49E-01 | | 1.30E-03 | 1.65E-01 |
| | 720.50 | 53.80 | 6.72E-01 | | 1.90E-01 | 3.18E-01 |
| | + SN-126 | 87.57 | * | 1.92E-01 | 1.92E-01 | 3.44E-01 | 9.46E-02 |
| SB-127 | 473.00 | 25.00 | 5.25E+01 | 3.94E+01 | 2.48E+01 | 2.51E+01 |
| | 685.20 | 35.70 | 3.94E+01 | | 2.94E+00 | 1.86E+01 |
| | 783.80 | 14.70 | 1.14E+02 | | 2.74E+01 | 5.42E+01 |
| I-129 | 29.78 | 57.00 | 4.37E-01 | 4.37E-01 | -1.75E-02 | 2.12E-01 |
| | 33.60 | 13.20 | 1.24E+00 | | 3.77E-01 | 6.04E-01 |

Analysis Report for 1510085-03
CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| I-129 | 39.58 | 7.52 | 1.38E+00 | 4.37E-01 | 5.39E-01 | 6.70E-01 |
| I-131 | 284.30 | 6.05 | 1.08E+01 | 8.05E-01 | -6.99E+00 | 5.19E+00 |
| | 364.48 | 81.20 | 8.05E-01 | | 2.88E-01 | 3.84E-01 |
| | 636.97 | 7.26 | 1.16E+01 | | 4.75E+00 | 5.50E+00 |
| | 722.89 | 1.80 | 4.90E+01 | | -9.21E+01 | 2.31E+01 |
| TE-132 | 49.72 | 13.10 | 3.13E+02 | 3.50E+01 | -1.19E+02 | 1.53E+02 |
| | 228.16 | 88.00 | 3.50E+01 | | 1.29E+01 | 1.69E+01 |
| BA-133 | 81.00 | 33.00 | 1.79E-01 | 9.00E-02 | -1.42E+00 | 8.79E-02 |
| | 302.84 | 17.80 | 3.06E-01 | | 1.68E-01 | 1.47E-01 |
| | 356.01 | 60.00 | 9.00E-02 | | -9.91E-01 | 4.32E-02 |
| I-133 | 529.87 | 86.30 | 1.80E+09 | 1.80E+09 | -1.57E+08 | 8.55E+08 |
| XE-133 | 81.00 | 38.00 | 8.13E+00 | 8.13E+00 | -6.42E+01 | 3.98E+00 |
| CS-134 | 563.23 | 8.38 | 7.95E-01 | 7.41E-02 | 6.44E-01 | 3.79E-01 |
| | 569.32 | 15.43 | 3.98E-01 | | -7.59E-02 | 1.89E-01 |
| | 604.70 | 97.60 | 7.41E-02 | | 1.37E-02 | 3.53E-02 |
| | 795.84 | 85.40 | 9.15E-02 | | 6.74E-02 | 4.33E-02 |
| | 801.93 | 8.73 | 7.45E-01 | | -1.81E-01 | 3.49E-01 |
| CS-135 | 268.24 | 16.00 | 3.43E-01 | 3.43E-01 | 9.20E-02 | 1.66E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.32E+00 | 2.81E-01 | 1.15E+00 | 1.62E+00 |
| | 163.89 | 4.61 | 5.42E+00 | | 2.83E+00 | 2.64E+00 |
| | 176.55 | 13.56 | 1.80E+00 | | -1.47E+00 | 8.74E-01 |
| | 273.65 | 12.66 | 1.99E+00 | | -3.26E+00 | 9.63E-01 |
| | 340.57 | 48.50 | 6.63E-01 | | 9.94E-01 | 3.21E-01 |
| | 818.50 | 99.70 | 2.81E-01 | | -8.28E-02 | 1.30E-01 |
| | 1048.07 | 79.60 | 4.58E-01 | | -4.62E-02 | 2.14E-01 |
| | 1235.34 | 19.70 | 2.60E+00 | | -1.31E-01 | 1.23E+00 |
| CS-137 | 661.65 | 85.12 | 7.35E-02 | 7.35E-02 | -1.84E-02 | 3.47E-02 |
| LA-138 | 788.74 | 34.00 | 2.06E-01 | 9.86E-02 | -1.13E-02 | 9.71E-02 |
| | 1435.80 | 66.00 | 9.86E-02 | | -5.33E-03 | 4.45E-02 |
| CE-139 | 165.85 | 80.35 | 7.46E-02 | 7.46E-02 | 2.10E-02 | 3.63E-02 |
| BA-140 | 162.64 | 6.70 | 3.88E+00 | 1.25E+00 | 1.31E-01 | 1.89E+00 |
| | 304.84 | 4.50 | 5.50E+00 | | -2.67E+00 | 2.64E+00 |
| | 423.70 | 3.20 | 9.63E+00 | | -1.24E+00 | 4.62E+00 |
| | 437.55 | 2.00 | 1.53E+01 | | 5.08E+00 | 7.32E+00 |
| | 537.32 | 25.00 | 1.25E+00 | | -8.82E-03 | 5.94E-01 |
| LA-140 | 328.77 | 20.50 | 1.33E+00 | 3.15E-01 | 6.59E-01 | 6.41E-01 |
| | 487.03 | 45.50 | 6.67E-01 | | -6.23E-02 | 3.18E-01 |
| | 815.85 | 23.50 | 1.44E+00 | | 7.73E-01 | 6.74E-01 |
| | 1596.49 | 95.49 | 3.15E-01 | | 0.00E+00 | 1.39E-01 |
| CE-141 | 145.44 | 48.40 | 2.09E-01 | 2.09E-01 | 1.44E-01 | 1.02E-01 |
| CE-143 | 57.36 | 11.80 | 2.06E+06 | 8.11E+05 | -3.22E+05 | 1.01E+06 |
| | 293.26 | 42.00 | 8.11E+05 | | 3.27E+06 | 3.97E+05 |
| | 664.55 | 5.20 | 4.73E+06 | | 2.56E+06 | 2.24E+06 |
| CE-144 | 133.54 | 10.80 | 4.62E-01 | 4.62E-01 | -5.23E-02 | 2.25E-01 |
| PM-144 | 476.78 | 42.00 | 1.46E-01 | 6.51E-02 | 3.63E-03 | 6.94E-02 |
| | 618.01 | 98.60 | 6.51E-02 | | -2.61E-03 | 3.08E-02 |
| | 696.49 | 99.49 | 6.68E-02 | | -2.28E-02 | 3.15E-02 |
| PM-145 | 36.85 | 21.70 | 5.72E-01 | 3.06E-01 | -2.13E-01 | 2.78E-01 |
| | 37.36 | 39.70 | 3.06E-01 | | 1.93E-03 | 1.49E-01 |
| | 42.30 | 15.10 | 5.91E-01 | | 1.83E-02 | 2.88E-01 |

Analysis Report for 1510085-03
CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| PM-145 | 72.40 | 2.31 | 3.27E+00 | 3.06E-01 | -1.14E+00 | 1.61E+00 |
| PM-146 | 453.90 | 39.94 | 1.51E-01 | 1.51E-01 | 4.15E-02 | 7.20E-02 |
| | 735.90 | 14.01 | 4.90E-01 | | -3.21E-02 | 2.31E-01 |
| | 747.13 | 13.10 | 4.70E-01 | | -1.74E-01 | 2.20E-01 |
| ND-147 | 91.11 | 28.90 | 1.57E+00 | 1.57E+00 | -2.45E+00 | 7.71E-01 |
| | 531.02 | 13.10 | 3.15E+00 | | 2.36E-01 | 1.50E+00 |
| PM-149 | 285.90 | 3.10 | 1.96E+04 | 1.96E+04 | -5.40E+03 | 9.46E+03 |
| EU-152 | 121.78 | 20.50 | 2.25E-01 | 2.25E-01 | 6.17E-02 | 1.10E-01 |
| | 244.69 | 5.40 | 1.12E+00 | | -1.15E-01 | 5.43E-01 |
| | 344.27 | 19.13 | 2.41E-01 | | 6.59E-02 | 1.15E-01 |
| | 778.89 | 9.20 | 6.71E-01 | | 5.87E-02 | 3.14E-01 |
| | 964.01 | 10.40 | 9.02E-01 | | -6.87E-01 | 4.28E-01 |
| | 1085.78 | 7.22 | 9.82E-01 | | -7.68E-01 | 4.55E-01 |
| | 1112.02 | 9.60 | 8.19E-01 | | 3.32E-01 | 3.82E-01 |
| | 1407.95 | 14.94 | 5.22E-01 | | 2.24E-01 | 2.40E-01 |
| GD-153 | 97.43 | 31.30 | 1.72E-01 | 1.72E-01 | 1.21E-02 | 8.42E-02 |
| | 103.18 | 22.20 | 2.36E-01 | | 4.09E-03 | 1.15E-01 |
| EU-154 | 123.07 | 40.50 | 1.15E-01 | 1.15E-01 | 1.49E-02 | 5.62E-02 |
| | 723.30 | 19.70 | 3.41E-01 | | -6.40E-01 | 1.61E-01 |
| | 873.19 | 11.50 | 5.28E-01 | | -5.56E-02 | 2.45E-01 |
| | 996.32 | 10.30 | 6.97E-01 | | -6.85E-02 | 3.25E-01 |
| | 1004.76 | 17.90 | 4.01E-01 | | -2.43E-03 | 1.87E-01 |
| | 1274.45 | 35.50 | 2.11E-01 | | 5.61E-02 | 9.71E-02 |
| EU-155 | 86.50 | 30.90 | 2.15E-01 | 2.15E-01 | -5.27E-02 | 1.06E-01 |
| | 105.30 | 20.70 | 2.37E-01 | | 1.33E-01 | 1.16E-01 |
| EU-156 | 811.77 | 10.40 | 2.56E+00 | 2.56E+00 | -1.81E-01 | 1.20E+00 |
| | 1153.47 | 7.20 | 4.69E+00 | | 1.23E+00 | 2.20E+00 |
| | 1230.71 | 8.90 | 3.99E+00 | | -1.77E-01 | 1.87E+00 |
| HO-166M | 184.41 | 72.60 | 9.35E-02 | 9.35E-02 | 2.27E-01 | 4.58E-02 |
| | 280.45 | 29.60 | 1.70E-01 | | -1.50E-01 | 8.18E-02 |
| | 410.94 | 11.10 | 5.55E-01 | | 1.77E-01 | 2.67E-01 |
| | 711.69 | 54.10 | 1.28E-01 | | 1.59E-02 | 6.06E-02 |
| TM-171 | 66.72 | 0.14 | 4.88E+01 | 4.88E+01 | 1.68E+00 | 2.39E+01 |
| HF-172 | 81.75 | 4.52 | 1.35E+00 | 4.46E-01 | -1.28E+00 | 6.60E-01 |
| | 125.81 | 11.30 | 4.46E-01 | | -2.93E-02 | 2.17E-01 |
| LU-172 | 181.53 | 20.60 | 5.53E+00 | 2.65E+00 | 1.28E+00 | 2.69E+00 |
| | 810.06 | 16.63 | 9.29E+00 | | 1.21E+00 | 4.38E+00 |
| | 912.12 | 15.25 | 1.89E+01 | | 4.42E+01 | 9.10E+00 |
| | 1093.66 | 62.50 | 2.65E+00 | | -1.08E+00 | 1.23E+00 |
| LU-173 | 100.72 | 5.24 | 9.46E-01 | 2.84E-01 | -8.06E-02 | 4.62E-01 |
| | 272.11 | 21.20 | 2.84E-01 | | 2.65E-01 | 1.37E-01 |
| HF-175 | 343.40 | 84.00 | 7.97E-02 | 7.97E-02 | 2.01E-02 | 3.82E-02 |
| LU-176 | 88.34 | 13.30 | 5.17E-01 | 5.08E-02 | 9.93E-01 | 2.54E-01 |
| | 201.83 | 86.00 | 6.31E-02 | | 1.14E-02 | 3.07E-02 |
| | 306.78 | 94.00 | 5.08E-02 | | 1.46E-02 | 2.44E-02 |
| TA-182 | 67.75 | 41.20 | 1.91E-01 | 1.91E-01 | 1.21E-03 | 9.37E-02 |
| | 1121.30 | 34.90 | 4.68E-01 | | 9.48E-01 | 2.25E-01 |
| | 1189.05 | 16.23 | 5.88E-01 | | -1.40E-01 | 2.73E-01 |
| | 1221.41 | 26.98 | 3.53E-01 | | -4.40E-01 | 1.64E-01 |
| | 1231.02 | 11.44 | 9.49E-01 | | -4.21E-02 | 4.45E-01 |
| IR-192 | 308.46 | 29.68 | 2.05E-01 | 1.69E-01 | -7.85E-02 | 9.80E-02 |
| | 468.07 | 48.10 | 1.69E-01 | | 3.65E-02 | 8.11E-02 |
| + HG-203 | 279.19 | * 77.30 | 1.97E-01 | 1.97E-01 | 1.41E-01 | 9.64E-02 |

Analysis Report for 1510085-03

CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| BI-207 | 569.67 | 97.72 | 6.17E-02 | 6.17E-02 | -6.63E-03 | 2.93E-02 |
| | 1063.62 | 74.90 | 9.68E-02 | | -3.12E-04 | 4.50E-02 |
| + TL-208 | 583.14 * | 30.22 | 3.21E-01 | 8.07E-02 | 1.31E+00 | 1.55E-01 |
| | 860.37 | 4.48 | 1.72E+00 | | 2.89E-01 | 8.11E-01 |
| | 2614.66 * | 35.85 | 8.07E-02 | | 1.01E+00 | 2.86E-02 |
| BI-210M | 262.00 | 45.00 | 1.12E-01 | 1.12E-01 | -1.67E-02 | 5.42E-02 |
| | 300.00 | 23.00 | 2.44E-01 | | -1.14E+00 | 1.18E-01 |
| + PB-210 | 46.50 * | 4.25 | 2.69E+00 | 2.69E+00 | 3.34E+00 | 1.32E+00 |
| PB-211 | 404.84 | 2.90 | 1.75E+00 | 1.75E+00 | 1.38E-01 | 8.36E-01 |
| | 831.96 | 2.90 | 2.40E+00 | | -1.02E-01 | 1.13E+00 |
| BI-212 | 727.17 | 11.80 | 6.66E-01 | 6.66E-01 | 7.19E-01 | 3.17E-01 |
| | 1620.62 | 2.75 | 2.23E+00 | | 3.24E-01 | 9.87E-01 |
| + PB-212 | 238.63 * | 44.60 | 3.02E-01 | 3.02E-01 | 1.32E+00 | 1.49E-01 |
| | 300.09 * | 3.41 | 4.87E+00 | | 1.96E+00 | 2.41E+00 |
| + BI-214 | 609.31 * | 46.30 | 2.23E-01 | 2.23E-01 | 2.17E+00 | 1.08E-01 |
| | 1120.29 * | 15.10 | 1.39E+00 | | 2.30E+00 | 6.77E-01 |
| | 1764.49 * | 15.80 | 4.29E-01 | | 2.52E+00 | 1.92E-01 |
| | 2204.22 * | 4.98 | 1.02E+00 | | 3.17E+00 | 4.27E-01 |
| + PB-214 | 295.21 * | 19.19 | 8.52E-01 | 2.46E-01 | 2.52E+00 | 4.21E-01 |
| | 351.92 * | 37.19 | 2.46E-01 | | 2.55E+00 | 1.20E-01 |
| RN-219 | 401.80 | 6.50 | 7.56E-01 | 7.56E-01 | -1.04E-01 | 3.60E-01 |
| RA-223 | 323.87 | 3.88 | 1.28E+00 | 1.28E+00 | -2.81E-01 | 6.11E-01 |
| + RA-224 | 240.98 * | 3.95 | 3.42E+00 | 3.42E+00 | 5.11E+00 | 1.69E+00 |
| RA-225 | 40.00 | 31.00 | 1.32E+00 | 1.32E+00 | 5.18E-01 | 6.43E-01 |
| + RA-226 | 186.21 * | 3.28 | 2.44E+00 | 2.44E+00 | 4.01E+00 | 1.20E+00 |
| TH-227 | 50.10 | 8.40 | 8.24E-01 | 5.48E-01 | -3.12E-01 | 4.02E-01 |
| | 236.00 | 11.50 | 5.48E-01 | | -4.33E+00 | 2.67E-01 |
| | 256.20 | 6.30 | 7.90E-01 | | -2.34E-01 | 3.81E-01 |
| + AC-228 | 338.32 * | 11.40 | 7.60E-01 | 4.28E-01 | 1.45E+00 | 3.71E-01 |
| | 911.07 * | 27.70 | 4.28E-01 | | 1.13E+00 | 2.06E-01 |
| | 969.11 * | 16.60 | 7.99E-01 | | 1.27E+00 | 3.85E-01 |
| TH-230 | 48.44 | 16.90 | 4.82E-01 | 4.82E-01 | 4.83E-01 | 2.36E-01 |
| | 62.85 | 4.60 | 1.66E+00 | | 2.61E+00 | 8.17E-01 |
| | 67.67 | 0.37 | 1.77E+01 | | 1.12E-01 | 8.71E+00 |
| PA-231 | 283.67 | 1.60 | 3.09E+00 | 2.35E+00 | -9.33E-01 | 1.49E+00 |
| | 302.67 | 2.30 | 2.35E+00 | | 1.29E+00 | 1.13E+00 |
| TH-231 | 25.64 | 14.70 | 3.74E+00 | 9.51E-01 | 1.69E+00 | 1.82E+00 |
| | 84.21 | 6.40 | 9.51E-01 | | 9.29E-01 | 4.67E-01 |
| PA-233 | 311.98 | 38.60 | 2.64E-01 | 2.64E-01 | 5.53E-02 | 1.26E-01 |
| PA-234 | 131.20 | 20.40 | 2.36E-01 | 2.36E-01 | 5.74E-02 | 1.15E-01 |
| | 733.99 | 8.80 | 7.04E-01 | | -3.79E-01 | 3.31E-01 |
| | 946.00 | 12.00 | 5.94E-01 | | -1.15E-01 | 2.78E-01 |
| PA-234M | 1001.03 | 0.92 | 8.05E+00 | 8.05E+00 | 1.70E+00 | 3.76E+00 |
| + TH-234 | 63.29 * | 3.80 | 2.78E+00 | 2.78E+00 | 1.97E+00 | 1.37E+00 |
| U-235 | 143.76 | 10.50 | 4.92E-01 | 4.92E-01 | 8.68E-02 | 2.40E-01 |
| | 163.35 | 4.70 | 1.10E+00 | | 5.72E-01 | 5.33E-01 |
| | 205.31 | 4.70 | 1.11E+00 | | -9.19E-01 | 5.40E-01 |
| NP-237 | 86.50 | 12.60 | 5.22E-01 | 5.22E-01 | -1.28E-01 | 2.57E-01 |
| NP-239 | 106.10 | 22.70 | 1.45E+03 | 1.45E+03 | 8.13E+02 | 7.06E+02 |
| | 228.18 | 10.70 | 3.31E+03 | | 1.22E+03 | 1.61E+03 |
| | 277.60 | 14.10 | 2.68E+03 | | 2.00E+03 | 1.30E+03 |
| AM-241 | 59.54 | 35.90 | 1.89E-01 | 1.89E-01 | -1.57E-02 | 9.27E-02 |
| AM-243 | 74.67 | 66.00 | 1.33E-01 | 1.33E-01 | -2.37E-01 | 6.57E-02 |

Analysis Report for 1510085-03
 CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CM-243 | 209.75 | 3.29 | 1.74E+00 | 4.01E-01 | 7.22E-01 | 8.47E-01 |
| | 228.14 | 10.60 | 4.96E-01 | | 1.83E-01 | 2.40E-01 |
| | 277.60 | 14.00 | 4.01E-01 | | 2.99E-01 | 1.94E-01 |

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| | | |
|----------------------|----------------|-------------|
| Creation Date | Comment | User |
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5007S01-02

Elapsed Live time: 3600
 Elapsed Real Time: 3602

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 80 | 112 | 100 | 113 | 89 | 94 |
| 25: | 96 | 104 | 76 | 77 | 75 | 82 | 68 | 89 |
| 33: | 81 | 89 | 84 | 90 | 89 | 104 | 82 | 103 |
| 41: | 100 | 78 | 83 | 105 | 111 | 123 | 243 | 124 |
| 49: | 107 | 101 | 110 | 107 | 139 | 130 | 123 | 106 |
| 57: | 153 | 152 | 162 | 166 | 179 | 160 | 252 | 375 |
| 65: | 186 | 191 | 186 | 209 | 168 | 186 | 188 | 192 |
| 73: | 205 | 249 | 499 | 372 | 553 | 692 | 213 | 173 |
| 81: | 168 | 173 | 147 | 223 | 197 | 136 | 249 | 342 |
| 89: | 200 | 240 | 201 | 168 | 415 | 258 | 135 | 132 |
| 97: | 116 | 132 | 132 | 119 | 117 | 98 | 112 | 97 |
| 105: | 146 | 134 | 117 | 101 | 102 | 118 | 111 | 132 |
| 113: | 113 | 110 | 106 | 118 | 92 | 106 | 100 | 105 |
| 121: | 99 | 97 | 103 | 90 | 111 | 111 | 116 | 120 |
| 129: | 117 | 129 | 114 | 80 | 103 | 91 | 85 | 111 |
| 137: | 113 | 108 | 89 | 127 | 97 | 94 | 89 | 142 |
| 145: | 115 | 111 | 113 | 100 | 107 | 98 | 87 | 110 |
| 153: | 108 | 124 | 88 | 77 | 98 | 92 | 90 | 103 |
| 161: | 89 | 79 | 93 | 129 | 91 | 90 | 83 | 82 |
| 169: | 87 | 94 | 83 | 91 | 97 | 98 | 92 | 104 |
| 177: | 76 | 70 | 80 | 102 | 77 | 86 | 81 | 81 |
| 185: | 109 | 264 | 207 | 85 | 78 | 65 | 97 | 91 |
| 193: | 77 | 79 | 90 | 87 | 76 | 78 | 98 | 90 |
| 201: | 81 | 73 | 90 | 87 | 69 | 85 | 82 | 59 |
| 209: | 93 | 127 | 95 | 72 | 80 | 70 | 58 | 80 |
| 217: | 64 | 71 | 70 | 71 | 67 | 77 | 60 | 60 |
| 225: | 62 | 68 | 70 | 64 | 77 | 57 | 61 | 60 |
| 233: | 57 | 59 | 74 | 80 | 77 | 178 | 667 | 249 |
| 241: | 102 | 236 | 185 | 59 | 59 | 56 | 45 | 56 |
| 249: | 49 | 56 | 45 | 62 | 48 | 51 | 49 | 54 |
| 257: | 52 | 52 | 54 | 60 | 48 | 48 | 40 | 62 |
| 265: | 59 | 50 | 41 | 46 | 48 | 74 | 87 | 52 |
| 273: | 58 | 51 | 51 | 47 | 76 | 74 | 53 | 45 |
| 281: | 42 | 46 | 46 | 54 | 45 | 30 | 44 | 59 |
| 289: | 58 | 49 | 38 | 46 | 43 | 65 | 238 | 398 |
| 297: | 78 | 46 | 36 | 62 | 72 | 49 | 48 | 34 |
| 305: | 40 | 32 | 40 | 45 | 27 | 27 | 29 | 44 |
| 313: | 39 | 36 | 34 | 25 | 29 | 34 | 47 | 34 |
| 321: | 34 | 44 | 28 | 40 | 35 | 36 | 28 | 58 |
| 329: | 58 | 32 | 38 | 41 | 31 | 39 | 39 | 33 |
| 337: | 52 | 86 | 148 | 54 | 29 | 49 | 33 | 21 |
| 345: | 32 | 35 | 22 | 28 | 36 | 42 | 99 | 627 |
| 353: | 484 | 73 | 29 | 34 | 21 | 32 | 23 | 21 |
| 361: | 23 | 26 | 22 | 36 | 42 | 24 | 29 | 33 |

369: 22 21 31 30 38 21 29 25

Sample Title: CP5007S01-02

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 33 | 21 | 35 | 20 | 25 | 27 | 31 | 18 |
| 385: | 34 | 24 | 32 | 36 | 28 | 31 | 24 | 23 |
| 393: | 22 | 27 | 36 | 29 | 23 | 34 | 18 | 22 |
| 401: | 24 | 28 | 34 | 23 | 34 | 24 | 24 | 33 |
| 409: | 28 | 47 | 28 | 25 | 20 | 22 | 25 | 29 |
| 417: | 24 | 23 | 32 | 31 | 25 | 36 | 23 | 23 |
| 425: | 22 | 26 | 33 | 28 | 23 | 34 | 21 | 20 |
| 433: | 20 | 22 | 20 | 25 | 19 | 26 | 30 | 32 |
| 441: | 24 | 23 | 23 | 29 | 24 | 21 | 25 | 27 |
| 449: | 19 | 23 | 22 | 27 | 27 | 21 | 22 | 30 |
| 457: | 13 | 22 | 19 | 16 | 20 | 27 | 42 | 35 |
| 465: | 29 | 30 | 19 | 16 | 22 | 28 | 22 | 24 |
| 473: | 17 | 22 | 22 | 18 | 13 | 21 | 20 | 25 |
| 481: | 23 | 16 | 22 | 18 | 19 | 21 | 25 | 22 |
| 489: | 21 | 21 | 14 | 34 | 24 | 22 | 27 | 19 |
| 497: | 23 | 17 | 19 | 18 | 26 | 24 | 17 | 16 |
| 505: | 15 | 12 | 26 | 24 | 34 | 48 | 93 | 66 |
| 513: | 34 | 21 | 22 | 18 | 23 | 24 | 11 | 12 |
| 521: | 17 | 15 | 17 | 13 | 10 | 17 | 17 | 24 |
| 529: | 15 | 18 | 18 | 20 | 21 | 23 | 26 | 16 |
| 537: | 16 | 19 | 22 | 14 | 20 | 15 | 19 | 18 |
| 545: | 13 | 20 | 18 | 19 | 10 | 21 | 22 | 20 |
| 553: | 11 | 20 | 16 | 12 | 12 | 9 | 13 | 25 |
| 561: | 18 | 17 | 25 | 16 | 20 | 17 | 19 | 10 |
| 569: | 18 | 20 | 12 | 18 | 19 | 16 | 17 | 15 |
| 577: | 24 | 11 | 9 | 16 | 24 | 26 | 138 | 175 |
| 585: | 52 | 22 | 21 | 14 | 12 | 25 | 16 | 13 |
| 593: | 15 | 14 | 14 | 17 | 25 | 15 | 22 | 18 |
| 601: | 12 | 22 | 20 | 16 | 19 | 13 | 13 | 43 |
| 609: | 259 | 494 | 123 | 28 | 11 | 19 | 18 | 16 |
| 617: | 21 | 17 | 5 | 8 | 18 | 19 | 11 | 17 |
| 625: | 15 | 13 | 18 | 14 | 16 | 13 | 12 | 9 |
| 633: | 14 | 15 | 6 | 18 | 21 | 15 | 16 | 18 |
| 641: | 16 | 11 | 15 | 13 | 12 | 14 | 18 | 13 |
| 649: | 16 | 9 | 14 | 20 | 4 | 14 | 8 | 16 |
| 657: | 12 | 18 | 13 | 11 | 8 | 15 | 9 | 15 |
| 665: | 27 | 16 | 17 | 17 | 14 | 16 | 19 | 10 |
| 673: | 15 | 17 | 20 | 17 | 15 | 11 | 14 | 7 |
| 681: | 13 | 12 | 14 | 17 | 7 | 15 | 20 | 12 |
| 689: | 16 | 16 | 21 | 12 | 18 | 15 | 15 | 14 |
| 697: | 11 | 14 | 9 | 13 | 15 | 16 | 18 | 13 |
| 705: | 10 | 25 | 18 | 15 | 18 | 12 | 18 | 10 |
| 713: | 15 | 19 | 16 | 12 | 14 | 13 | 15 | 15 |
| 721: | 15 | 17 | 11 | 15 | 14 | 10 | 37 | 34 |
| 729: | 18 | 8 | 9 | 7 | 17 | 17 | 14 | 7 |
| 737: | 10 | 16 | 17 | 17 | 20 | 18 | 14 | 14 |
| 745: | 11 | 9 | 8 | 11 | 7 | 16 | 13 | 9 |
| 753: | 10 | 21 | 14 | 13 | 13 | 15 | 7 | 13 |
| 761: | 7 | 12 | 14 | 12 | 7 | 10 | 15 | 38 |
| 769: | 35 | 21 | 16 | 10 | 20 | 10 | 10 | 7 |
| 777: | 6 | 11 | 7 | 10 | 15 | 16 | 9 | 10 |
| 785: | 18 | 20 | 25 | 12 | 11 | 9 | 8 | 8 |
| 793: | 10 | 17 | 31 | 21 | 11 | 10 | 9 | 11 |

801: 12 6 14 10 11 13 16 12

Sample Title: CP5007S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|-----|
| 809: | 12 | 10 | 15 | 9 | 14 | 7 | 16 | 10 |
| 817: | 12 | 8 | 12 | 5 | 5 | 6 | 13 | 5 |
| 825: | 12 | 16 | 12 | 6 | 11 | 12 | 10 | 6 |
| 833: | 21 | 11 | 13 | 18 | 12 | 14 | 10 | 14 |
| 841: | 17 | 9 | 10 | 8 | 10 | 9 | 7 | 7 |
| 849: | 9 | 10 | 13 | 6 | 11 | 7 | 8 | 13 |
| 857: | 9 | 7 | 11 | 17 | 27 | 19 | 8 | 10 |
| 865: | 20 | 11 | 14 | 8 | 10 | 10 | 8 | 6 |
| 873: | 7 | 7 | 14 | 5 | 7 | 10 | 20 | 10 |
| 881: | 10 | 13 | 10 | 16 | 13 | 7 | 13 | 10 |
| 889: | 10 | 10 | 5 | 9 | 12 | 7 | 9 | 6 |
| 897: | 12 | 8 | 6 | 13 | 10 | 11 | 13 | 6 |
| 905: | 19 | 6 | 12 | 10 | 7 | 12 | 83 | 108 |
| 913: | 37 | 12 | 6 | 10 | 14 | 10 | 13 | 7 |
| 921: | 6 | 10 | 11 | 7 | 12 | 10 | 12 | 8 |
| 929: | 12 | 14 | 13 | 14 | 14 | 22 | 29 | 17 |
| 937: | 15 | 7 | 4 | 11 | 9 | 4 | 12 | 6 |
| 945: | 11 | 13 | 9 | 7 | 13 | 16 | 14 | 6 |
| 953: | 11 | 5 | 5 | 11 | 14 | 9 | 9 | 10 |
| 961: | 12 | 10 | 14 | 12 | 30 | 33 | 11 | 25 |
| 969: | 49 | 57 | 13 | 10 | 3 | 14 | 10 | 7 |
| 977: | 13 | 4 | 8 | 12 | 8 | 7 | 14 | 9 |
| 985: | 7 | 11 | 6 | 10 | 11 | 9 | 9 | 3 |
| 993: | 14 | 13 | 10 | 4 | 9 | 8 | 7 | 12 |
| 1001: | 12 | 15 | 8 | 8 | 8 | 13 | 5 | 7 |
| 1009: | 8 | 7 | 8 | 11 | 9 | 6 | 16 | 11 |
| 1017: | 13 | 11 | 6 | 10 | 9 | 10 | 9 | 9 |
| 1025: | 8 | 5 | 5 | 9 | 11 | 10 | 8 | 12 |
| 1033: | 11 | 4 | 10 | 9 | 5 | 6 | 7 | 7 |
| 1041: | 10 | 8 | 10 | 12 | 10 | 8 | 10 | 11 |
| 1049: | 6 | 11 | 11 | 9 | 10 | 4 | 13 | 5 |
| 1057: | 6 | 7 | 7 | 2 | 10 | 6 | 7 | 10 |
| 1065: | 9 | 3 | 15 | 12 | 12 | 9 | 13 | 11 |
| 1073: | 9 | 7 | 10 | 10 | 8 | 11 | 9 | 12 |
| 1081: | 10 | 15 | 8 | 1 | 9 | 4 | 12 | 7 |
| 1089: | 14 | 14 | 9 | 11 | 9 | 9 | 9 | 6 |
| 1097: | 8 | 8 | 10 | 10 | 9 | 8 | 9 | 8 |
| 1105: | 10 | 6 | 10 | 3 | 7 | 11 | 18 | 6 |
| 1113: | 7 | 3 | 14 | 8 | 7 | 11 | 11 | 59 |
| 1121: | 78 | 36 | 10 | 4 | 9 | 13 | 4 | 6 |
| 1129: | 7 | 10 | 9 | 10 | 9 | 9 | 3 | 7 |
| 1137: | 10 | 9 | 7 | 8 | 11 | 8 | 11 | 8 |
| 1145: | 6 | 8 | 7 | 9 | 10 | 8 | 11 | 9 |
| 1153: | 10 | 10 | 17 | 11 | 9 | 9 | 11 | 9 |
| 1161: | 9 | 10 | 3 | 7 | 10 | 7 | 9 | 4 |
| 1169: | 9 | 16 | 7 | 7 | 9 | 10 | 15 | 8 |
| 1177: | 7 | 5 | 7 | 13 | 11 | 11 | 10 | 7 |
| 1185: | 5 | 13 | 14 | 4 | 6 | 4 | 10 | 10 |
| 1193: | 11 | 10 | 9 | 7 | 7 | 10 | 7 | 8 |
| 1201: | 7 | 7 | 6 | 12 | 8 | 5 | 10 | 14 |
| 1209: | 5 | 8 | 17 | 9 | 18 | 8 | 15 | 13 |
| 1217: | 10 | 12 | 8 | 11 | 11 | 7 | 4 | 5 |
| 1225: | 16 | 18 | 2 | 13 | 7 | 8 | 15 | 12 |

1233: 11 10 9 15 18 30 40 18

Sample Title: CP5007S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|-----|-----|-----|----|----|
| 1241: | 12 | 12 | 10 | 14 | 9 | 6 | 11 | 12 |
| 1249: | 11 | 3 | 6 | 10 | 9 | 6 | 8 | 7 |
| 1257: | 7 | 7 | 9 | 7 | 10 | 10 | 6 | 10 |
| 1265: | 8 | 8 | 10 | 5 | 6 | 6 | 7 | 11 |
| 1273: | 7 | 6 | 1 | 6 | 9 | 3 | 7 | 9 |
| 1281: | 12 | 15 | 9 | 7 | 9 | 5 | 8 | 5 |
| 1289: | 10 | 5 | 4 | 8 | 3 | 8 | 2 | 5 |
| 1297: | 5 | 3 | 8 | 9 | 5 | 4 | 2 | 6 |
| 1305: | 7 | 3 | 1 | 6 | 12 | 4 | 5 | 5 |
| 1313: | 5 | 6 | 7 | 4 | 2 | 6 | 3 | 5 |
| 1321: | 7 | 6 | 6 | 7 | 3 | 4 | 5 | 4 |
| 1329: | 8 | 8 | 3 | 9 | 10 | 3 | 7 | 5 |
| 1337: | 3 | 10 | 6 | 5 | 6 | 5 | 3 | 4 |
| 1345: | 3 | 4 | 3 | 7 | 9 | 6 | 4 | 4 |
| 1353: | 6 | 3 | 3 | 2 | 3 | 6 | 8 | 4 |
| 1361: | 3 | 5 | 5 | 5 | 6 | 4 | 9 | 1 |
| 1369: | 4 | 5 | 1 | 2 | 4 | 4 | 3 | 10 |
| 1377: | 14 | 17 | 18 | 9 | 2 | 4 | 3 | 3 |
| 1385: | 5 | 10 | 4 | 6 | 2 | 1 | 2 | 6 |
| 1393: | 4 | 4 | 0 | 7 | 5 | 4 | 2 | 3 |
| 1401: | 5 | 12 | 7 | 2 | 3 | 6 | 2 | 10 |
| 1409: | 16 | 6 | 1 | 4 | 4 | 1 | 1 | 7 |
| 1417: | 4 | 2 | 2 | 2 | 3 | 3 | 5 | 1 |
| 1425: | 7 | 3 | 4 | 1 | 4 | 4 | 4 | 7 |
| 1433: | 4 | 3 | 6 | 2 | 8 | 2 | 4 | 4 |
| 1441: | 3 | 2 | 3 | 7 | 6 | 3 | 4 | 2 |
| 1449: | 5 | 8 | 2 | 8 | 6 | 4 | 3 | 5 |
| 1457: | 3 | 7 | 23 | 122 | 416 | 291 | 65 | 8 |
| 1465: | 4 | 6 | 0 | 0 | 3 | 5 | 4 | 4 |
| 1473: | 3 | 2 | 3 | 2 | 1 | 3 | 2 | 3 |
| 1481: | 2 | 3 | 0 | 3 | 2 | 2 | 3 | 3 |
| 1489: | 3 | 4 | 4 | 5 | 1 | 2 | 7 | 7 |
| 1497: | 5 | 3 | 4 | 3 | 5 | 7 | 2 | 4 |
| 1505: | 3 | 2 | 2 | 5 | 7 | 12 | 8 | 3 |
| 1513: | 1 | 2 | 1 | 3 | 3 | 2 | 1 | 5 |
| 1521: | 3 | 2 | 2 | 3 | 4 | 4 | 1 | 8 |
| 1529: | 5 | 1 | 0 | 2 | 0 | 4 | 5 | 5 |
| 1537: | 0 | 4 | 10 | 2 | 5 | 4 | 3 | 4 |
| 1545: | 2 | 0 | 3 | 4 | 3 | 0 | 4 | 1 |
| 1553: | 2 | 3 | 3 | 5 | 2 | 1 | 1 | 4 |
| 1561: | 4 | 1 | 2 | 2 | 1 | 0 | 1 | 0 |
| 1569: | 1 | 2 | 5 | 3 | 3 | 0 | 1 | 4 |
| 1577: | 1 | 2 | 0 | 2 | 2 | 2 | 5 | 7 |
| 1585: | 2 | 4 | 2 | 6 | 9 | 4 | 7 | 4 |
| 1593: | 4 | 7 | 1 | 3 | 1 | 1 | 3 | 0 |
| 1601: | 4 | 2 | 2 | 3 | 2 | 2 | 1 | 3 |
| 1609: | 9 | 1 | 1 | 1 | 2 | 3 | 5 | 0 |
| 1617: | 7 | 1 | 2 | 4 | 1 | 4 | 2 | 2 |
| 1625: | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3 |
| 1633: | 2 | 3 | 0 | 0 | 4 | 3 | 4 | 1 |
| 1641: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 |
| 1649: | 3 | 2 | 2 | 1 | 2 | 2 | 3 | 1 |
| 1657: | 3 | 4 | 3 | 1 | 3 | 11 | 3 | 2 |

1665: 0 0 1 1 3 1 2 2

Sample Title: CP5007S01-02

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1673: | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 1 |
| 1681: | 1 | 2 | 3 | 2 | 2 | 0 | 0 | 3 |
| 1689: | 1 | 1 | 2 | 6 | 1 | 2 | 0 | 0 |
| 1697: | 0 | 1 | 3 | 2 | 0 | 5 | 3 | 2 |
| 1705: | 1 | 2 | 1 | 3 | 2 | 1 | 2 | 0 |
| 1713: | 0 | 3 | 2 | 2 | 1 | 2 | 0 | 0 |
| 1721: | 3 | 0 | 2 | 0 | 1 | 1 | 2 | 1 |
| 1729: | 8 | 13 | 9 | 1 | 1 | 1 | 2 | 0 |
| 1737: | 1 | 1 | 0 | 1 | 1 | 2 | 4 | 3 |
| 1745: | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 1753: | 6 | 3 | 1 | 4 | 2 | 2 | 2 | 1 |
| 1761: | 2 | 2 | 10 | 42 | 59 | 28 | 6 | 3 |
| 1769: | 3 | 2 | 1 | 0 | 1 | 0 | 4 | 1 |
| 1777: | 2 | 3 | 2 | 2 | 3 | 2 | 1 | 1 |
| 1785: | 0 | 1 | 0 | 1 | 1 | 0 | 3 | 1 |
| 1793: | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 0 |
| 1801: | 0 | 0 | 1 | 1 | 0 | 3 | 1 | 3 |
| 1809: | 3 | 4 | 3 | 1 | 1 | 1 | 3 | 0 |
| 1817: | 3 | 1 | 0 | 2 | 1 | 4 | 1 | 2 |
| 1825: | 2 | 0 | 0 | 2 | 0 | 2 | 4 | 2 |
| 1833: | 2 | 1 | 2 | 0 | 2 | 5 | 0 | 1 |
| 1841: | 1 | 1 | 0 | 4 | 2 | 1 | 5 | 7 |
| 1849: | 3 | 3 | 1 | 0 | 0 | 3 | 0 | 0 |
| 1857: | 1 | 4 | 2 | 0 | 1 | 0 | 1 | 0 |
| 1865: | 2 | 1 | 2 | 2 | 1 | 3 | 2 | 2 |
| 1873: | 1 | 3 | 2 | 3 | 1 | 2 | 1 | 0 |
| 1881: | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 7 |
| 1889: | 1 | 1 | 5 | 1 | 4 | 0 | 2 | 4 |
| 1897: | 1 | 1 | 0 | 4 | 2 | 2 | 0 | 0 |
| 1905: | 0 | 2 | 1 | 0 | 1 | 1 | 1 | 0 |
| 1913: | 2 | 1 | 1 | 2 | 2 | 0 | 1 | 3 |
| 1921: | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 4 |
| 1929: | 2 | 1 | 1 | 3 | 2 | 3 | 0 | 1 |
| 1937: | 0 | 0 | 3 | 1 | 3 | 1 | 2 | 1 |
| 1945: | 1 | 2 | 0 | 1 | 2 | 1 | 3 | 1 |
| 1953: | 1 | 0 | 1 | 3 | 2 | 0 | 0 | 0 |
| 1961: | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 2 |
| 1969: | 1 | 2 | 2 | 0 | 0 | 1 | 1 | 2 |
| 1977: | 1 | 0 | 2 | 1 | 0 | 2 | 1 | 2 |
| 1985: | 1 | 2 | 1 | 1 | 1 | 0 | 1 | 2 |
| 1993: | 2 | 0 | 0 | 3 | 1 | 0 | 0 | 0 |
| 2001: | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2009: | 0 | 1 | 1 | 1 | 0 | 2 | 2 | 1 |
| 2017: | 2 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |
| 2025: | 3 | 1 | 1 | 3 | 0 | 0 | 1 | 0 |
| 2033: | 2 | 2 | 2 | 1 | 0 | 2 | 0 | 0 |
| 2041: | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 1 |
| 2049: | 0 | 2 | 2 | 1 | 2 | 3 | 0 | 1 |
| 2057: | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 3 |
| 2065: | 0 | 2 | 0 | 4 | 0 | 0 | 0 | 2 |
| 2073: | 2 | 3 | 1 | 1 | 0 | 2 | 2 | 0 |
| 2081: | 2 | 1 | 1 | 0 | 2 | 0 | 1 | 2 |
| 2089: | 0 | 0 | 3 | 1 | 0 | 1 | 0 | 0 |

2097: 1 3 0 0 2 0 4 5

Sample Title: CP5007S01-02

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2105: | 2 | 7 | 3 | 1 | 0 | 2 | 0 | 0 |
| 2113: | 2 | 1 | 2 | 2 | 2 | 6 | 2 | 3 |
| 2121: | 4 | 3 | 1 | 0 | 3 | 0 | 1 | 1 |
| 2129: | 0 | 2 | 2 | 0 | 2 | 0 | 0 | 2 |
| 2137: | 0 | 3 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2145: | 4 | 2 | 2 | 1 | 1 | 2 | 2 | 1 |
| 2153: | 3 | 5 | 1 | 2 | 0 | 0 | 2 | 1 |
| 2161: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 3 |
| 2169: | 1 | 1 | 2 | 0 | 2 | 2 | 0 | 0 |
| 2177: | 2 | 2 | 2 | 0 | 1 | 0 | 0 | 1 |
| 2185: | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 2193: | 3 | 2 | 1 | 2 | 4 | 0 | 1 | 0 |
| 2201: | 0 | 0 | 7 | 20 | 21 | 7 | 1 | 1 |
| 2209: | 2 | 0 | 2 | 0 | 0 | 0 | 1 | 1 |
| 2217: | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 1 |
| 2225: | 1 | 2 | 1 | 2 | 1 | 0 | 1 | 1 |
| 2233: | 2 | 1 | 3 | 0 | 1 | 2 | 4 | 1 |
| 2241: | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2249: | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 3 |
| 2257: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2265: | 1 | 0 | 2 | 3 | 1 | 1 | 3 | 1 |
| 2273: | 1 | 3 | 1 | 1 | 0 | 0 | 1 | 0 |
| 2281: | 0 | 0 | 0 | 1 | 0 | 4 | 2 | 1 |
| 2289: | 0 | 3 | 2 | 0 | 1 | 2 | 1 | 2 |
| 2297: | 1 | 1 | 2 | 0 | 3 | 3 | 2 | 4 |
| 2305: | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 |
| 2313: | 0 | 0 | 0 | 2 | 2 | 2 | 1 | 0 |
| 2321: | 1 | 3 | 1 | 1 | 1 | 0 | 0 | 0 |
| 2329: | 2 | 0 | 3 | 1 | 1 | 2 | 0 | 2 |
| 2337: | 0 | 2 | 2 | 0 | 1 | 1 | 0 | 0 |
| 2345: | 1 | 0 | 2 | 4 | 1 | 0 | 1 | 1 |
| 2353: | 4 | 0 | 0 | 2 | 2 | 1 | 2 | 1 |
| 2361: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2369: | 2 | 0 | 1 | 0 | 1 | 2 | 0 | 0 |
| 2377: | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 1 |
| 2385: | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 2 |
| 2393: | 0 | 2 | 3 | 1 | 2 | 2 | 4 | 1 |
| 2401: | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 0 |
| 2409: | 2 | 0 | 0 | 1 | 0 | 0 | 2 | 2 |
| 2417: | 2 | 0 | 3 | 1 | 2 | 0 | 0 | 1 |
| 2425: | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 2 |
| 2433: | 0 | 1 | 2 | 1 | 0 | 1 | 3 | 0 |
| 2441: | 1 | 0 | 0 | 1 | 0 | 1 | 5 | 3 |
| 2449: | 4 | 1 | 1 | 0 | 2 | 1 | 0 | 1 |
| 2457: | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 1 |
| 2465: | 0 | 1 | 1 | 0 | 1 | 2 | 2 | 0 |
| 2473: | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 1 |
| 2481: | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 |
| 2489: | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 |
| 2497: | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2505: | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| 2513: | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 |
| 2521: | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |

2529: 0 0 1 1 0 2 0 1

Sample Title: CP5007S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|----|----|----|----|
| 2537: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 2545: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 2553: | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2561: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 2569: | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 |
| 2577: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2585: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2593: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2609: | 0 | 0 | 1 | 0 | 15 | 25 | 41 | 30 |
| 2617: | 8 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2625: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2633: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2641: | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 1 |
| 2649: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2673: | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2681: | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| 2689: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2697: | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2705: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2713: | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 1 |
| 2721: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2729: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2737: | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 |
| 2745: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2753: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2761: | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 |
| 2769: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2777: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2785: | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| 2793: | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 2801: | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2817: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2825: | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 2833: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2841: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| 2849: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2865: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2873: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2881: | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| 2889: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2897: | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2913: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2929: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2945: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2953: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |

2961: 0 0 0 0 0 0 0 0

Sample Title: CP5007S01-02

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|
| 2969: | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2977: | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2985: | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2993: | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3001: | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3009: | 0 | 0 | 0 | 1 | 2 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3033: | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3041: | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3065: | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3073: | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3081: | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3089: | 0 | 0 | 0 | 2 | 1 | 1 | 0 |
| 3097: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 3 | 1 | 0 | 1 |
| 3113: | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3121: | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 3129: | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3137: | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3145: | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3153: | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3161: | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3217: | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3233: | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3241: | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3257: | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3265: | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 3321: | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3329: | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3337: | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3345: | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3353: | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 3377: | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 1 | 0 | 0 | 1 | 1 | 0 | 0 |

3393: 0 0 0 0 0 0 0 0

Sample Title: CP5007S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3417: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3425: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3465: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3473: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3489: | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| 3497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3513: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3553: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3609: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3657: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3665: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3673: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3761: | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3769: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3809: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

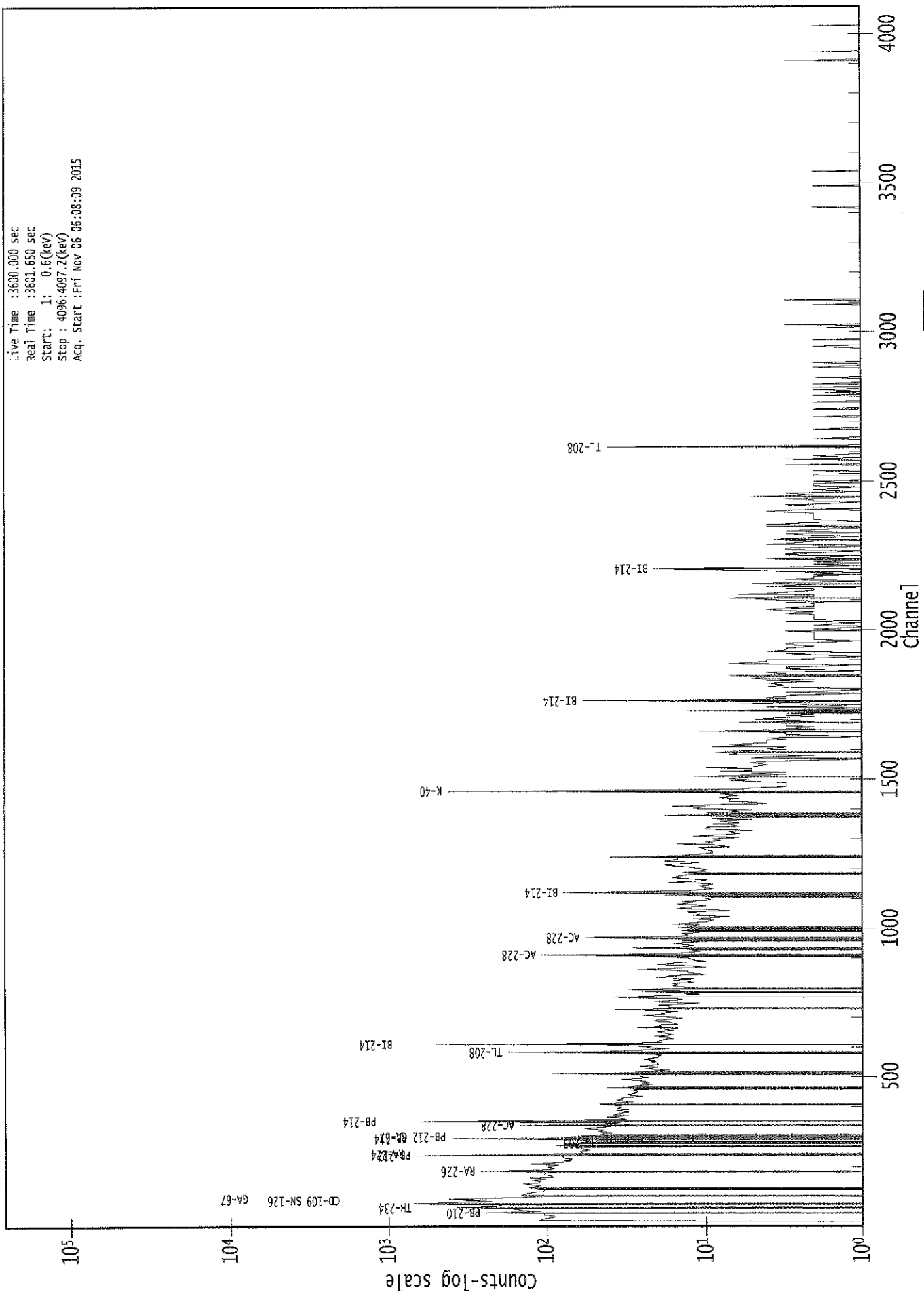
3825: 0 0 0 0 0 0 0 0

Sample Title: CP5007S01-02

| Channel | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---------|---|---|---|---|---|---|---|---|
| 3833: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3873: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3889: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3921: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3985: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4065: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 4073: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029233.CNF

Live Time : 3600.000 sec
Real Time : 3601.650 sec
Start: 1: 0.6(keV)
Stop : 4096:4097.2(keV)
Acq. Start : Fri Nov 06 06:08:09 2015



ROI Type: 1

ROI Type: 2

Analysis Report for 1510085-04
CP5007S01-02

1116

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-04
Sample Description : CP5007S01-02
Sample Type : SOIL

Sample Size : 6.363E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:36:42AM
Acquisition Started : 11/6/2015 7:10:48AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE1
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.6 seconds

Dead Time : 0.05 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 19 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29238

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-04
CP5007S01-02

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 8:10:55AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 46.34 | 46.69 | 0.0000 | 0.00 |
| 2 | 63.55 | 63.89 | 0.0000 | 0.00 |
| 3 | 74.94 | 75.28 | 0.0000 | 0.00 |
| 4 | 77.49 | 77.84 | 0.0000 | 0.00 |
| 5 | 87.80 | 88.13 | 0.0000 | 0.00 |
| 6 | 92.53 | 92.86 | 0.0000 | 0.00 |
| 7 | 113.51 | 113.84 | 0.0000 | 0.00 |
| 8 | 186.12 | 186.43 | 0.0000 | 0.00 |
| 9 | 208.99 | 209.28 | 0.0000 | 0.00 |
| 10 | 238.56 | 238.85 | 0.0000 | 0.00 |
| 11 | 241.76 | 242.05 | 0.0000 | 0.00 |
| 12 | 249.45 | 249.73 | 0.0000 | 0.00 |
| 13 | 258.39 | 258.67 | 0.0000 | 0.00 |
| 14 | 269.97 | 270.24 | 0.0000 | 0.00 |
| 15 | 295.45 | 295.72 | 0.0000 | 0.00 |
| 16 | 300.33 | 300.60 | 0.0000 | 0.00 |
| 17 | 328.54 | 328.80 | 0.0000 | 0.00 |
| 18 | 338.58 | 338.84 | 0.0000 | 0.00 |
| 19 | 352.04 | 352.28 | 0.0000 | 0.00 |
| 20 | 410.52 | 410.75 | 0.0000 | 0.00 |
| 21 | 462.96 | 463.17 | 0.0000 | 0.00 |
| 22 | 511.51 | 511.71 | 0.0000 | 0.00 |
| 23 | 546.66 | 546.84 | 0.0000 | 0.00 |
| 24 | 563.36 | 563.53 | 0.0000 | 0.00 |
| 25 | 583.41 | 583.58 | 0.0000 | 0.00 |
| 26 | 609.49 | 609.65 | 0.0000 | 0.00 |
| 27 | 727.47 | 727.59 | 0.0000 | 0.00 |
| 28 | 768.56 | 768.66 | 0.0000 | 0.00 |
| 29 | 772.88 | 772.98 | 0.0000 | 0.00 |
| 30 | 781.82 | 781.92 | 0.0000 | 0.00 |
| 31 | 786.30 | 786.40 | 0.0000 | 0.00 |
| 32 | 795.54 | 795.64 | 0.0000 | 0.00 |
| 33 | 805.67 | 805.76 | 0.0000 | 0.00 |
| 34 | 820.55 | 820.64 | 0.0000 | 0.00 |
| 35 | 840.32 | 840.40 | 0.0000 | 0.00 |
| 36 | 862.02 | 862.09 | 0.0000 | 0.00 |
| 37 | 874.34 | 874.41 | 0.0000 | 0.00 |
| 38 | 911.89 | 911.94 | 0.0000 | 0.00 |
| 39 | 934.37 | 934.41 | 0.0000 | 0.00 |
| 40 | 938.73 | 938.78 | 0.0000 | 0.00 |
| 41 | 969.49 | 969.53 | 0.0000 | 0.00 |
| 42 | 1120.98 | 1120.96 | 0.0000 | 0.00 |

Analysis Report for 1510085-04
CP5007S01-02

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1158.87 | 1158.83 | 0.0000 | 0.00 |
| 44 | 1239.08 | 1239.02 | 0.0000 | 0.00 |
| 45 | 1281.38 | 1281.30 | 0.0000 | 0.00 |
| 46 | 1316.09 | 1316.00 | 0.0000 | 0.00 |
| 47 | 1378.33 | 1378.22 | 0.0000 | 0.00 |
| 48 | 1384.90 | 1384.78 | 0.0000 | 0.00 |
| 49 | 1408.33 | 1408.21 | 0.0000 | 0.00 |
| 50 | 1461.42 | 1461.28 | 0.0000 | 0.00 |
| 51 | 1502.12 | 1501.96 | 0.0000 | 0.00 |
| 52 | 1510.16 | 1510.00 | 0.0000 | 0.00 |
| 53 | 1512.70 | 1512.53 | 0.0000 | 0.00 |
| 54 | 1542.55 | 1542.37 | 0.0000 | 0.00 |
| 55 | 1587.66 | 1587.47 | 0.0000 | 0.00 |
| 56 | 1593.69 | 1593.49 | 0.0000 | 0.00 |
| 57 | 1660.79 | 1660.57 | 0.0000 | 0.00 |
| 58 | 1685.36 | 1685.14 | 0.0000 | 0.00 |
| 59 | 1725.24 | 1725.00 | 0.0000 | 0.00 |
| 60 | 1730.01 | 1729.77 | 0.0000 | 0.00 |
| 61 | 1765.08 | 1764.83 | 0.0000 | 0.00 |
| 62 | 1849.80 | 1849.51 | 0.0000 | 0.00 |
| 63 | 2105.83 | 2105.45 | 0.0000 | 0.00 |
| 64 | 2119.57 | 2119.18 | 0.0000 | 0.00 |
| 65 | 2205.11 | 2204.69 | 0.0000 | 0.00 |
| 66 | 2448.74 | 2448.22 | 0.0000 | 0.00 |
| 67 | 2615.34 | 2614.76 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-04

CP5007S01-02

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 8:10:55AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| | 1 | 43 - | 49 | 46.69 | 1.82E+02 | 92.44 | 1.43E+03 | 1.16 |
| | 2 | 59 - | 68 | 63.89 | 2.50E+02 | 157.04 | 3.39E+03 | 1.43 |
| M | 3 | 72 - | 83 | 75.28 | 5.77E+02 | 111.74 | 1.86E+03 | 1.60 |
| m | 4 | 72 - | 83 | 77.84 | 9.54E+02 | 119.89 | 1.79E+03 | 1.61 |
| m | 5 | 83 - | 97 | 88.13 | 3.09E+02 | 76.11 | 1.14E+03 | 1.48 |
| m | 6 | 83 - | 97 | 92.86 | 4.18E+02 | 81.76 | 9.80E+02 | 1.49 |
| | 7 | 111 - | 117 | 113.84 | 9.95E+01 | 92.03 | 1.46E+03 | 1.63 |
| | 8 | 183 - | 190 | 186.43 | 3.16E+02 | 99.56 | 1.44E+03 | 1.89 |
| | 9 | 207 - | 212 | 209.28 | 7.70E+01 | 67.22 | 8.32E+02 | 1.59 |
| M | 10 | 233 - | 246 | 238.85 | 1.03E+03 | 81.59 | 5.57E+02 | 1.68 |
| m | 11 | 233 - | 246 | 242.05 | 2.94E+02 | 68.33 | 4.77E+02 | 1.68 |
| | 12 | 247 - | 254 | 249.73 | 6.74E+01 | 66.99 | 7.01E+02 | 2.73 |
| | 13 | 254 - | 263 | 258.67 | 9.90E+01 | 79.66 | 8.50E+02 | 3.74 |
| M | 14 | 267 - | 273 | 270.24 | 1.39E+02 | 59.69 | 5.48E+02 | 1.40 |
| m | 15 | 292 - | 304 | 295.72 | 6.87E+02 | 66.48 | 4.35E+02 | 1.76 |
| m | 16 | 292 - | 304 | 300.60 | 8.57E+01 | 66.24 | 5.84E+02 | 2.55 |
| | 17 | 326 - | 332 | 328.80 | 5.70E+01 | 53.92 | 4.82E+02 | 1.58 |
| | 18 | 335 - | 343 | 338.84 | 1.87E+02 | 66.11 | 5.56E+02 | 1.43 |
| | 19 | 347 - | 357 | 352.28 | 1.12E+03 | 97.05 | 6.59E+02 | 1.85 |
| | 20 | 407 - | 414 | 410.75 | 6.05E+01 | 51.34 | 3.97E+02 | 2.30 |
| | 21 | 460 - | 467 | 463.17 | 6.59E+01 | 45.39 | 2.98E+02 | 1.51 |
| | 22 | 506 - | 517 | 511.71 | 1.90E+02 | 66.72 | 4.60E+02 | 1.88 |
| | 23 | 544 - | 550 | 546.84 | 2.70E+01 | 34.44 | 1.96E+02 | 2.48 |
| | 24 | 558 - | 567 | 563.53 | 3.82E+01 | 45.19 | 2.70E+02 | 3.71 |
| | 25 | 579 - | 588 | 583.58 | 2.85E+02 | 56.92 | 3.01E+02 | 1.62 |
| | 26 | 604 - | 615 | 609.65 | 8.22E+02 | 76.39 | 3.20E+02 | 1.86 |
| | 27 | 724 - | 731 | 727.59 | 6.58E+01 | 36.00 | 1.72E+02 | 2.54 |
| M | 28 | 764 - | 776 | 768.66 | 8.93E+01 | 35.61 | 1.78E+02 | 2.28 |
| m | 29 | 764 - | 776 | 772.98 | 2.86E+01 | 32.37 | 1.35E+02 | 2.29 |
| M | 30 | 780 - | 790 | 781.92 | 1.61E+01 | 16.01 | 6.66E+01 | 2.29 |
| m | 31 | 780 - | 790 | 786.40 | 3.50E+01 | 30.10 | 1.39E+02 | 2.29 |
| | 32 | 792 - | 799 | 795.64 | 3.46E+01 | 33.82 | 1.67E+02 | 1.21 |
| | 33 | 802 - | 810 | 805.76 | 3.07E+01 | 31.23 | 1.33E+02 | 1.76 |
| | 34 | 818 - | 823 | 820.64 | 2.59E+01 | 24.86 | 1.04E+02 | 3.08 |
| | 35 | 835 - | 845 | 840.40 | 4.32E+01 | 41.95 | 2.04E+02 | 3.20 |
| | 36 | 858 - | 869 | 862.09 | 8.50E+01 | 41.04 | 1.68E+02 | 3.20 |
| | 37 | 871 - | 878 | 874.41 | 2.48E+01 | 28.21 | 1.16E+02 | 4.65 |
| | 38 | 908 - | 917 | 911.94 | 2.10E+02 | 46.32 | 1.78E+02 | 1.81 |
| M | 39 | 928 - | 941 | 934.41 | 4.40E+01 | 27.47 | 9.14E+01 | 2.38 |
| m | 40 | 928 - | 941 | 938.78 | 2.13E+01 | 26.66 | 1.14E+02 | 2.39 |

Analysis Report for 1510085-04

CP5007S01-02

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) | |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|------|
| 41 | 969.49 | 966 - | 972 | 969.53 | 9.00E+01 | 40.61 | 2.22E+02 | 1.88 | |
| 42 | 1120.98 | 1116 - | 1125 | 1120.96 | 1.87E+02 | 42.84 | 1.55E+02 | 1.80 | |
| 43 | 1158.87 | 1152 - | 1166 | 1158.83 | 4.11E+01 | 47.95 | 2.24E+02 | 9.14 | |
| 44 | 1239.08 | 1234 - | 1244 | 1239.02 | 7.51E+01 | 40.20 | 1.74E+02 | 2.25 | |
| 45 | 1281.38 | 1276 - | 1285 | 1281.30 | 3.49E+01 | 28.77 | 9.43E+01 | 5.35 | |
| 46 | 1316.09 | 1314 - | 1319 | 1316.00 | 1.30E+01 | 16.19 | 4.20E+01 | 2.56 | |
| M | 47 | 1378.33 | 1373 - | 1387 | 1378.22 | 5.45E+01 | 21.89 | 4.20E+01 | 2.38 |
| m | 48 | 1384.90 | 1373 - | 1387 | 1384.78 | 1.82E+01 | 16.70 | 4.20E+01 | 2.38 |
| 49 | 1408.33 | 1404 - | 1413 | 1408.21 | 3.32E+01 | 22.78 | 5.56E+01 | 1.89 | |
| 50 | 1461.42 | 1456 - | 1466 | 1461.28 | 8.15E+02 | 62.27 | 8.27E+01 | 2.13 | |
| M | 51 | 1502.12 | 1499 - | 1521 | 1501.96 | 1.82E+01 | 13.49 | 2.80E+01 | 2.94 |
| m | 52 | 1510.16 | 1499 - | 1521 | 1510.00 | 2.57E+01 | 17.38 | 2.80E+01 | 2.21 |
| m | 53 | 1512.70 | 1499 - | 1521 | 1512.53 | 1.83E+01 | 18.76 | 3.20E+01 | 2.68 |
| 54 | 1542.55 | 1535 - | 1550 | 1542.37 | 4.21E+01 | 22.00 | 2.98E+01 | 9.77 | |
| M | 55 | 1587.66 | 1584 - | 1596 | 1587.47 | 1.03E+01 | 14.14 | 3.11E+01 | 2.71 |
| m | 56 | 1593.69 | 1584 - | 1596 | 1593.49 | 2.61E+01 | 14.56 | 1.63E+01 | 3.22 |
| 57 | 1660.79 | 1656 - | 1664 | 1660.57 | 1.43E+01 | 12.03 | 1.34E+01 | 1.68 | |
| 58 | 1685.36 | 1682 - | 1687 | 1685.14 | 7.57E+00 | 10.05 | 1.29E+01 | 1.09 | |
| M | 59 | 1725.24 | 1724 - | 1734 | 1725.00 | 5.98E+00 | 4.77 | 3.19E+00 | 2.29 |
| m | 60 | 1730.01 | 1724 - | 1734 | 1729.77 | 2.20E+01 | 13.56 | 1.25E+01 | 2.52 |
| 61 | 1765.08 | 1759 - | 1770 | 1764.83 | 1.52E+02 | 29.12 | 3.02E+01 | 1.94 | |
| 62 | 1849.80 | 1843 - | 1855 | 1849.51 | 1.99E+01 | 20.14 | 3.63E+01 | 2.64 | |
| 63 | 2105.83 | 2099 - | 2111 | 2105.45 | 2.69E+01 | 12.74 | 6.23E+00 | 8.65 | |
| 64 | 2119.57 | 2115 - | 2122 | 2119.18 | 1.10E+01 | 11.66 | 1.40E+01 | 1.58 | |
| 65 | 2205.11 | 2198 - | 2210 | 2204.69 | 4.13E+01 | 18.19 | 1.94E+01 | 2.32 | |
| 66 | 2448.74 | 2444 - | 2451 | 2448.22 | 1.20E+01 | 9.80 | 8.00E+00 | 1.93 | |
| 67 | 2615.34 | 2610 - | 2619 | 2614.76 | 1.07E+02 | 20.69 | 0.00E+00 | 2.54 | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 8:10:55AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 1 | 46.34 | 43 - | 49 | 1.82E+02 | 92.44 | 1.43E+03 | 7.27E+01 |

: 00440

Analysis Report for 1510085-04

CP5007S01-02

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| | 2 | 63.55 | 59 - | 68 | 2.50E+02 | 157.04 | 3.39E+03 | 1.26E+02 |
| M | 3 | 74.94 | 72 - | 83 | 5.77E+02 | 111.74 | 1.86E+03 | 7.08E+01 |
| m | 4 | 77.49 | 72 - | 83 | 9.54E+02 | 119.89 | 1.79E+03 | 6.96E+01 |
| m | 5 | 87.80 | 83 - | 97 | 3.09E+02 | 76.11 | 1.14E+03 | 5.55E+01 |
| m | 6 | 92.53 | 83 - | 97 | 4.18E+02 | 81.76 | 9.80E+02 | 5.15E+01 |
| | 7 | 113.51 | 111 - | 117 | 9.95E+01 | 92.03 | 1.46E+03 | 7.38E+01 |
| | 8 | 186.12 | 183 - | 190 | 3.16E+02 | 99.56 | 1.44E+03 | 7.64E+01 |
| | 9 | 208.99 | 207 - | 212 | 7.70E+01 | 67.22 | 8.32E+02 | 5.33E+01 |
| M | 10 | 238.56 | 233 - | 246 | 1.03E+03 | 81.59 | 5.57E+02 | 3.88E+01 |
| m | 11 | 241.76 | 233 - | 246 | 2.94E+02 | 68.33 | 4.77E+02 | 3.59E+01 |
| | 12 | 249.45 | 247 - | 254 | 6.74E+01 | 66.99 | 7.01E+02 | 5.34E+01 |
| | 13 | 258.39 | 254 - | 263 | 9.90E+01 | 79.66 | 8.50E+02 | 6.34E+01 |
| | 14 | 269.97 | 267 - | 273 | 1.39E+02 | 59.69 | 5.48E+02 | 4.51E+01 |
| M | 15 | 295.45 | 292 - | 304 | 6.87E+02 | 66.48 | 4.35E+02 | 3.43E+01 |
| m | 16 | 300.33 | 292 - | 304 | 8.57E+01 | 66.24 | 5.84E+02 | 3.97E+01 |
| | 17 | 328.54 | 326 - | 332 | 5.70E+01 | 53.92 | 4.82E+02 | 4.25E+01 |
| | 18 | 338.58 | 335 - | 343 | 1.87E+02 | 66.11 | 5.56E+02 | 4.95E+01 |
| | 19 | 352.04 | 347 - | 357 | 1.12E+03 | 97.05 | 6.59E+02 | 5.78E+01 |
| | 20 | 410.52 | 407 - | 414 | 6.05E+01 | 51.34 | 3.97E+02 | 4.02E+01 |
| | 21 | 462.96 | 460 - | 467 | 6.59E+01 | 45.39 | 2.98E+02 | 3.48E+01 |
| | 22 | 511.51 | 506 - | 517 | 1.90E+02 | 66.72 | 4.60E+02 | 4.99E+01 |
| | 23 | 546.66 | 544 - | 550 | 2.70E+01 | 34.44 | 1.96E+02 | 2.70E+01 |
| | 24 | 563.36 | 558 - | 567 | 3.82E+01 | 45.19 | 2.70E+02 | 3.57E+01 |
| | 25 | 583.41 | 579 - | 588 | 2.85E+02 | 56.92 | 3.01E+02 | 3.77E+01 |
| | 26 | 609.49 | 604 - | 615 | 8.22E+02 | 76.39 | 3.20E+02 | 4.15E+01 |
| | 27 | 727.47 | 724 - | 731 | 6.58E+01 | 36.00 | 1.72E+02 | 2.64E+01 |
| M | 28 | 768.56 | 764 - | 776 | 8.93E+01 | 35.61 | 1.78E+02 | 2.20E+01 |
| m | 29 | 772.88 | 764 - | 776 | 2.86E+01 | 32.37 | 1.35E+02 | 1.91E+01 |
| M | 30 | 781.82 | 780 - | 790 | 1.61E+01 | 16.01 | 6.66E+01 | 1.34E+01 |
| m | 31 | 786.30 | 780 - | 790 | 3.50E+01 | 30.10 | 1.39E+02 | 1.94E+01 |
| | 32 | 795.54 | 792 - | 799 | 3.46E+01 | 33.82 | 1.67E+02 | 2.61E+01 |
| | 33 | 805.67 | 802 - | 810 | 3.07E+01 | 31.23 | 1.33E+02 | 2.40E+01 |
| | 34 | 820.55 | 818 - | 823 | 2.59E+01 | 24.86 | 1.04E+02 | 1.86E+01 |
| | 35 | 840.32 | 835 - | 845 | 4.32E+01 | 41.95 | 2.04E+02 | 3.27E+01 |
| | 36 | 862.02 | 858 - | 869 | 8.50E+01 | 41.04 | 1.68E+02 | 3.01E+01 |
| | 37 | 874.34 | 871 - | 878 | 2.48E+01 | 28.21 | 1.16E+02 | 2.17E+01 |
| | 38 | 911.89 | 908 - | 917 | 2.10E+02 | 46.32 | 1.78E+02 | 2.97E+01 |
| M | 39 | 934.37 | 928 - | 941 | 4.40E+01 | 27.47 | 9.14E+01 | 1.57E+01 |
| m | 40 | 938.73 | 928 - | 941 | 2.13E+01 | 26.66 | 1.14E+02 | 1.76E+01 |
| | 41 | 969.49 | 966 - | 972 | 9.00E+01 | 40.61 | 2.22E+02 | 2.95E+01 |
| | 42 | 1120.98 | 1116 - | 1125 | 1.87E+02 | 42.84 | 1.55E+02 | 2.71E+01 |
| | 43 | 1158.87 | 1152 - | 1166 | 4.11E+01 | 47.95 | 2.24E+02 | 3.80E+01 |
| | 44 | 1239.08 | 1234 - | 1244 | 7.51E+01 | 40.20 | 1.74E+02 | 2.98E+01 |
| | 45 | 1281.38 | 1276 - | 1285 | 3.49E+01 | 28.77 | 9.43E+01 | 2.16E+01 |
| | 46 | 1316.09 | 1314 - | 1319 | 1.30E+01 | 16.19 | 4.20E+01 | 1.19E+01 |
| M | 47 | 1378.33 | 1373 - | 1387 | 5.45E+01 | 21.89 | 4.20E+01 | 1.07E+01 |
| m | 48 | 1384.90 | 1373 - | 1387 | 1.82E+01 | 16.70 | 4.20E+01 | 1.07E+01 |
| | 49 | 1408.33 | 1404 - | 1413 | 3.32E+01 | 22.78 | 5.56E+01 | 1.62E+01 |
| | 50 | 1461.42 | 1456 - | 1466 | 8.15E+02 | 62.27 | 8.27E+01 | 2.05E+01 |
| M | 51 | 1502.12 | 1499 - | 1521 | 1.82E+01 | 13.49 | 2.80E+01 | 8.70E+00 |
| m | 52 | 1510.16 | 1499 - | 1521 | 2.57E+01 | 17.38 | 2.80E+01 | 8.70E+00 |

Analysis Report for 1510085-04

CP5007S01-02

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| m | 53 | 1512.70 | 1499 - | 1521 | 1.83E+01 | 18.76 | 3.20E+01 | 9.30E+00 |
| | 54 | 1542.55 | 1535 - | 1550 | 4.21E+01 | 22.00 | 2.98E+01 | 1.46E+01 |
| M | 55 | 1587.66 | 1584 - | 1596 | 1.03E+01 | 14.14 | 3.11E+01 | 9.17E+00 |
| m | 56 | 1593.69 | 1584 - | 1596 | 2.61E+01 | 14.56 | 1.63E+01 | 6.63E+00 |
| | 57 | 1660.79 | 1656 - | 1664 | 1.43E+01 | 12.03 | 1.34E+01 | 7.69E+00 |
| | 58 | 1685.36 | 1682 - | 1687 | 7.57E+00 | 10.05 | 1.29E+01 | 6.91E+00 |
| M | 59 | 1725.24 | 1724 - | 1734 | 5.98E+00 | 4.77 | 3.19E+00 | 2.94E+00 |
| m | 60 | 1730.01 | 1724 - | 1734 | 2.20E+01 | 13.56 | 1.25E+01 | 5.82E+00 |
| | 61 | 1765.08 | 1759 - | 1770 | 1.52E+02 | 29.12 | 3.02E+01 | 1.27E+01 |
| | 62 | 1849.80 | 1843 - | 1855 | 1.99E+01 | 20.14 | 3.63E+01 | 1.48E+01 |
| | 63 | 2105.83 | 2099 - | 2111 | 2.69E+01 | 12.74 | 6.23E+00 | 6.08E+00 |
| | 64 | 2119.57 | 2115 - | 2122 | 1.10E+01 | 11.66 | 1.40E+01 | 7.88E+00 |
| | 65 | 2205.11 | 2198 - | 2210 | 4.13E+01 | 18.19 | 1.94E+01 | 1.06E+01 |
| | 66 | 2448.74 | 2444 - | 2451 | 1.20E+01 | 9.80 | 8.00E+00 | 5.70E+00 |
| | 67 | 2615.34 | 2610 - | 2619 | 1.07E+02 | 20.69 | 0.00E+00 | 0.00E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 8:10:55AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|-----------------|---------------------|------------------|----------------|----------------------|----------------------|-----------------------------|-------------------------|----------------------------|
| | 1 | 46.34 | 43 - | 49 | 46.69 | 1.82E+02 | 92.44 | 1.43E+03 | PB-210 |
| | 2 | 63.55 | 59 - | 68 | 63.89 | 2.50E+02 | 157.04 | 3.39E+03 | TH-234 TH-230 |
| M | 3 | 74.94 | 72 - | 83 | 75.28 | 5.77E+02 | 111.74 | 1.86E+03 | AM-243 |
| m | 4 | 77.49 | 72 - | 83 | 77.84 | 9.54E+02 | 119.89 | 1.79E+03 | TI-44 |
| m | 5 | 87.80 | 83 - | 97 | 88.13 | 3.09E+02 | 76.11 | 1.14E+03 | SN-126 CD-109 LU-176 |
| m | 6 | 92.53 | 83 - | 97 | 92.86 | 4.18E+02 | 81.76 | 9.80E+02 | GA-67 |
| | 7 | 113.51 | 111 - | 117 | 113.84 | 9.95E+01 | 92.03 | 1.46E+03 | ..... |

Analysis Report for 1510085-04

CP5007S01-02

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| | 8 | 186.12 | 183 - | 190 | 186.43 | 3.16E+02 | 99.56 | 1.44E+03 | RA-226 |
| | 9 | 208.99 | 207 - | 212 | 209.28 | 7.70E+01 | 67.22 | 8.32E+02 | GA-67 |
| | | | | | | | | | CM-243 |
| M | 10 | 238.56 | 233 - | 246 | 238.85 | 1.03E+03 | 81.59 | 5.57E+02 | PB-212 |
| m | 11 | 241.76 | 233 - | 246 | 242.05 | 2.94E+02 | 68.33 | 4.77E+02 | RA-224 |
| | 12 | 249.45 | 247 - | 254 | 249.73 | 6.74E+01 | 66.99 | 7.01E+02 | ..... |
| | 13 | 258.39 | 254 - | 263 | 258.67 | 9.90E+01 | 79.66 | 8.50E+02 | ..... |
| | 14 | 269.97 | 267 - | 273 | 270.24 | 1.39E+02 | 59.69 | 5.48E+02 | ..... |
| M | 15 | 295.45 | 292 - | 304 | 295.72 | 6.87E+02 | 66.48 | 4.35E+02 | PB-214 |
| m | 16 | 300.33 | 292 - | 304 | 300.60 | 8.57E+01 | 66.24 | 5.84E+02 | GA-67 |
| | | | | | | | | | PB-212 |
| | | | | | | | | | BI-210M |
| | 17 | 328.54 | 326 - | 332 | 328.80 | 5.70E+01 | 53.92 | 4.82E+02 | LA-140 |
| | 18 | 338.58 | 335 - | 343 | 338.84 | 1.87E+02 | 66.11 | 5.56E+02 | AC-228 |
| | 19 | 352.04 | 347 - | 357 | 352.28 | 1.12E+03 | 97.05 | 6.59E+02 | PB-214 |
| | 20 | 410.52 | 407 - | 414 | 410.75 | 6.05E+01 | 51.34 | 3.97E+02 | HO-166M |
| | 21 | 462.96 | 460 - | 467 | 463.17 | 6.59E+01 | 45.39 | 2.98E+02 | SB-125 |
| | 22 | 511.51 | 506 - | 517 | 511.71 | 1.90E+02 | 66.72 | 4.60E+02 | ..... |
| | 23 | 546.66 | 544 - | 550 | 546.84 | 2.70E+01 | 34.44 | 1.96E+02 | ..... |
| | 24 | 563.36 | 558 - | 567 | 563.53 | 3.82E+01 | 45.19 | 2.70E+02 | CS-134 |
| | 25 | 583.41 | 579 - | 588 | 583.58 | 2.85E+02 | 56.92 | 3.01E+02 | TL-208 |
| | 26 | 609.49 | 604 - | 615 | 609.65 | 8.22E+02 | 76.39 | 3.20E+02 | BI-214 |
| | 27 | 727.47 | 724 - | 731 | 727.59 | 6.58E+01 | 36.00 | 1.72E+02 | BI-212 |
| M | 28 | 768.56 | 764 - | 776 | 768.66 | 8.93E+01 | 35.61 | 1.78E+02 | ..... |
| m | 29 | 772.88 | 764 - | 776 | 772.98 | 2.86E+01 | 32.37 | 1.35E+02 | ..... |
| M | 30 | 781.82 | 780 - | 790 | 781.92 | 1.61E+01 | 16.01 | 6.66E+01 | ..... |
| m | 31 | 786.30 | 780 - | 790 | 786.40 | 3.50E+01 | 30.10 | 1.39E+02 | ..... |
| | 32 | 795.54 | 792 - | 799 | 795.64 | 3.46E+01 | 33.82 | 1.67E+02 | CS-134 |
| | 33 | 805.67 | 802 - | 810 | 805.76 | 3.07E+01 | 31.23 | 1.33E+02 | ..... |
| | 34 | 820.55 | 818 - | 823 | 820.64 | 2.59E+01 | 24.86 | 1.04E+02 | ..... |
| | 35 | 840.32 | 835 - | 845 | 840.40 | 4.32E+01 | 41.95 | 2.04E+02 | ..... |
| | 36 | 862.02 | 858 - | 869 | 862.09 | 8.50E+01 | 41.04 | 1.68E+02 | ..... |
| | 37 | 874.34 | 871 - | 878 | 874.41 | 2.48E+01 | 28.21 | 1.16E+02 | ..... |
| | 38 | 911.89 | 908 - | 917 | 911.94 | 2.10E+02 | 46.32 | 1.78E+02 | LU-172 |
| | | | | | | | | | AC-228 |
| M | 39 | 934.37 | 928 - | 941 | 934.41 | 4.40E+01 | 27.47 | 9.14E+01 | ..... |
| m | 40 | 938.73 | 928 - | 941 | 938.78 | 2.13E+01 | 26.66 | 1.14E+02 | ..... |
| | 41 | 969.49 | 966 - | 972 | 969.53 | 9.00E+01 | 40.61 | 2.22E+02 | AC-228 |
| | 42 | 1120.98 | 1116 - | 1125 | 1120.96 | 1.87E+02 | 42.84 | 1.55E+02 | TA-182 |
| | | | | | | | | | SC-46 |
| | | | | | | | | | BI-214 |
| | 43 | 1158.87 | 1152 - | 1166 | 1158.83 | 4.11E+01 | 47.95 | 2.24E+02 | ..... |
| | 44 | 1239.08 | 1234 - | 1244 | 1239.02 | 7.51E+01 | 40.20 | 1.74E+02 | CO-56 |
| | 45 | 1281.38 | 1276 - | 1285 | 1281.30 | 3.49E+01 | 28.77 | 9.43E+01 | ..... |
| | 46 | 1316.09 | 1314 - | 1319 | 1316.00 | 1.30E+01 | 16.19 | 4.20E+01 | ..... |
| M | 47 | 1378.33 | 1373 - | 1387 | 1378.22 | 5.45E+01 | 21.89 | 4.20E+01 | ..... |
| m | 48 | 1384.90 | 1373 - | 1387 | 1384.78 | 1.82E+01 | 16.70 | 4.20E+01 | AG-110M |
| | 49 | 1408.33 | 1404 - | 1413 | 1408.21 | 3.32E+01 | 22.78 | 5.56E+01 | EU-152 |
| | 50 | 1461.42 | 1456 - | 1466 | 1461.28 | 8.15E+02 | 62.27 | 8.27E+01 | K-40 |
| M | 51 | 1502.12 | 1499 - | 1521 | 1501.96 | 1.82E+01 | 13.49 | 2.80E+01 | ..... |
| m | 52 | 1510.16 | 1499 - | 1521 | 1510.00 | 2.57E+01 | 17.38 | 2.80E+01 | ..... |
| m | 53 | 1512.70 | 1499 - | 1521 | 1512.53 | 1.83E+01 | 18.76 | 3.20E+01 | ..... |
| | 54 | 1542.55 | 1535 - | 1550 | 1542.37 | 4.21E+01 | 22.00 | 2.98E+01 | ..... |
| M | 55 | 1587.66 | 1584 - | 1596 | 1587.47 | 1.03E+01 | 14.14 | 3.11E+01 | ..... |

Analysis Report for 1510085-04

CP5007S01-02

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| m | 56 | 1593.69 | 1584 - | 1596 | 1593.49 | 2.61E+01 | 14.56 | 1.63E+01 | ..... |
| | 57 | 1660.79 | 1656 - | 1664 | 1660.57 | 1.43E+01 | 12.03 | 1.34E+01 | ..... |
| | 58 | 1685.36 | 1682 - | 1687 | 1685.14 | 7.57E+00 | 10.05 | 1.29E+01 | ..... |
| M | 59 | 1725.24 | 1724 - | 1734 | 1725.00 | 5.98E+00 | 4.77 | 3.19E+00 | ..... |
| m | 60 | 1730.01 | 1724 - | 1734 | 1729.77 | 2.20E+01 | 13.56 | 1.25E+01 | ..... |
| | 61 | 1765.08 | 1759 - | 1770 | 1764.83 | 1.52E+02 | 29.12 | 3.02E+01 | BI-214 |
| | 62 | 1849.80 | 1843 - | 1855 | 1849.51 | 1.99E+01 | 20.14 | 3.63E+01 | ..... |
| | 63 | 2105.83 | 2099 - | 2111 | 2105.45 | 2.69E+01 | 12.74 | 6.23E+00 | ..... |
| | 64 | 2119.57 | 2115 - | 2122 | 2119.18 | 1.10E+01 | 11.66 | 1.40E+01 | ..... |
| | 65 | 2205.11 | 2198 - | 2210 | 2204.69 | 4.13E+01 | 18.19 | 1.94E+01 | BI-214 |
| | 66 | 2448.74 | 2444 - | 2451 | 2448.22 | 1.20E+01 | 9.80 | 8.00E+00 | ..... |
| | 67 | 2615.34 | 2610 - | 2619 | 2614.76 | 1.07E+02 | 20.69 | 0.00E+00 | TL-208 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 8:10:55AM

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|----------|--------------|---------------|----------------------|-----------------|------------------------|
| | 1 | 46.34 | 1.82E+02 | 92.44 | 1.67E-02 | 1.78E-03 |
| | 2 | 63.55 | 2.50E+02 | 157.04 | 2.50E-02 | 1.92E-03 |
| M | 3 | 74.94 | 5.77E+02 | 111.74 | 2.75E-02 | 2.30E-03 |
| m | 4 | 77.49 | 9.54E+02 | 119.89 | 2.78E-02 | 2.39E-03 |
| m | 5 | 87.80 | 3.09E+02 | 76.11 | 2.85E-02 | 2.73E-03 |
| m | 6 | 92.53 | 4.18E+02 | 81.76 | 2.86E-02 | 2.65E-03 |
| | 7 | 113.51 | 9.95E+01 | 92.03 | 2.78E-02 | 2.24E-03 |
| | 8 | 186.12 | 3.16E+02 | 99.56 | 2.24E-02 | 2.03E-03 |
| | 9 | 208.99 | 7.70E+01 | 67.22 | 2.09E-02 | 1.86E-03 |
| M | 10 | 238.56 | 1.03E+03 | 81.59 | 1.92E-02 | 1.64E-03 |
| m | 11 | 241.76 | 2.94E+02 | 68.33 | 1.91E-02 | 1.62E-03 |
| | 12 | 249.45 | 6.74E+01 | 66.99 | 1.87E-02 | 1.56E-03 |
| | 13 | 258.39 | 9.90E+01 | 79.66 | 1.82E-02 | 1.49E-03 |
| | 14 | 269.97 | 1.39E+02 | 59.69 | 1.77E-02 | 1.41E-03 |
| M | 15 | 295.45 | 6.87E+02 | 66.48 | 1.67E-02 | 1.31E-03 |
| m | 16 | 300.33 | 8.57E+01 | 66.24 | 1.65E-02 | 1.30E-03 |
| | 17 | 328.54 | 5.70E+01 | 53.92 | 1.55E-02 | 1.24E-03 |
| | 18 | 338.58 | 1.87E+02 | 66.11 | 1.52E-02 | 1.22E-03 |

Analysis Report for 1510085-04
CP5007S01-02

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 19 | 352.04 | 1.12E+03 | 97.05 | 1.48E-02 | 1.19E-03 |
| | 20 | 410.52 | 6.05E+01 | 51.34 | 1.32E-02 | 1.09E-03 |
| | 21 | 462.96 | 6.59E+01 | 45.39 | 1.21E-02 | 1.04E-03 |
| | 22 | 511.51 | 1.90E+02 | 66.72 | 1.12E-02 | 9.90E-04 |
| | 23 | 546.66 | 2.70E+01 | 34.44 | 1.07E-02 | 9.53E-04 |
| | 24 | 563.36 | 3.82E+01 | 45.19 | 1.04E-02 | 9.36E-04 |
| | 25 | 583.41 | 2.85E+02 | 56.92 | 1.02E-02 | 9.15E-04 |
| | 26 | 609.49 | 8.22E+02 | 76.39 | 9.82E-03 | 8.88E-04 |
| | 27 | 727.47 | 6.58E+01 | 36.00 | 8.55E-03 | 7.75E-04 |
| M | 28 | 768.56 | 8.93E+01 | 35.61 | 8.19E-03 | 7.38E-04 |
| m | 29 | 772.88 | 2.86E+01 | 32.37 | 8.15E-03 | 7.35E-04 |
| M | 30 | 781.82 | 1.61E+01 | 16.01 | 8.08E-03 | 7.26E-04 |
| m | 31 | 786.30 | 3.50E+01 | 30.10 | 8.04E-03 | 7.22E-04 |
| | 32 | 795.54 | 3.46E+01 | 33.82 | 7.97E-03 | 7.14E-04 |
| | 33 | 805.67 | 3.07E+01 | 31.23 | 7.89E-03 | 7.05E-04 |
| | 34 | 820.55 | 2.59E+01 | 24.86 | 7.77E-03 | 6.92E-04 |
| | 35 | 840.32 | 4.32E+01 | 41.95 | 7.63E-03 | 6.74E-04 |
| | 36 | 862.02 | 8.50E+01 | 41.04 | 7.47E-03 | 6.55E-04 |
| | 37 | 874.34 | 2.48E+01 | 28.21 | 7.39E-03 | 6.44E-04 |
| | 38 | 911.89 | 2.10E+02 | 46.32 | 7.14E-03 | 6.15E-04 |
| M | 39 | 934.37 | 4.40E+01 | 27.47 | 7.01E-03 | 6.03E-04 |
| m | 40 | 938.73 | 2.13E+01 | 26.66 | 6.98E-03 | 6.01E-04 |
| | 41 | 969.49 | 9.00E+01 | 40.61 | 6.80E-03 | 5.85E-04 |
| | 42 | 1120.98 | 1.87E+02 | 42.84 | 6.06E-03 | 5.06E-04 |
| | 43 | 1158.87 | 4.11E+01 | 47.95 | 5.91E-03 | 4.87E-04 |
| | 44 | 1239.08 | 7.51E+01 | 40.20 | 5.61E-03 | 4.68E-04 |
| | 45 | 1281.38 | 3.49E+01 | 28.77 | 5.47E-03 | 4.60E-04 |
| | 46 | 1316.09 | 1.30E+01 | 16.19 | 5.36E-03 | 4.54E-04 |
| M | 47 | 1378.33 | 5.45E+01 | 21.89 | 5.18E-03 | 4.40E-04 |
| m | 48 | 1384.90 | 1.82E+01 | 16.70 | 5.16E-03 | 4.38E-04 |
| | 49 | 1408.33 | 3.32E+01 | 22.78 | 5.10E-03 | 4.32E-04 |
| | 50 | 1461.42 | 8.15E+02 | 62.27 | 4.97E-03 | 4.19E-04 |
| M | 51 | 1502.12 | 1.82E+01 | 13.49 | 4.87E-03 | 4.09E-04 |
| m | 52 | 1510.16 | 2.57E+01 | 17.38 | 4.86E-03 | 4.07E-04 |
| m | 53 | 1512.70 | 1.83E+01 | 18.76 | 4.85E-03 | 4.06E-04 |
| | 54 | 1542.55 | 4.21E+01 | 22.00 | 4.79E-03 | 3.99E-04 |
| M | 55 | 1587.66 | 1.03E+01 | 14.14 | 4.70E-03 | 3.88E-04 |
| m | 56 | 1593.69 | 2.61E+01 | 14.56 | 4.68E-03 | 3.86E-04 |
| | 57 | 1660.79 | 1.43E+01 | 12.03 | 4.56E-03 | 3.69E-04 |
| | 58 | 1685.36 | 7.57E+00 | 10.05 | 4.52E-03 | 3.63E-04 |
| M | 59 | 1725.24 | 5.98E+00 | 4.77 | 4.46E-03 | 3.53E-04 |
| m | 60 | 1730.01 | 2.20E+01 | 13.56 | 4.45E-03 | 3.52E-04 |
| | 61 | 1765.08 | 1.52E+02 | 29.12 | 4.39E-03 | 3.43E-04 |
| | 62 | 1849.80 | 1.99E+01 | 20.14 | 4.28E-03 | 3.26E-04 |
| | 63 | 2105.83 | 2.69E+01 | 12.74 | 4.02E-03 | 3.26E-04 |
| | 64 | 2119.57 | 1.10E+01 | 11.66 | 4.01E-03 | 3.26E-04 |
| | 65 | 2205.11 | 4.13E+01 | 18.19 | 3.95E-03 | 3.26E-04 |
| | 66 | 2448.74 | 1.20E+01 | 9.80 | 3.83E-03 | 3.26E-04 |
| | 67 | 2615.34 | 1.07E+02 | 20.69 | 3.79E-03 | 3.26E-04 |

Analysis Report for 1510085-04

CP5007S01-02

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 8:10:55AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. | |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|----------|
| | 1 | 46.34 | 1.82E+02 | 92.44 | 4.50E+01 | 8.46E+00 | 1.37E+02 | 9.28E+01 |
| | 2 | 63.55 | 2.50E+02 | 157.04 | 7.80E+01 | 1.33E+01 | 1.72E+02 | 1.58E+02 |
| M | 3 | 74.94 | 5.77E+02 | 111.74 | 5.09E+00 | 4.37E+00 | 5.72E+02 | 1.12E+02 |
| m | 4 | 77.49 | 9.54E+02 | 119.89 | 9.75E+00 | 8.28E+00 | 9.44E+02 | 1.20E+02 |
| m | 5 | 87.80 | 3.09E+02 | 76.11 | | | 3.09E+02 | 7.61E+01 |
| m | 6 | 92.53 | 4.18E+02 | 81.76 | 1.34E+02 | 9.83E+00 | 2.85E+02 | 8.23E+01 |
| | 7 | 113.51 | 9.95E+01 | 92.03 | | | 9.95E+01 | 9.20E+01 |
| | 8 | 186.12 | 3.16E+02 | 99.56 | 6.41E+01 | 7.38E+00 | 2.52E+02 | 9.98E+01 |
| | 9 | 208.99 | 7.70E+01 | 67.22 | | | 7.70E+01 | 6.72E+01 |
| M | 10 | 238.56 | 1.03E+03 | 81.59 | 2.34E+01 | 6.34E+00 | 1.01E+03 | 8.18E+01 |
| m | 11 | 241.76 | 2.94E+02 | 68.33 | | | 2.94E+02 | 6.83E+01 |
| | 12 | 249.45 | 6.74E+01 | 66.99 | | | 6.74E+01 | 6.70E+01 |
| | 13 | 258.39 | 9.90E+01 | 79.66 | | | 9.90E+01 | 7.97E+01 |
| | 14 | 269.97 | 1.39E+02 | 59.69 | | | 1.39E+02 | 5.97E+01 |
| M | 15 | 295.45 | 6.87E+02 | 66.48 | 4.17E+00 | 5.50E+00 | 6.83E+02 | 6.67E+01 |
| m | 16 | 300.33 | 8.57E+01 | 66.24 | | | 8.57E+01 | 6.62E+01 |
| | 17 | 328.54 | 5.70E+01 | 53.92 | | | 5.70E+01 | 5.39E+01 |
| | 18 | 338.58 | 1.87E+02 | 66.11 | 2.22E-01 | 4.54E+00 | 1.87E+02 | 6.63E+01 |
| | 19 | 352.04 | 1.12E+03 | 97.05 | 8.83E+00 | 4.91E+00 | 1.11E+03 | 9.72E+01 |
| | 20 | 410.52 | 6.05E+01 | 51.34 | | | 6.05E+01 | 5.13E+01 |
| | 21 | 462.96 | 6.59E+01 | 45.39 | | | 6.59E+01 | 4.54E+01 |
| | 22 | 511.51 | 1.90E+02 | 66.72 | 8.12E+01 | 5.49E+00 | 1.09E+02 | 6.69E+01 |
| | 23 | 546.66 | 2.70E+01 | 34.44 | | | 2.70E+01 | 3.44E+01 |
| | 24 | 563.36 | 3.82E+01 | 45.19 | | | 3.82E+01 | 4.52E+01 |
| | 25 | 583.41 | 2.85E+02 | 56.92 | 6.34E+00 | 3.74E+00 | 2.78E+02 | 5.70E+01 |
| | 26 | 609.49 | 8.22E+02 | 76.39 | 5.20E+00 | 3.69E+00 | 8.17E+02 | 7.65E+01 |
| | 27 | 727.47 | 6.58E+01 | 36.00 | | | 6.58E+01 | 3.60E+01 |
| M | 28 | 768.56 | 8.93E+01 | 35.61 | | | 8.93E+01 | 3.56E+01 |
| m | 29 | 772.88 | 2.86E+01 | 32.37 | | | 2.86E+01 | 3.24E+01 |
| M | 30 | 781.82 | 1.61E+01 | 16.01 | | | 1.61E+01 | 1.60E+01 |
| m | 31 | 786.30 | 3.50E+01 | 30.10 | | | 3.50E+01 | 3.01E+01 |
| | 32 | 795.54 | 3.46E+01 | 33.82 | | | 3.46E+01 | 3.38E+01 |
| | 33 | 805.67 | 3.07E+01 | 31.23 | | | 3.07E+01 | 3.12E+01 |
| | 34 | 820.55 | 2.59E+01 | 24.86 | | | 2.59E+01 | 2.49E+01 |
| | 35 | 840.32 | 4.32E+01 | 41.95 | | | 4.32E+01 | 4.19E+01 |

Analysis Report for 1510085-04

CP5007S01-02

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 36 | 862.02 | 8.50E+01 | 41.04 | | | 8.50E+01 | 4.10E+01 |
| 37 | 874.34 | 2.48E+01 | 28.21 | | | 2.48E+01 | 2.82E+01 |
| 38 | 911.89 | 2.10E+02 | 46.32 | 3.28E+00 | 2.53E+00 | 2.07E+02 | 4.64E+01 |
| M 39 | 934.37 | 4.40E+01 | 27.47 | | | 4.40E+01 | 2.75E+01 |
| m 40 | 938.73 | 2.13E+01 | 26.66 | | | 2.13E+01 | 2.67E+01 |
| 41 | 969.49 | 9.00E+01 | 40.61 | | | 9.00E+01 | 4.06E+01 |
| 42 | 1120.98 | 1.87E+02 | 42.84 | 2.28E+00 | 2.55E+00 | 1.85E+02 | 4.29E+01 |
| 43 | 1158.87 | 4.11E+01 | 47.95 | | | 4.11E+01 | 4.80E+01 |
| 44 | 1239.08 | 7.51E+01 | 40.20 | | | 7.51E+01 | 4.02E+01 |
| 45 | 1281.38 | 3.49E+01 | 28.77 | | | 3.49E+01 | 2.88E+01 |
| 46 | 1316.09 | 1.30E+01 | 16.19 | | | 1.30E+01 | 1.62E+01 |
| M 47 | 1378.33 | 5.45E+01 | 21.89 | | | 5.45E+01 | 2.19E+01 |
| m 48 | 1384.90 | 1.82E+01 | 16.70 | | | 1.82E+01 | 1.67E+01 |
| 49 | 1408.33 | 3.32E+01 | 22.78 | | | 3.32E+01 | 2.28E+01 |
| 50 | 1461.42 | 8.15E+02 | 62.27 | 6.46E+00 | 2.33E+00 | 8.08E+02 | 6.23E+01 |
| M 51 | 1502.12 | 1.82E+01 | 13.49 | | | 1.82E+01 | 1.35E+01 |
| m 52 | 1510.16 | 2.57E+01 | 17.38 | | | 2.57E+01 | 1.74E+01 |
| m 53 | 1512.70 | 1.83E+01 | 18.76 | | | 1.83E+01 | 1.88E+01 |
| 54 | 1542.55 | 4.21E+01 | 22.00 | | | 4.21E+01 | 2.20E+01 |
| M 55 | 1587.66 | 1.03E+01 | 14.14 | | | 1.03E+01 | 1.41E+01 |
| m 56 | 1593.69 | 2.61E+01 | 14.56 | | | 2.61E+01 | 1.46E+01 |
| 57 | 1660.79 | 1.43E+01 | 12.03 | | | 1.43E+01 | 1.20E+01 |
| 58 | 1685.36 | 7.57E+00 | 10.05 | | | 7.57E+00 | 1.00E+01 |
| M 59 | 1725.24 | 5.98E+00 | 4.77 | | | 5.98E+00 | 4.77E+00 |
| m 60 | 1730.01 | 2.20E+01 | 13.56 | | | 2.20E+01 | 1.36E+01 |
| 61 | 1765.08 | 1.52E+02 | 29.12 | | | 1.52E+02 | 2.91E+01 |
| 62 | 1849.80 | 1.99E+01 | 20.14 | | | 1.99E+01 | 2.01E+01 |
| 63 | 2105.83 | 2.69E+01 | 12.74 | | | 2.69E+01 | 1.27E+01 |
| 64 | 2119.57 | 1.10E+01 | 11.66 | | | 1.10E+01 | 1.17E+01 |
| 65 | 2205.11 | 4.13E+01 | 18.19 | | | 4.13E+01 | 1.82E+01 |
| 66 | 2448.74 | 1.20E+01 | 9.80 | | | 1.20E+01 | 9.80E+00 |
| 67 | 2615.34 | 1.07E+02 | 20.69 | 3.47E+00 | 1.48E+00 | 1.04E+02 | 2.07E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 8:10:55AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Corrected Area is: Original * Peak Ratio - Background

: 00447

Analysis Report for 1510085-04

CP5007S01-02

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|-----------------|---------------------|----------------------|-------------------------------|---------------------------|------------------------|-----------------------|--------------------------|
| | 1 | 46.34 | 1.82E+02 | 92.44 | 4.50E+01 | 8.46E+00 | 1.37E+02 | 9.28E+01 |
| | 2 | 63.55 | 2.50E+02 | 157.04 | 7.80E+01 | 1.33E+01 | 1.72E+02 | 1.58E+02 |
| M | 3 | 74.94 | 5.77E+02 | 111.74 | 5.09E+00 | 4.37E+00 | 5.72E+02 | 1.12E+02 |
| m | 4 | 77.49 | 9.54E+02 | 119.89 | 9.75E+00 | 8.28E+00 | 9.44E+02 | 1.20E+02 |
| m | 5 | 87.80 | 3.09E+02 | 76.11 | | | 3.09E+02 | 7.61E+01 |
| m | 6 | 92.53 | 4.18E+02 | 81.76 | 1.34E+02 | 9.83E+00 | 2.85E+02 | 8.23E+01 |
| | 7 | 113.51 | 9.95E+01 | 92.03 | | | 9.95E+01 | 9.20E+01 |
| | 8 | 186.12 | 3.16E+02 | 99.56 | 6.41E+01 | 7.38E+00 | 2.52E+02 | 9.98E+01 |
| | 9 | 208.99 | 7.70E+01 | 67.22 | | | 7.70E+01 | 6.72E+01 |
| M | 10 | 238.56 | 1.03E+03 | 81.59 | 2.34E+01 | 6.34E+00 | 1.01E+03 | 8.18E+01 |
| m | 11 | 241.76 | 2.94E+02 | 68.33 | | | 2.94E+02 | 6.83E+01 |
| | 12 | 249.45 | 6.74E+01 | 66.99 | | | 6.74E+01 | 6.70E+01 |
| | 13 | 258.39 | 9.90E+01 | 79.66 | | | 9.90E+01 | 7.97E+01 |
| | 14 | 269.97 | 1.39E+02 | 59.69 | | | 1.39E+02 | 5.97E+01 |
| M | 15 | 295.45 | 6.87E+02 | 66.48 | 4.17E+00 | 5.50E+00 | 6.83E+02 | 6.67E+01 |
| m | 16 | 300.33 | 8.57E+01 | 66.24 | | | 8.57E+01 | 6.62E+01 |
| | 17 | 328.54 | 5.70E+01 | 53.92 | | | 5.70E+01 | 5.39E+01 |
| | 18 | 338.58 | 1.87E+02 | 66.11 | 2.22E-01 | 4.54E+00 | 1.87E+02 | 6.63E+01 |
| | 19 | 352.04 | 1.12E+03 | 97.05 | 8.83E+00 | 4.91E+00 | 1.11E+03 | 9.72E+01 |
| | 20 | 410.52 | 6.05E+01 | 51.34 | | | 6.05E+01 | 5.13E+01 |
| | 21 | 462.96 | 6.59E+01 | 45.39 | | | 6.59E+01 | 4.54E+01 |
| | 22 | 511.51 | 1.90E+02 | 66.72 | 8.12E+01 | 5.49E+00 | 1.09E+02 | 6.69E+01 |
| | 23 | 546.66 | 2.70E+01 | 34.44 | | | 2.70E+01 | 3.44E+01 |
| | 24 | 563.36 | 3.82E+01 | 45.19 | | | 3.82E+01 | 4.52E+01 |
| | 25 | 583.41 | 2.85E+02 | 56.92 | 6.34E+00 | 3.74E+00 | 2.78E+02 | 5.70E+01 |
| | 26 | 609.49 | 8.22E+02 | 76.39 | 5.20E+00 | 3.69E+00 | 8.17E+02 | 7.65E+01 |
| | 27 | 727.47 | 6.58E+01 | 36.00 | | | 6.58E+01 | 3.60E+01 |
| M | 28 | 768.56 | 8.93E+01 | 35.61 | | | 8.93E+01 | 3.56E+01 |
| m | 29 | 772.88 | 2.86E+01 | 32.37 | | | 2.86E+01 | 3.24E+01 |
| M | 30 | 781.82 | 1.61E+01 | 16.01 | | | 1.61E+01 | 1.60E+01 |
| m | 31 | 786.30 | 3.50E+01 | 30.10 | | | 3.50E+01 | 3.01E+01 |
| | 32 | 795.54 | 3.46E+01 | 33.82 | | | 3.46E+01 | 3.38E+01 |
| | 33 | 805.67 | 3.07E+01 | 31.23 | | | 3.07E+01 | 3.12E+01 |
| | 34 | 820.55 | 2.59E+01 | 24.86 | | | 2.59E+01 | 2.49E+01 |
| | 35 | 840.32 | 4.32E+01 | 41.95 | | | 4.32E+01 | 4.19E+01 |
| | 36 | 862.02 | 8.50E+01 | 41.04 | | | 8.50E+01 | 4.10E+01 |
| | 37 | 874.34 | 2.48E+01 | 28.21 | | | 2.48E+01 | 2.82E+01 |
| | 38 | 911.89 | 2.10E+02 | 46.32 | 3.28E+00 | 2.53E+00 | 2.07E+02 | 4.64E+01 |
| M | 39 | 934.37 | 4.40E+01 | 27.47 | | | 4.40E+01 | 2.75E+01 |
| m | 40 | 938.73 | 2.13E+01 | 26.66 | | | 2.13E+01 | 2.67E+01 |
| | 41 | 969.49 | 9.00E+01 | 40.61 | | | 9.00E+01 | 4.06E+01 |
| | 42 | 1120.98 | 1.87E+02 | 42.84 | 2.28E+00 | 2.55E+00 | 1.85E+02 | 4.29E+01 |
| | 43 | 1158.87 | 4.11E+01 | 47.95 | | | 4.11E+01 | 4.80E+01 |
| | 44 | 1239.08 | 7.51E+01 | 40.20 | | | 7.51E+01 | 4.02E+01 |
| | 45 | 1281.38 | 3.49E+01 | 28.77 | | | 3.49E+01 | 2.88E+01 |
| | 46 | 1316.09 | 1.30E+01 | 16.19 | | | 1.30E+01 | 1.62E+01 |
| M | 47 | 1378.33 | 5.45E+01 | 21.89 | | | 5.45E+01 | 2.19E+01 |
| m | 48 | 1384.90 | 1.82E+01 | 16.70 | | | 1.82E+01 | 1.67E+01 |
| | 49 | 1408.33 | 3.32E+01 | 22.78 | | | 3.32E+01 | 2.28E+01 |
| | 50 | 1461.42 | 8.15E+02 | 62.27 | 6.46E+00 | 2.33E+00 | 8.08E+02 | 6.23E+01 |
| M | 51 | 1502.12 | 1.82E+01 | 13.49 | | | 1.82E+01 | 1.35E+01 |
| m | 52 | 1510.16 | 2.57E+01 | 17.38 | | | 2.57E+01 | 1.74E+01 |
| m | 53 | 1512.70 | 1.83E+01 | 18.76 | | | 1.83E+01 | 1.88E+01 |
| | 54 | 1542.55 | 4.21E+01 | 22.00 | | | 4.21E+01 | 2.20E+01 |

Analysis Report for 1510085-04

CP5007S01-02

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| M | 55 | 1587.66 | 1.03E+01 | 14.14 | | | 1.03E+01 | 1.41E+01 |
| m | 56 | 1593.69 | 2.61E+01 | 14.56 | | | 2.61E+01 | 1.46E+01 |
| | 57 | 1660.79 | 1.43E+01 | 12.03 | | | 1.43E+01 | 1.20E+01 |
| | 58 | 1685.36 | 7.57E+00 | 10.05 | | | 7.57E+00 | 1.00E+01 |
| M | 59 | 1725.24 | 5.98E+00 | 4.77 | | | 5.98E+00 | 4.77E+00 |
| m | 60 | 1730.01 | 2.20E+01 | 13.56 | | | 2.20E+01 | 1.36E+01 |
| | 61 | 1765.08 | 1.52E+02 | 29.12 | | | 1.52E+02 | 2.91E+01 |
| | 62 | 1849.80 | 1.99E+01 | 20.14 | | | 1.99E+01 | 2.01E+01 |
| | 63 | 2105.83 | 2.69E+01 | 12.74 | | | 2.69E+01 | 1.27E+01 |
| | 64 | 2119.57 | 1.10E+01 | 11.66 | | | 1.10E+01 | 1.17E+01 |
| | 65 | 2205.11 | 4.13E+01 | 18.19 | | | 4.13E+01 | 1.82E+01 |
| | 66 | 2448.74 | 1.20E+01 | 9.80 | | | 1.20E+01 | 9.80E+00 |
| | 67 | 2615.34 | 1.07E+02 | 20.69 | 3.47E+00 | 1.48E+00 | 1.04E+02 | 2.07E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.942 | 1460.81 * | 10.67 | 1.80E+01 | 2.09E+00 |
| GA-67 | 0.614 | 93.31 * | 35.70 | 1.94E+02 | 7.90E+02 |
| | | 208.95 * | 2.24 | 1.14E+03 | 4.58E+03 |
| | | 300.22 * | 16.00 | 2.25E+02 | 9.33E+02 |
| CD-109 | 0.991 | 88.03 * | 3.72 | 3.60E+00 | 9.74E-01 |
| SN-126 | 0.992 | 87.57 * | 37.00 | 3.46E-01 | 9.14E-02 |
| TL-208 | 0.848 | 583.14 * | 30.22 | 1.07E+00 | 2.39E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 8.98E-01 | 1.96E-01 |
| PB-210 | 0.996 | 46.50 * | 4.25 | 2.29E+00 | 1.57E+00 |
| BI-212 | 0.754 | 727.17 * | 11.80 | 7.69E-01 | 4.27E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.999 | 238.63 * | 44.60 | 1.39E+00 | 1.64E-01 |
| | | 300.09 * | 3.41 | 1.80E+00 | 1.40E+00 |
| BI-214 | 0.965 | 609.31 * | 46.30 | 2.12E+00 | 2.76E-01 |
| | | 1120.29 * | 15.10 | 2.39E+00 | 5.88E-01 |
| | | 1764.49 * | 15.80 | 2.58E+00 | 5.34E-01 |
| | | 2204.22 * | 4.98 | 2.48E+00 | 1.11E+00 |

: 00449

Analysis Report for 1510085-04
CP5007S01-02

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| PB-214 | 0.995 | 295.21 * | 19.19 | 2.52E+00 | 3.15E-01 |
| | | 351.92 * | 37.19 | 2.38E+00 | 2.84E-01 |
| RA-224 | 0.907 | 240.98 * | 3.95 | 4.60E+00 | 1.14E+00 |
| RA-226 | 0.999 | 186.21 * | 3.28 | 4.05E+00 | 7.59E+00 |
| AC-228 | 0.940 | 338.32 * | 11.40 | 1.28E+00 | 4.64E-01 |
| | | 911.07 * | 27.70 | 1.23E+00 | 2.96E-01 |
| | | 969.11 * | 16.60 | 9.40E-01 | 4.32E-01 |
| TH-234 | 0.989 | 63.29 * | 3.80 | 2.14E+00 | 1.96E+00 |
| AM-243 | 0.989 | 74.67 * | 66.00 | 3.72E-01 | 7.91E-02 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 8:10:55AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| m 4 | 77.49 | 2.62203E-01 | 6.37 | Tol. | TI-44 |
| 7 | 113.51 | 2.76324E-02 | 46.26 | Sum | |
| 12 | 249.45 | 1.87228E-02 | 49.70 | | |
| 13 | 258.39 | 2.75000E-02 | 40.23 | Tol. | LA-140 |
| 14 | 269.97 | 3.86689E-02 | 21.44 | | |
| 17 | 328.54 | 1.58352E-02 | 47.29 | Tol. | HO-166M |
| 20 | 410.52 | 1.67975E-02 | 42.45 | Tol. | |
| 21 | 462.96 | 1.82959E-02 | 34.45 | Sum | |
| 22 | 511.51 | 3.02854E-02 | 30.70 | | |
| 23 | 546.66 | 7.50000E-03 | 63.77 | Sum | |
| 24 | 563.36 | 1.06166E-02 | 59.12 | Tol. | CS-134 |
| M 28 | 768.56 | 2.47938E-02 | 19.95 | Sum | |
| m 29 | 772.88 | 7.93777E-03 | 56.64 | Sum | |
| M 30 | 781.82 | 4.46971E-03 | 49.74 | Sum | |
| m 31 | 786.30 | 9.71351E-03 | 43.04 | | |
| 32 | 795.54 | 9.61394E-03 | 48.86 | Sum | |
| 33 | 805.67 | 8.52520E-03 | 50.88 | Sum | |
| 34 | 820.55 | 7.19017E-03 | 48.02 | | |
| 35 | 840.32 | 1.19990E-02 | 48.56 | Sum | |
| 36 | 862.02 | 2.36111E-02 | 24.14 | | |

Analysis Report for 1510085-04
CP5007S01-02

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| | 37 | 874.34 | 6.88588E-03 | | |
| M | 39 | 934.37 | 1.22154E-02 | | |
| m | 40 | 938.73 | 5.91575E-03 | | |
| | 43 | 1158.87 | 1.14179E-02 | | |
| | 44 | 1239.08 | 2.08573E-02 | Tol. | CO-56 |
| | 45 | 1281.38 | 9.68496E-03 | | |
| | 46 | 1316.09 | 3.61111E-03 | | |
| M | 47 | 1378.33 | 1.51324E-02 | | |
| m | 48 | 1384.90 | 5.05058E-03 | Tol. | AG-110M |
| | 49 | 1408.33 | 9.22131E-03 | Tol. | EU-152 |
| M | 51 | 1502.12 | 5.05357E-03 | | |
| m | 52 | 1510.16 | 7.13934E-03 | | |
| m | 53 | 1512.70 | 5.07113E-03 | | |
| | 54 | 1542.55 | 1.16910E-02 | | |
| M | 55 | 1587.66 | 2.86891E-03 | | |
| m | 56 | 1593.69 | 7.26363E-03 | D-Esc | |
| | 57 | 1660.79 | 3.97487E-03 | | |
| | 58 | 1685.36 | 2.10317E-03 | | |
| M | 59 | 1725.24 | 1.66032E-03 | | |
| m | 60 | 1730.01 | 6.10998E-03 | Sum | |
| | 62 | 1849.80 | 5.51901E-03 | | |
| | 63 | 2105.83 | 7.46759E-03 | | |
| | 64 | 2119.57 | 3.05556E-03 | | |
| | 66 | 2448.74 | 3.33333E-03 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|-----------------|------------------|-----------------|----------|-------------------------|-------------------------|
| K-40 | 0.94 | 1460.81 | * 10.67 | 1.80E+01 | 2.09E+00 |
| GA-67 | 0.61 | 93.31 | * 35.70 | 1.94E+02 | 7.90E+02 |
| | | 208.95 | * 2.24 | 1.14E+03 | 4.58E+03 |
| | | 300.22 | * 16.00 | 2.25E+02 | 9.33E+02 |

Analysis Report for 1510085-04
 CP5007S01-02

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|---|----------|----------------------|----------------------|
| CD-109 | 0.99 | 88.03 | * | 3.72 | 3.60E+00 | 9.74E-01 |
| SN-126 | 0.99 | 87.57 | * | 37.00 | 3.46E-01 | 9.14E-02 |
| TL-208 | 0.84 | 583.14 | * | 30.22 | 1.07E+00 | 2.39E-01 |
| | | 860.37 | | 4.48 | | |
| | | 2614.66 | * | 35.85 | 8.98E-01 | 1.96E-01 |
| PB-210 | 0.99 | 46.50 | * | 4.25 | 2.29E+00 | 1.57E+00 |
| BI-212 | 0.75 | 727.17 | * | 11.80 | 7.69E-01 | 4.27E-01 |
| | | 1620.62 | | 2.75 | | |
| PB-212 | 0.99 | 238.63 | * | 44.60 | 1.39E+00 | 1.64E-01 |
| | | 300.09 | * | 3.41 | 1.80E+00 | 1.40E+00 |
| BI-214 | 0.96 | 609.31 | * | 46.30 | 2.12E+00 | 2.76E-01 |
| | | 1120.29 | * | 15.10 | 2.39E+00 | 5.88E-01 |
| | | 1764.49 | * | 15.80 | 2.58E+00 | 5.34E-01 |
| | | 2204.22 | * | 4.98 | 2.48E+00 | 1.11E+00 |
| PB-214 | 0.99 | 295.21 | * | 19.19 | 2.52E+00 | 3.15E-01 |
| | | 351.92 | * | 37.19 | 2.38E+00 | 2.84E-01 |
| RA-224 | 0.90 | 240.98 | * | 3.95 | 4.60E+00 | 1.14E+00 |
| RA-226 | 0.99 | 186.21 | * | 3.28 | 4.05E+00 | 7.59E+00 |
| AC-228 | 0.94 | 338.32 | * | 11.40 | 1.28E+00 | 4.64E-01 |
| | | 911.07 | * | 27.70 | 1.23E+00 | 2.96E-01 |
| | | 969.11 | * | 16.60 | 9.40E-01 | 4.32E-01 |
| TH-234 | 0.98 | 63.29 | * | 3.80 | 2.14E+00 | 1.96E+00 |
| AM-243 | 0.98 | 74.67 | * | 66.00 | 3.72E-01 | 7.91E-02 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|--------------|-----------------------|------------------------------|------------------------------|----------|
| K-40 | 0.942 | 1.80E+01 | 2.09E+00 | |
| GA-67 | 0.614 | 1.82E+02 | 7.15E+02 | |
| ? CD-109 | 0.991 | 3.60E+00 | 9.74E-01 | |
| ? SN-126 | 0.992 | 3.46E-01 | 9.14E-02 | |

Analysis Report for 1510085-04

CP5007S01-02

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-------------------------|--------------------------------------|---|---|-----------------|
| TL-208 | 0.848 | 9.67E-01 | 1.52E-01 | |
| PB-210 | 0.996 | 2.29E+00 | 1.57E+00 | |
| BI-212 | 0.754 | 7.69E-01 | 4.27E-01 | |
| PB-212 | 0.999 | 1.38E+00 | 1.63E-01 | |
| BI-214 | 0.965 | 2.25E+00 | 2.22E-01 | |
| PB-214 | 0.995 | 2.44E+00 | 2.11E-01 | |
| RA-224 | 0.907 | 4.60E+00 | 1.14E+00 | |
| RA-226 | 0.999 | 4.05E+00 | 7.59E+00 | |
| AC-228 | 0.940 | 1.17E+00 | 2.16E-01 | |
| TH-234 | 0.989 | 2.14E+00 | 1.96E+00 | |
| AM-243 | 0.989 | 3.72E-01 | 7.91E-02 | |

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-04
CP5007S01-02

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 8:10:55AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| m 4 | 77.49 | 2.62203E-01 | 6.37 | Tol. | TI-44 |
| 7 | 113.51 | 2.76324E-02 | 46.26 | | |
| 12 | 249.45 | 1.87228E-02 | 49.70 | Sum | |
| 13 | 258.39 | 2.75000E-02 | 40.23 | | |
| 14 | 269.97 | 3.86689E-02 | 21.44 | | |
| 17 | 328.54 | 1.58352E-02 | 47.29 | Tol. | LA-140 |
| 20 | 410.52 | 1.67975E-02 | 42.45 | Tol. | HO-166M |
| 21 | 462.96 | 1.82959E-02 | 34.45 | | |
| 22 | 511.51 | 3.02854E-02 | 30.70 | | |
| 23 | 546.66 | 7.50000E-03 | 63.77 | Sum | |
| 24 | 563.36 | 1.06166E-02 | 59.12 | Tol. | CS-134 |
| M 28 | 768.56 | 2.47938E-02 | 19.95 | Sum | |
| m 29 | 772.88 | 7.93777E-03 | 56.64 | Sum | |
| M 30 | 781.82 | 4.46971E-03 | 49.74 | | |
| m 31 | 786.30 | 9.71351E-03 | 43.04 | | |
| 32 | 795.54 | 9.61394E-03 | 48.86 | Sum | |
| 33 | 805.67 | 8.52520E-03 | 50.88 | | |
| 34 | 820.55 | 7.19017E-03 | 48.02 | Sum | |
| 35 | 840.32 | 1.19990E-02 | 48.56 | | |
| 36 | 862.02 | 2.36111E-02 | 24.14 | | |
| 37 | 874.34 | 6.88588E-03 | 56.91 | | |
| M 39 | 934.37 | 1.22154E-02 | 31.24 | | |
| m 40 | 938.73 | 5.91575E-03 | 62.59 | | |
| 43 | 1158.87 | 1.14179E-02 | 58.33 | | |
| 44 | 1239.08 | 2.08573E-02 | 26.77 | Tol. | CO-56 |
| 45 | 1281.38 | 9.68496E-03 | 41.27 | | |
| 46 | 1316.09 | 3.61111E-03 | 62.26 | | |
| M 47 | 1378.33 | 1.51324E-02 | 20.09 | | |
| m 48 | 1384.90 | 5.05058E-03 | 45.93 | Tol. | AG-110M |
| 49 | 1408.33 | 9.22131E-03 | 34.31 | Tol. | EU-152 |
| M 51 | 1502.12 | 5.05357E-03 | 37.08 | | |
| m 52 | 1510.16 | 7.13934E-03 | 33.81 | | |
| m 53 | 1512.70 | 5.07113E-03 | 51.38 | | |
| 54 | 1542.55 | 1.16910E-02 | 26.14 | | |
| M 55 | 1587.66 | 2.86891E-03 | 68.46 | | |

Analysis Report for 1510085-04
CP5007S01-02

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| m | 56 | 1593.69 | 7.26363E-03 | 27.84 | D-Esc |
| | 57 | 1660.79 | 3.97487E-03 | 42.04 | |
| | 58 | 1685.36 | 2.10317E-03 | 66.37 | |
| M | 59 | 1725.24 | 1.66032E-03 | 39.90 | |
| m | 60 | 1730.01 | 6.10998E-03 | 30.83 | Sum |
| | 62 | 1849.80 | 5.51901E-03 | 50.68 | |
| | 63 | 2105.83 | 7.46759E-03 | 23.69 | |
| | 64 | 2119.57 | 3.05556E-03 | 53.01 | |
| | 66 | 2448.74 | 3.33333E-03 | 40.82 | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|--------------|--------------|----------|----------------------|-------------------------|----------------------|
| + | BE-7 | 477.59 | 10.42 | 2.33E-01 | 8.49E-01 | 8.49E-01 |
| + | NA-22 | 1274.54 | 99.94 | -5.24E-03 | 6.64E-02 | 6.64E-02 |
| + | NA-24 | 1368.53 | 99.99 | 6.71E+12 | 9.49E+12 | 1.80E+13 |
| | | 2754.09 | 99.86 | -1.27E+12 | | 9.49E+12 |
| + | AL-26 | 1808.65 | 99.76 | 3.55E-03 | 4.75E-02 | 4.75E-02 |
| + | K-40 | 1460.81 | * 10.67 | 1.80E+01 | 9.94E-01 | 9.94E-01 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -3.06E-03 | 6.95E-02 | 6.95E-02 |
| | | 78.34 | 96.00 | 2.70E-01 | | 8.95E-02 |
| + | SC-46 | 889.25 | 99.98 | -7.43E-02 | 8.22E-02 | 8.22E-02 |
| | | 1120.51 | 99.99 | 4.36E-01 | | 1.85E-01 |
| + | V-48 | 983.52 | 99.98 | -1.31E-01 | 2.58E-01 | 2.58E-01 |
| | | 1312.10 | 97.50 | -2.90E-02 | | 2.63E-01 |
| + | CR-51 | 320.08 | 9.83 | -4.05E-01 | 1.04E+00 | 1.04E+00 |
| + | MN-54 | 834.83 | 99.97 | 5.76E-03 | 7.99E-02 | 7.99E-02 |
| + | CO-56 | 846.75 | 99.96 | -1.22E-02 | 7.80E-02 | 7.80E-02 |
| | | 1037.75 | 14.03 | -3.30E-03 | | 7.17E-01 |
| | | 1238.25 | 67.00 | 1.88E-01 | | 2.23E-01 |
| | | 1771.40 | 15.51 | 7.28E-02 | | 4.54E-01 |

Analysis Report for 1510085-04
CP5007S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | CO-56 | 2598.48 | 16.90 | -1.20E-01 | 7.80E-02 | 1.76E-01 |
| + | CO-57 | 122.06 | 85.51 | -8.58E-03 | 6.03E-02 | 6.03E-02 |
| | | 136.48 | 10.60 | -1.47E-01 | | 5.08E-01 |
| + | CO-58 | 810.76 | 99.40 | 2.69E-04 | 7.36E-02 | 7.36E-02 |
| + | FE-59 | 1099.22 | 56.50 | -5.25E-02 | 2.01E-01 | 2.01E-01 |
| | | 1291.56 | 43.20 | 1.09E-02 | | 2.88E-01 |
| + | CO-60 | 1173.22 | 100.00 | 1.10E-02 | 5.93E-02 | 8.71E-02 |
| | | 1332.49 | 100.00 | -3.91E-02 | | 5.93E-02 |
| + | ZN-65 | 1115.52 | 50.75 | 6.27E-02 | 1.73E-01 | 1.73E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.94E+02 | 2.05E+02 | 2.05E+02 |
| | | 208.95 | * 2.24 | 1.14E+03 | | 1.62E+03 |
| | | 300.22 | * 16.00 | 2.25E+02 | | 4.00E+02 |
| + | SE-75 | 121.11 | 16.70 | -1.42E-01 | 9.47E-02 | 3.36E-01 |
| | | 136.00 | 59.20 | -3.79E-02 | | 1.00E-01 |
| | | 264.65 | 59.80 | 4.51E-03 | | 9.47E-02 |
| | | 279.53 | 25.20 | 1.52E-01 | | 2.49E-01 |
| | | 400.65 | 11.40 | 4.12E-02 | | 5.14E-01 |
| + | RB-82 | 776.52 | 13.00 | 6.17E-02 | 1.12E+00 | 1.12E+00 |
| + | RB-83 | 520.41 | 46.00 | 1.05E-01 | 1.72E-01 | 1.72E-01 |
| | | 529.64 | 30.30 | 6.07E-02 | | 2.57E-01 |
| | | 552.65 | 16.40 | 4.76E-02 | | 4.41E-01 |
| + | KR-85 | 513.99 | 0.43 | 3.33E+01 | 2.03E+01 | 2.03E+01 |
| + | SR-85 | 513.99 | 99.27 | 2.00E-01 | 1.22E-01 | 1.22E-01 |
| + | Y-88 | 898.02 | 93.40 | 5.38E-04 | 5.85E-02 | 9.02E-02 |
| | | 1836.01 | 99.38 | 6.38E-03 | | 5.85E-02 |
| + | NB-93M | 16.57 | 9.43 | -7.73E+01 | 5.30E+01 | 5.30E+01 |
| + | NB-94 | 702.63 | 100.00 | -2.21E-02 | 6.26E-02 | 7.20E-02 |
| | | 871.10 | 100.00 | -4.36E-02 | | 6.26E-02 |
| + | NB-95 | 765.79 | 99.81 | 1.73E-01 | 1.63E-01 | 1.63E-01 |
| + | NB-95M | 235.69 | 25.00 | -6.97E+02 | 8.33E+01 | 8.33E+01 |
| + | ZR-95 | 724.18 | 43.70 | 1.05E-02 | 1.70E-01 | 2.25E-01 |
| | | 756.72 | 55.30 | 8.68E-02 | | 1.70E-01 |
| + | MO-99 | 181.06 | 6.20 | 5.18E+01 | 1.08E+03 | 1.61E+03 |
| | | 739.58 | 12.80 | 5.99E+02 | | 1.08E+03 |
| | | 778.00 | 4.50 | 1.52E+02 | | 2.77E+03 |
| + | RU-103 | 497.08 | 89.00 | 2.08E-02 | 1.18E-01 | 1.18E-01 |
| + | RU-106 | 621.84 | 9.80 | -1.57E-01 | 6.33E-01 | 6.33E-01 |
| + | AG-108M | 433.93 | 89.90 | 1.49E-03 | 6.40E-02 | 6.40E-02 |
| | | 614.37 | 90.40 | -1.32E-03 | | 6.86E-02 |
| | | 722.95 | 90.50 | 2.30E-03 | | 7.33E-02 |
| + | CD-109 | 88.03 | * 3.72 | 3.60E+00 | 3.49E+00 | 3.49E+00 |
| + | AG-110M | 657.75 | 93.14 | 1.25E-02 | 7.18E-02 | 7.18E-02 |
| | | 677.61 | 10.53 | 1.02E-01 | | 6.87E-01 |
| | | 706.67 | 16.46 | -6.87E-02 | | 4.49E-01 |
| | | 763.93 | 21.98 | 4.93E-03 | | 3.54E-01 |
| | | 884.67 | 71.63 | -1.32E-02 | | 1.03E-01 |
| | | 1384.27 | 23.94 | -3.44E-01 | | 3.05E-01 |
| + | CD-113M | 263.70 | 0.02 | 9.86E+00 | 2.11E+02 | 2.11E+02 |

Analysis Report for 1510085-04

CP5007S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SN-113 | 255.12 | 1.93 | -2.13E+00 | 9.98E-02 | 2.98E+00 |
| | | 391.69 | 64.90 | 1.39E-02 | | 9.98E-02 |
| + | TE123M | 159.00 | 84.10 | -3.53E-03 | 7.12E-02 | 7.12E-02 |
| + | SB-124 | 602.71 | 97.87 | -1.50E-02 | 9.00E-02 | 9.00E-02 |
| | | 645.85 | 7.26 | -8.71E-02 | | 1.19E+00 |
| | | 722.78 | 11.10 | 2.65E-02 | | 8.44E-01 |
| | | 1691.02 | 49.00 | -1.07E-01 | | 9.06E-02 |
| + | I-125 | 35.49 | 6.49 | -6.59E-01 | 2.88E+00 | 2.88E+00 |
| + | SB-125 | 176.33 | 6.89 | -6.22E-01 | 2.06E-01 | 7.32E-01 |
| | | 427.89 | 29.33 | -3.80E-02 | | 2.06E-01 |
| | | 463.38 | 10.35 | 6.73E-01 | | 6.59E-01 |
| | | 600.56 | 17.80 | -5.20E-02 | | 3.38E-01 |
| | | 635.90 | 11.32 | 1.06E-01 | | 5.96E-01 |
| + | SB-126 | 414.70 | 83.30 | 4.52E-02 | 3.34E-01 | 3.91E-01 |
| | | 666.33 | 99.60 | 5.06E-02 | | 3.34E-01 |
| | | 695.00 | 99.60 | -5.11E-02 | | 3.65E-01 |
| | | 720.50 | 53.80 | 7.12E-02 | | 6.41E-01 |
| + | SN-126 | 87.57 | * 37.00 | 3.46E-01 | 3.35E-01 | 3.35E-01 |
| + | SB-127 | 473.00 | 25.00 | 1.39E+01 | 4.30E+01 | 5.44E+01 |
| | | 685.20 | 35.70 | 2.13E+01 | | 4.30E+01 |
| | | 783.80 | 14.70 | 4.65E+01 | | 1.12E+02 |
| + | I-129 | 29.78 | 57.00 | -1.71E-01 | 4.37E-01 | 4.37E-01 |
| | | 33.60 | 13.20 | 2.54E-01 | | 1.22E+00 |
| | | 39.58 | 7.52 | 7.70E-02 | | 1.34E+00 |
| + | I-131 | 284.30 | 6.05 | -5.26E+00 | 7.47E-01 | 1.07E+01 |
| | | 364.48 | 81.20 | 2.68E-01 | | 7.47E-01 |
| | | 636.97 | 7.26 | 4.67E+00 | | 1.23E+01 |
| | | 722.89 | 1.80 | 1.54E+00 | | 4.89E+01 |
| + | TE-132 | 49.72 | 13.10 | -4.27E+01 | 3.58E+01 | 3.18E+02 |
| | | 228.16 | 88.00 | 1.55E+01 | | 3.58E+01 |
| + | BA-133 | 81.00 | 33.00 | -9.22E-01 | 8.60E-02 | 1.79E-01 |
| | | 302.84 | 17.80 | -4.49E-02 | | 2.95E-01 |
| | | 356.01 | 60.00 | -1.12E+00 | | 8.60E-02 |
| + | I-133 | 529.87 | 86.30 | 4.41E+08 | 1.87E+09 | 1.87E+09 |
| + | XE-133 | 81.00 | 38.00 | -4.20E+01 | 8.16E+00 | 8.16E+00 |
| + | CS-134 | 563.23 | 8.38 | 5.09E-01 | 7.06E-02 | 7.76E-01 |
| | | 569.32 | 15.43 | 6.50E-02 | | 4.07E-01 |
| | | 604.70 | 97.60 | -1.36E-02 | | 7.06E-02 |
| | | 795.84 | 85.40 | 8.36E-02 | | 8.99E-02 |
| | | 801.93 | 8.73 | -6.08E-02 | | 7.01E-01 |
| + | CS-135 | 268.24 | 16.00 | 3.22E-01 | 3.56E-01 | 3.56E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 3.44E-01 | 3.42E-01 | 3.38E+00 |
| | | 163.89 | 4.61 | 1.95E+00 | | 5.57E+00 |
| | | 176.55 | 13.56 | -1.50E+00 | | 1.77E+00 |
| | | 273.65 | 12.66 | -7.83E-01 | | 1.88E+00 |
| | | 340.57 | 48.50 | 7.25E-01 | | 6.37E-01 |

Analysis Report for 1510085-04
CP5007S01-02

| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | CS-136 | 818.50 | 99.70 | -1.95E-02 | 3.42E-01 | 3.42E-01 |
| | | 1048.07 | 79.60 | -8.28E-02 | | 4.22E-01 |
| | | 1235.34 | 19.70 | 3.16E-01 | | 2.44E+00 |
| + | CS-137 | 661.65 | 85.12 | -2.03E-02 | 7.31E-02 | 7.31E-02 |
| + | LA-138 | 788.74 | 34.00 | 3.78E-02 | 1.02E-01 | 2.15E-01 |
| | | 1435.80 | 66.00 | 5.26E-02 | | 1.02E-01 |
| + | CE-139 | 165.85 | 80.35 | 3.00E-02 | 7.51E-02 | 7.51E-02 |
| + | BA-140 | 162.64 | 6.70 | 1.82E+00 | 1.23E+00 | 4.02E+00 |
| | | 304.84 | 4.50 | 3.32E-01 | | 5.62E+00 |
| | | 423.70 | 3.20 | 0.00E+00 | | 9.32E+00 |
| | | 437.55 | 2.00 | 4.00E+00 | | 1.52E+01 |
| | | 537.32 | 25.00 | -1.25E-01 | | 1.23E+00 |
| + | LA-140 | 328.77 | 20.50 | 1.14E+00 | 3.73E-01 | 1.39E+00 |
| | | 487.03 | 45.50 | -2.62E-01 | | 6.28E-01 |
| | | 815.85 | 23.50 | 9.91E-02 | | 1.31E+00 |
| | | 1596.49 | 95.49 | -1.16E-01 | | 3.73E-01 |
| + | CE-141 | 145.44 | 48.40 | 1.29E-01 | 2.02E-01 | 2.02E-01 |
| + | CE-143 | 57.36 | 11.80 | 6.46E+05 | 8.43E+05 | 2.08E+06 |
| | | 293.26 | 42.00 | 3.35E+06 | | 8.43E+05 |
| | | 664.55 | 5.20 | 1.59E+06 | | 4.57E+06 |
| + | CE-144 | 133.54 | 10.80 | 1.85E-01 | 5.04E-01 | 5.04E-01 |
| + | PM-144 | 476.78 | 42.00 | 4.57E-03 | 6.30E-02 | 1.50E-01 |
| | | 618.01 | 98.60 | -1.59E-02 | | 6.30E-02 |
| | | 696.49 | 99.49 | 1.88E-03 | | 7.68E-02 |
| + | PM-145 | 36.85 | 21.70 | -3.62E-01 | 2.93E-01 | 5.48E-01 |
| | | 37.36 | 39.70 | -3.00E-02 | | 2.93E-01 |
| | | 42.30 | 15.10 | -3.55E-02 | | 5.94E-01 |
| | | 72.40 | 2.31 | -3.27E+00 | | 3.30E+00 |
| + | PM-146 | 453.90 | 39.94 | -2.33E-02 | 1.46E-01 | 1.46E-01 |
| | | 735.90 | 14.01 | -7.66E-02 | | 4.92E-01 |
| | | 747.13 | 13.10 | -2.84E-02 | | 5.12E-01 |
| + | ND-147 | 91.11 | 28.90 | -3.92E+00 | 1.57E+00 | 1.57E+00 |
| | | 531.02 | 13.10 | 1.93E-01 | | 3.11E+00 |
| + | PM-149 | 285.90 | 3.10 | -3.20E+03 | 1.95E+04 | 1.95E+04 |
| + | EU-152 | 121.78 | 20.50 | -3.33E-02 | 2.34E-01 | 2.34E-01 |
| | | 244.69 | 5.40 | -5.54E-01 | | 1.08E+00 |
| | | 344.27 | 19.13 | -1.69E-02 | | 2.52E-01 |
| | | 778.89 | 9.20 | 3.89E-02 | | 7.21E-01 |
| | | 964.01 | 10.40 | 1.19E-01 | | 8.32E-01 |
| | | 1085.78 | 7.22 | 5.27E-01 | | 1.05E+00 |
| | | 1112.02 | 9.60 | 4.25E-01 | | 8.48E-01 |
| | | 1407.95 | 14.94 | 6.28E-01 | | 5.83E-01 |
| + | GD-153 | 97.43 | 31.30 | 6.51E-02 | 1.68E-01 | 1.68E-01 |
| | | 103.18 | 22.20 | 2.15E-02 | | 2.32E-01 |
| + | EU-154 | 123.07 | 40.50 | 5.34E-02 | 1.19E-01 | 1.19E-01 |
| | | 723.30 | 19.70 | 1.07E-02 | | 3.39E-01 |
| | | 873.19 | 11.50 | 3.91E-01 | | 6.08E-01 |
| | | 996.32 | 10.30 | -1.65E-01 | | 6.28E-01 |
| | | 1004.76 | 17.90 | -1.73E-02 | | 3.70E-01 |

Analysis Report for 1510085-04
CP5007S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | EU-154 | 1274.45 | 35.50 | -1.45E-02 | 1.19E-01 | 1.84E-01 |
| + | EU-155 | 86.50 | 30.90 | 1.04E-01 | 2.16E-01 | 2.16E-01 |
| | | 105.30 | 20.70 | 1.33E-02 | | 2.35E-01 |
| + | EU-156 | 811.77 | 10.40 | 7.65E-01 | 2.14E+00 | 2.14E+00 |
| | | 1153.47 | 7.20 | 8.15E-02 | | 4.55E+00 |
| | | 1230.71 | 8.90 | 1.40E+00 | | 3.90E+00 |
| + | HO-166M | 184.41 | 72.60 | 2.15E-01 | 9.55E-02 | 9.55E-02 |
| | | 280.45 | 29.60 | 5.19E-03 | | 1.73E-01 |
| | | 410.94 | 11.10 | 2.41E-01 | | 5.94E-01 |
| | | 711.69 | 54.10 | -6.27E-02 | | 1.13E-01 |
| + | TM-171 | 66.72 | 0.14 | -8.98E+01 | 4.87E+01 | 4.87E+01 |
| + | HF-172 | 81.75 | 4.52 | -1.23E+00 | 4.43E-01 | 1.35E+00 |
| | | 125.81 | 11.30 | 4.36E-02 | | 4.43E-01 |
| + | LU-172 | 181.53 | 20.60 | 2.66E+00 | 2.42E+00 | 5.76E+00 |
| | | 810.06 | 16.63 | -1.88E+00 | | 7.62E+00 |
| | | 912.12 | 15.25 | 5.11E+01 | | 1.93E+01 |
| | | 1093.66 | 62.50 | -5.15E-01 | | 2.42E+00 |
| + | LU-173 | 100.72 | 5.24 | 3.57E-01 | 2.74E-01 | 9.40E-01 |
| | | 272.11 | 21.20 | 1.48E-01 | | 2.74E-01 |
| + | HF-175 | 343.40 | 84.00 | -5.16E-03 | 7.88E-02 | 7.88E-02 |
| + | LU-176 | 88.34 | 13.30 | 9.79E-01 | 5.11E-02 | 5.08E-01 |
| | | 201.83 | 86.00 | -3.65E-02 | | 5.99E-02 |
| | | 306.78 | 94.00 | -2.62E-02 | | 5.11E-02 |
| + | TA-182 | 67.75 | 41.20 | -8.42E-03 | 1.91E-01 | 1.91E-01 |
| | | 1121.30 | 34.90 | 1.28E+00 | | 5.04E-01 |
| | | 1189.05 | 16.23 | -1.58E-02 | | 5.74E-01 |
| | | 1221.41 | 26.98 | -1.54E-01 | | 3.90E-01 |
| | | 1231.02 | 11.44 | 3.32E-01 | | 9.25E-01 |
| + | IR-192 | 308.46 | 29.68 | 1.27E-01 | 1.59E-01 | 2.26E-01 |
| | | 468.07 | 48.10 | -4.80E-03 | | 1.59E-01 |
| + | HG-203 | 279.19 | 77.30 | 4.69E-02 | 1.08E-01 | 1.08E-01 |
| + | BI-207 | 569.67 | 97.72 | 3.06E-02 | 6.35E-02 | 6.35E-02 |
| | | 1063.62 | 74.90 | -7.55E-03 | | 9.90E-02 |
| + | TL-208 | 583.14 | * 30.22 | 1.07E+00 | 8.07E-02 | 3.03E-01 |
| | | 860.37 | 4.48 | 1.83E+00 | | 1.86E+00 |
| | | 2614.66 | * 35.85 | 8.98E-01 | | 8.07E-02 |
| + | BI-210M | 262.00 | 45.00 | -4.85E-02 | 1.09E-01 | 1.09E-01 |
| | | 300.00 | 23.00 | -1.01E+00 | | 2.47E-01 |
| + | PB-210 | 46.50 | * 4.25 | 2.29E+00 | 2.51E+00 | 2.51E+00 |
| + | PB-211 | 404.84 | 2.90 | -1.50E-01 | 1.69E+00 | 1.69E+00 |
| | | 831.96 | 2.90 | -2.92E-01 | | 2.53E+00 |
| + | BI-212 | 727.17 | * 11.80 | 7.69E-01 | 6.50E-01 | 6.50E-01 |
| | | 1620.62 | 2.75 | 1.68E-01 | | 2.23E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.39E+00 | 2.49E-01 | 2.49E-01 |
| | | 300.09 | * 3.41 | 1.80E+00 | | 3.19E+00 |
| + | BI-214 | 609.31 | * 46.30 | 2.12E+00 | 2.24E-01 | 2.24E-01 |
| | | 1120.29 | * 15.10 | 2.39E+00 | | 7.38E-01 |
| | | 1764.49 | * 15.80 | 2.58E+00 | | 4.79E-01 |

Analysis Report for 1510085-04
CP5007S01-02

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | BI-214 | 2204.22 | * | 4.98 | 2.48E+00 | 2.24E-01 | 1.43E+00 |
| + | PB-214 | 295.21 | * | 19.19 | 2.52E+00 | 2.56E-01 | 5.52E-01 |
| | | 351.92 | * | 37.19 | 2.38E+00 | | 2.56E-01 |
| + | RN-219 | 401.80 | | 6.50 | -4.09E-02 | 7.54E-01 | 7.54E-01 |
| + | RA-223 | 323.87 | | 3.88 | 2.10E-01 | 1.31E+00 | 1.31E+00 |
| + | RA-224 | 240.98 | * | 3.95 | 4.60E+00 | 2.80E+00 | 2.80E+00 |
| + | RA-225 | 40.00 | | 31.00 | 7.41E-02 | 1.29E+00 | 1.29E+00 |
| + | RA-226 | 186.21 | * | 3.28 | 4.05E+00 | 2.55E+00 | 2.55E+00 |
| + | TH-227 | 50.10 | | 8.40 | -1.11E-01 | 5.71E-01 | 8.28E-01 |
| | | 236.00 | | 11.50 | -4.77E+00 | | 5.71E-01 |
| | | 256.20 | | 6.30 | -2.76E-01 | | 7.81E-01 |
| + | AC-228 | 338.32 | * | 11.40 | 1.28E+00 | 3.73E-01 | 6.96E-01 |
| | | 911.07 | * | 27.70 | 1.23E+00 | | 3.73E-01 |
| | | 969.11 | * | 16.60 | 9.40E-01 | | 6.45E-01 |
| + | TH-230 | 48.44 | | 16.90 | -6.77E-02 | 4.81E-01 | 4.81E-01 |
| | | 62.85 | | 4.60 | 2.11E+00 | | 1.61E+00 |
| | | 67.67 | | 0.37 | -7.82E-01 | | 1.77E+01 |
| + | PA-231 | 283.67 | | 1.60 | -2.09E+00 | 2.27E+00 | 3.04E+00 |
| | | 302.67 | | 2.30 | -3.45E-01 | | 2.27E+00 |
| + | TH-231 | 25.64 | | 14.70 | -4.52E-01 | 9.52E-01 | 3.66E+00 |
| | | 84.21 | | 6.40 | -2.59E+00 | | 9.52E-01 |
| + | PA-233 | 311.98 | | 38.60 | 4.62E-02 | 2.73E-01 | 2.73E-01 |
| + | PA-234 | 131.20 | | 20.40 | 1.10E-01 | 2.52E-01 | 2.52E-01 |
| | | 733.99 | | 8.80 | 1.19E-01 | | 7.62E-01 |
| | | 946.00 | | 12.00 | 9.45E-02 | | 5.74E-01 |
| + | PA-234M | 1001.03 | | 0.92 | 8.67E-01 | 7.61E+00 | 7.61E+00 |
| + | TH-234 | 63.29 | * | 3.80 | 2.14E+00 | 3.21E+00 | 3.21E+00 |
| + | U-235 | 143.76 | | 10.50 | 1.01E-01 | 4.79E-01 | 4.79E-01 |
| | | 163.35 | | 4.70 | 3.94E-01 | | 1.12E+00 |
| | | 205.31 | | 4.70 | 4.02E-01 | | 1.15E+00 |
| + | NP-237 | 86.50 | | 12.60 | 2.53E-01 | 5.24E-01 | 5.24E-01 |
| + | NP-239 | 106.10 | | 22.70 | 8.22E+01 | 1.45E+03 | 1.45E+03 |
| | | 228.18 | | 10.70 | 1.47E+03 | | 3.41E+03 |
| | | 277.60 | | 14.10 | 8.94E+01 | | 2.53E+03 |
| + | AM-241 | 59.54 | | 35.90 | -3.40E-01 | 1.84E-01 | 1.84E-01 |
| + | AM-243 | 74.67 | * | 66.00 | 3.72E-01 | 1.87E-01 | 1.87E-01 |
| + | CM-243 | 209.75 | | 3.29 | 1.47E+00 | 3.73E-01 | 1.70E+00 |
| | | 228.14 | | 10.60 | 2.17E-01 | | 5.04E-01 |
| | | 277.60 | | 14.00 | 1.32E-02 | | 3.73E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510085-04
CP5007S01-02

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 8.49E-01 | 8.49E-01 | 2.33E-01 | 4.05E-01 |
| NA-22 | 1274.54 | 99.94 | 6.64E-02 | 6.64E-02 | -5.24E-03 | 3.02E-02 |
| NA-24 | 1368.53 | 99.99 | 1.80E+13 | 9.49E+12 | 6.71E+12 | 8.15E+12 |
| | 2754.09 | 99.86 | 9.49E+12 | | -1.27E+12 | 3.55E+12 |
| AL-26 | 1808.65 | 99.76 | 4.75E-02 | 4.75E-02 | 3.55E-03 | 2.01E-02 |
| + K-40 | 1460.81 | * | 10.67 | 9.94E-01 | 1.80E+01 | 4.67E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 6.95E-02 | 6.95E-02 | -3.06E-03 | 3.41E-02 |
| | 78.34 | 96.00 | 8.95E-02 | | 2.70E-01 | 4.42E-02 |
| SC-46 | 889.25 | 99.98 | 8.22E-02 | 8.22E-02 | -7.43E-02 | 3.83E-02 |
| | 1120.51 | 99.99 | 1.85E-01 | | 4.36E-01 | 8.93E-02 |
| V-48 | 983.52 | 99.98 | 2.58E-01 | 2.58E-01 | -1.31E-01 | 1.20E-01 |
| | 1312.10 | 97.50 | 2.63E-01 | | -2.90E-02 | 1.20E-01 |
| CR-51 | 320.08 | 9.83 | 1.04E+00 | 1.04E+00 | -4.05E-01 | 5.00E-01 |
| MN-54 | 834.83 | 99.97 | 7.99E-02 | 7.99E-02 | 5.76E-03 | 3.77E-02 |
| CO-56 | 846.75 | 99.96 | 7.80E-02 | 7.80E-02 | -1.22E-02 | 3.62E-02 |
| | 1037.75 | 14.03 | 7.17E-01 | | -3.30E-03 | 3.35E-01 |
| | 1238.25 | 67.00 | 2.23E-01 | | 1.88E-01 | 1.06E-01 |
| | 1771.40 | 15.51 | 4.54E-01 | | 7.28E-02 | 1.97E-01 |
| | 2598.48 | 16.90 | 1.76E-01 | | -1.20E-01 | 5.57E-02 |
| CO-57 | 122.06 | 85.51 | 6.03E-02 | 6.03E-02 | -8.58E-03 | 2.94E-02 |
| | 136.48 | 10.60 | 5.08E-01 | | -1.47E-01 | 2.48E-01 |
| CO-58 | 810.76 | 99.40 | 7.36E-02 | 7.36E-02 | 2.69E-04 | 3.40E-02 |
| FE-59 | 1099.22 | 56.50 | 2.01E-01 | 2.01E-01 | -5.25E-02 | 9.32E-02 |
| | 1291.56 | 43.20 | 2.88E-01 | | 1.09E-02 | 1.33E-01 |
| CO-60 | 1173.22 | 100.00 | 8.71E-02 | 5.93E-02 | 1.10E-02 | 4.08E-02 |
| | 1332.49 | 100.00 | 5.93E-02 | | -3.91E-02 | 2.66E-02 |
| ZN-65 | 1115.52 | 50.75 | 1.73E-01 | 1.73E-01 | 6.27E-02 | 8.10E-02 |
| + GA-67 | 93.31 | * | 35.70 | 2.05E+02 | 1.94E+02 | 1.01E+02 |
| | 208.95 | * | 2.24 | 1.62E+03 | 1.14E+03 | 7.92E+02 |
| | 300.22 | * | 16.00 | 4.00E+02 | 2.25E+02 | 1.96E+02 |
| SE-75 | 121.11 | 16.70 | 3.36E-01 | 9.47E-02 | -1.42E-01 | 1.64E-01 |
| | 136.00 | 59.20 | 1.00E-01 | | -3.79E-02 | 4.88E-02 |
| | 264.65 | 59.80 | 9.47E-02 | | 4.51E-03 | 4.56E-02 |
| | 279.53 | 25.20 | 2.49E-01 | | 1.52E-01 | 1.20E-01 |
| | 400.65 | 11.40 | 5.14E-01 | | 4.12E-02 | 2.45E-01 |
| RB-82 | 776.52 | 13.00 | 1.12E+00 | 1.12E+00 | 6.17E-02 | 5.25E-01 |

Analysis Report for 1510085-04

CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|-----------|----------|
| RB-83 | 520.41 | 46.00 | 1.72E-01 | 1.72E-01 | 1.05E-01 | 8.19E-02 | | |
| | 529.64 | 30.30 | 2.57E-01 | | 6.07E-02 | 1.22E-01 | | |
| | 552.65 | 16.40 | 4.41E-01 | | 4.76E-02 | 2.09E-01 | | |
| KR-85 | 513.99 | 0.43 | 2.03E+01 | 2.03E+01 | 3.33E+01 | 9.81E+00 | | |
| SR-85 | 513.99 | 99.27 | 1.22E-01 | 1.22E-01 | 2.00E-01 | 5.88E-02 | | |
| Y-88 | 898.02 | 93.40 | 9.02E-02 | 5.85E-02 | 5.38E-04 | 4.22E-02 | | |
| | 1836.01 | 99.38 | 5.85E-02 | | 6.38E-03 | 2.47E-02 | | |
| NB-93M | 16.57 | 9.43 | 5.30E+01 | 5.30E+01 | -7.73E+01 | 2.44E+01 | | |
| NB-94 | 702.63 | 100.00 | 7.20E-02 | 6.26E-02 | -2.21E-02 | 3.42E-02 | | |
| | 871.10 | 100.00 | 6.26E-02 | | -4.36E-02 | 2.92E-02 | | |
| NB-95 | 765.79 | 99.81 | 1.63E-01 | 1.63E-01 | 1.73E-01 | 7.79E-02 | | |
| NB-95M | 235.69 | 25.00 | 8.33E+01 | 8.33E+01 | -6.97E+02 | 4.06E+01 | | |
| ZR-95 | 724.18 | 43.70 | 2.25E-01 | 1.70E-01 | 1.05E-02 | 1.07E-01 | | |
| MO-99 | 756.72 | 55.30 | 1.70E-01 | | 8.68E-02 | 8.03E-02 | | |
| | 181.06 | 6.20 | 1.61E+03 | 1.08E+03 | 5.18E+01 | 7.85E+02 | | |
| | 739.58 | 12.80 | 1.08E+03 | | 5.99E+02 | 5.14E+02 | | |
| RU-103 | 778.00 | 4.50 | 2.77E+03 | | 1.52E+02 | 1.30E+03 | | |
| | 497.08 | 89.00 | 1.18E-01 | 1.18E-01 | 2.08E-02 | 5.62E-02 | | |
| | 621.84 | 9.80 | 6.33E-01 | 6.33E-01 | -1.57E-01 | 2.99E-01 | | |
| AG-108M | 433.93 | 89.90 | 6.40E-02 | 6.40E-02 | 1.49E-03 | 3.06E-02 | | |
| | 614.37 | 90.40 | 6.86E-02 | | -1.32E-03 | 3.25E-02 | | |
| | 722.95 | 90.50 | 7.33E-02 | | 2.30E-03 | 3.46E-02 | | |
| + CD-109 | 88.03 | * | 3.49E+00 | 3.49E+00 | 3.60E+00 | 1.73E+00 | | |
| | AG-110M | 657.75 | 93.14 | 7.18E-02 | 7.18E-02 | 1.25E-02 | 3.39E-02 | |
| | | 677.61 | 10.53 | 6.87E-01 | | 1.02E-01 | 3.26E-01 | |
| | | 706.67 | 16.46 | 4.49E-01 | | -6.87E-02 | 2.12E-01 | |
| | | 763.93 | 21.98 | 3.54E-01 | | 4.93E-03 | 1.67E-01 | |
| | | 884.67 | 71.63 | 1.03E-01 | | -1.32E-02 | 4.83E-02 | |
| | | 1384.27 | 23.94 | 3.05E-01 | | -3.44E-01 | 1.39E-01 | |
| | | CD-113M | 263.70 | 0.02 | 2.11E+02 | 2.11E+02 | 9.86E+00 | 1.02E+02 |
| | | SN-113 | 255.12 | 1.93 | 2.98E+00 | 9.98E-02 | -2.13E+00 | 1.44E+00 |
| | | | 391.69 | 64.90 | 9.98E-02 | | 1.39E-02 | 4.77E-02 |
| TE123M | 159.00 | 84.10 | 7.12E-02 | 7.12E-02 | -3.53E-03 | 3.47E-02 | | |
| SB-124 | 602.71 | 97.87 | 9.00E-02 | 9.00E-02 | -1.50E-02 | 4.27E-02 | | |
| | 645.85 | 7.26 | 1.19E+00 | | -8.71E-02 | 5.60E-01 | | |
| | 722.78 | 11.10 | 8.44E-01 | | 2.65E-02 | 3.98E-01 | | |
| | 1691.02 | 49.00 | 9.06E-02 | | -1.07E-01 | 3.51E-02 | | |
| I-125 | 35.49 | 6.49 | 2.88E+00 | 2.88E+00 | -6.59E-01 | 1.40E+00 | | |
| SB-125 | 176.33 | 6.89 | 7.32E-01 | 2.06E-01 | -6.22E-01 | 3.56E-01 | | |
| | 427.89 | 29.33 | 2.06E-01 | | -3.80E-02 | 9.85E-02 | | |
| | 463.38 | 10.35 | 6.59E-01 | | 6.73E-01 | 3.17E-01 | | |
| | 600.56 | 17.80 | 3.38E-01 | | -5.20E-02 | 1.60E-01 | | |
| | 635.90 | 11.32 | 5.96E-01 | | 1.06E-01 | 2.83E-01 | | |
| SB-126 | 414.70 | 83.30 | 3.91E-01 | 3.34E-01 | 4.52E-02 | 1.88E-01 | | |
| | 666.33 | 99.60 | 3.34E-01 | | 5.06E-02 | 1.58E-01 | | |
| | 695.00 | 99.60 | 3.65E-01 | | -5.11E-02 | 1.73E-01 | | |
| | 720.50 | 53.80 | 6.41E-01 | | 7.12E-02 | 3.02E-01 | | |
| + SN-126 | 87.57 | * | 3.35E-01 | 3.35E-01 | 3.46E-01 | 1.66E-01 | | |
| | SB-127 | 473.00 | 25.00 | 5.44E+01 | 4.30E+01 | 1.39E+01 | 2.60E+01 | |
| | | 685.20 | 35.70 | 4.30E+01 | | 2.13E+01 | 2.04E+01 | |
| I-129 | 783.80 | 14.70 | 1.12E+02 | | 4.65E+01 | 5.31E+01 | | |
| | 29.78 | 57.00 | 4.37E-01 | 4.37E-01 | -1.71E-01 | 2.12E-01 | | |
| | 33.60 | 13.20 | 1.22E+00 | | 2.54E-01 | 5.91E-01 | | |

Analysis Report for 1510085-04
CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| I-129 | 39.58 | 7.52 | 1.34E+00 | 4.37E-01 | 7.70E-02 | 6.51E-01 |
| I-131 | 284.30 | 6.05 | 1.07E+01 | 7.47E-01 | -5.26E+00 | 5.13E+00 |
| | 364.48 | 81.20 | 7.47E-01 | | 2.68E-01 | 3.56E-01 |
| | 636.97 | 7.26 | 1.23E+01 | | 4.67E+00 | 5.82E+00 |
| | 722.89 | 1.80 | 4.89E+01 | | 1.54E+00 | 2.31E+01 |
| TE-132 | 49.72 | 13.10 | 3.18E+02 | 3.58E+01 | -4.27E+01 | 1.55E+02 |
| | 228.16 | 88.00 | 3.58E+01 | | 1.55E+01 | 1.74E+01 |
| BA-133 | 81.00 | 33.00 | 1.79E-01 | 8.60E-02 | -9.22E-01 | 8.78E-02 |
| | 302.84 | 17.80 | 2.95E-01 | | -4.49E-02 | 1.42E-01 |
| | 356.01 | 60.00 | 8.60E-02 | | -1.12E+00 | 4.12E-02 |
| I-133 | 529.87 | 86.30 | 1.87E+09 | 1.87E+09 | 4.41E+08 | 8.91E+08 |
| XE-133 | 81.00 | 38.00 | 8.16E+00 | 8.16E+00 | -4.20E+01 | 4.00E+00 |
| CS-134 | 563.23 | 8.38 | 7.76E-01 | 7.06E-02 | 5.09E-01 | 3.69E-01 |
| | 569.32 | 15.43 | 4.07E-01 | | 6.50E-02 | 1.93E-01 |
| | 604.70 | 97.60 | 7.06E-02 | | -1.36E-02 | 3.36E-02 |
| | 795.84 | 85.40 | 8.99E-02 | | 8.36E-02 | 4.25E-02 |
| | 801.93 | 8.73 | 7.01E-01 | | -6.08E-02 | 3.27E-01 |
| CS-135 | 268.24 | 16.00 | 3.56E-01 | 3.56E-01 | 3.22E-01 | 1.72E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.38E+00 | 3.42E-01 | 3.44E-01 | 1.65E+00 |
| | 163.89 | 4.61 | 5.57E+00 | | 1.95E+00 | 2.72E+00 |
| | 176.55 | 13.56 | 1.77E+00 | | -1.50E+00 | 8.60E-01 |
| | 273.65 | 12.66 | 1.88E+00 | | -7.83E-01 | 9.05E-01 |
| | 340.57 | 48.50 | 6.37E-01 | | 7.25E-01 | 3.08E-01 |
| | 818.50 | 99.70 | 3.42E-01 | | -1.95E-02 | 1.61E-01 |
| | 1048.07 | 79.60 | 4.22E-01 | | -8.28E-02 | 1.96E-01 |
| | 1235.34 | 19.70 | 2.44E+00 | | 3.16E-01 | 1.15E+00 |
| CS-137 | 661.65 | 85.12 | 7.31E-02 | 7.31E-02 | -2.03E-02 | 3.45E-02 |
| LA-138 | 788.74 | 34.00 | 2.15E-01 | 1.02E-01 | 3.78E-02 | 1.02E-01 |
| | 1435.80 | 66.00 | 1.02E-01 | | 5.26E-02 | 4.60E-02 |
| CE-139 | 165.85 | 80.35 | 7.51E-02 | 7.51E-02 | 3.00E-02 | 3.66E-02 |
| BA-140 | 162.64 | 6.70 | 4.02E+00 | 1.23E+00 | 1.82E+00 | 1.96E+00 |
| | 304.84 | 4.50 | 5.62E+00 | | 3.32E-01 | 2.70E+00 |
| | 423.70 | 3.20 | 9.32E+00 | | 0.00E+00 | 4.47E+00 |
| | 437.55 | 2.00 | 1.52E+01 | | 4.00E+00 | 7.27E+00 |
| | 537.32 | 25.00 | 1.23E+00 | | -1.25E-01 | 5.84E-01 |
| LA-140 | 328.77 | 20.50 | 1.39E+00 | 3.73E-01 | 1.14E+00 | 6.69E-01 |
| | 487.03 | 45.50 | 6.28E-01 | | -2.62E-01 | 2.99E-01 |
| | 815.85 | 23.50 | 1.31E+00 | | 9.91E-02 | 6.13E-01 |
| | 1596.49 | 95.49 | 3.73E-01 | | -1.16E-01 | 1.68E-01 |
| CE-141 | 145.44 | 48.40 | 2.02E-01 | 2.02E-01 | 1.29E-01 | 9.85E-02 |
| CE-143 | 57.36 | 11.80 | 2.08E+06 | 8.43E+05 | 6.46E+05 | 1.02E+06 |
| | 293.26 | 42.00 | 8.43E+05 | | 3.35E+06 | 4.13E+05 |
| | 664.55 | 5.20 | 4.57E+06 | | 1.59E+06 | 2.16E+06 |
| CE-144 | 133.54 | 10.80 | 5.04E-01 | 5.04E-01 | 1.85E-01 | 2.46E-01 |
| PM-144 | 476.78 | 42.00 | 1.50E-01 | 6.30E-02 | 4.57E-03 | 7.18E-02 |
| | 618.01 | 98.60 | 6.30E-02 | | -1.59E-02 | 2.97E-02 |
| | 696.49 | 99.49 | 7.68E-02 | | 1.88E-03 | 3.65E-02 |
| PM-145 | 36.85 | 21.70 | 5.48E-01 | 2.93E-01 | -3.62E-01 | 2.66E-01 |
| | 37.36 | 39.70 | 2.93E-01 | | -3.00E-02 | 1.43E-01 |
| | 42.30 | 15.10 | 5.94E-01 | | -3.55E-02 | 2.89E-01 |

Analysis Report for 1510085-04

CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| PM-145 | 72.40 | 2.31 | 3.30E+00 | 2.93E-01 | -3.27E+00 | 1.62E+00 |
| PM-146 | 453.90 | 39.94 | 1.46E-01 | 1.46E-01 | -2.33E-02 | 6.95E-02 |
| | 735.90 | 14.01 | 4.92E-01 | | -7.66E-02 | 2.32E-01 |
| | 747.13 | 13.10 | 5.12E-01 | | -2.84E-02 | 2.41E-01 |
| ND-147 | 91.11 | 28.90 | 1.57E+00 | 1.57E+00 | -3.92E+00 | 7.71E-01 |
| | 531.02 | 13.10 | 3.11E+00 | | 1.93E-01 | 1.48E+00 |
| PM-149 | 285.90 | 3.10 | 1.95E+04 | 1.95E+04 | -3.20E+03 | 9.36E+03 |
| EU-152 | 121.78 | 20.50 | 2.34E-01 | 2.34E-01 | -3.33E-02 | 1.14E-01 |
| | 244.69 | 5.40 | 1.08E+00 | | -5.54E-01 | 5.23E-01 |
| | 344.27 | 19.13 | 2.52E-01 | | -1.69E-02 | 1.20E-01 |
| | 778.89 | 9.20 | 7.21E-01 | | 3.89E-02 | 3.39E-01 |
| | 964.01 | 10.40 | 8.32E-01 | | 1.19E-01 | 3.94E-01 |
| | 1085.78 | 7.22 | 1.05E+00 | | 5.27E-01 | 4.91E-01 |
| | 1112.02 | 9.60 | 8.48E-01 | | 4.25E-01 | 3.97E-01 |
| | 1407.95 | 14.94 | 5.83E-01 | | 6.28E-01 | 2.71E-01 |
| GD-153 | 97.43 | 31.30 | 1.68E-01 | 1.68E-01 | 6.51E-02 | 8.20E-02 |
| | 103.18 | 22.20 | 2.32E-01 | | 2.15E-02 | 1.13E-01 |
| EU-154 | 123.07 | 40.50 | 1.19E-01 | 1.19E-01 | 5.34E-02 | 5.80E-02 |
| | 723.30 | 19.70 | 3.39E-01 | | 1.07E-02 | 1.60E-01 |
| | 873.19 | 11.50 | 6.08E-01 | | 3.91E-01 | 2.85E-01 |
| | 996.32 | 10.30 | 6.28E-01 | | -1.65E-01 | 2.91E-01 |
| | 1004.76 | 17.90 | 3.70E-01 | | -1.73E-02 | 1.72E-01 |
| | 1274.45 | 35.50 | 1.84E-01 | | -1.45E-02 | 8.38E-02 |
| EU-155 | 86.50 | 30.90 | 2.16E-01 | 2.16E-01 | 1.04E-01 | 1.06E-01 |
| | 105.30 | 20.70 | 2.35E-01 | | 1.33E-02 | 1.15E-01 |
| EU-156 | 811.77 | 10.40 | 2.14E+00 | 2.14E+00 | 7.65E-01 | 9.91E-01 |
| | 1153.47 | 7.20 | 4.55E+00 | | 8.15E-02 | 2.13E+00 |
| | 1230.71 | 8.90 | 3.90E+00 | | 1.40E+00 | 1.82E+00 |
| HO-166M | 184.41 | 72.60 | 9.55E-02 | 9.55E-02 | 2.15E-01 | 4.68E-02 |
| | 280.45 | 29.60 | 1.73E-01 | | 5.19E-03 | 8.32E-02 |
| | 410.94 | 11.10 | 5.94E-01 | | 2.41E-01 | 2.86E-01 |
| | 711.69 | 54.10 | 1.13E-01 | | -6.27E-02 | 5.31E-02 |
| TM-171 | 66.72 | 0.14 | 4.87E+01 | 4.87E+01 | -8.98E+01 | 2.39E+01 |
| HF-172 | 81.75 | 4.52 | 1.35E+00 | 4.43E-01 | -1.23E+00 | 6.62E-01 |
| | 125.81 | 11.30 | 4.43E-01 | | 4.36E-02 | 2.16E-01 |
| LU-172 | 181.53 | 20.60 | 5.76E+00 | 2.42E+00 | 2.66E+00 | 2.80E+00 |
| | 810.06 | 16.63 | 7.62E+00 | | -1.88E+00 | 3.54E+00 |
| | 912.12 | 15.25 | 1.93E+01 | | 5.11E+01 | 9.31E+00 |
| | 1093.66 | 62.50 | 2.42E+00 | | -5.15E-01 | 1.12E+00 |
| LU-173 | 100.72 | 5.24 | 9.40E-01 | 2.74E-01 | 3.57E-01 | 4.59E-01 |
| | 272.11 | 21.20 | 2.74E-01 | | 1.48E-01 | 1.32E-01 |
| HF-175 | 343.40 | 84.00 | 7.88E-02 | 7.88E-02 | -5.16E-03 | 3.77E-02 |
| LU-176 | 88.34 | 13.30 | 5.08E-01 | 5.11E-02 | 9.79E-01 | 2.50E-01 |
| | 201.83 | 86.00 | 5.99E-02 | | -3.65E-02 | 2.91E-02 |
| | 306.78 | 94.00 | 5.11E-02 | | -2.62E-02 | 2.45E-02 |
| TA-182 | 67.75 | 41.20 | 1.91E-01 | 1.91E-01 | -8.42E-03 | 9.37E-02 |
| | 1121.30 | 34.90 | 5.04E-01 | | 1.28E+00 | 2.43E-01 |
| | 1189.05 | 16.23 | 5.74E-01 | | -1.58E-02 | 2.67E-01 |
| | 1221.41 | 26.98 | 3.90E-01 | | -1.54E-01 | 1.83E-01 |
| | 1231.02 | 11.44 | 9.25E-01 | | 3.32E-01 | 4.33E-01 |
| IR-192 | 308.46 | 29.68 | 2.26E-01 | 1.59E-01 | 1.27E-01 | 1.09E-01 |
| | 468.07 | 48.10 | 1.59E-01 | | -4.80E-03 | 7.61E-02 |
| HG-203 | 279.19 | 77.30 | 1.08E-01 | 1.08E-01 | 4.69E-02 | 5.23E-02 |

Analysis Report for 1510085-04
CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| BI-207 | 569.67 | 97.72 | 6.35E-02 | 6.35E-02 | 3.06E-02 | 3.02E-02 |
| | 1063.62 | 74.90 | 9.90E-02 | | -7.55E-03 | 4.61E-02 |
| + TL-208 | 583.14 * | 30.22 | 3.03E-01 | 8.07E-02 | 1.07E+00 | 1.46E-01 |
| | 860.37 | 4.48 | 1.86E+00 | | 1.83E+00 | 8.82E-01 |
| | 2614.66 * | 35.85 | 8.07E-02 | | 8.98E-01 | 2.86E-02 |
| BI-210M | 262.00 | 45.00 | 1.09E-01 | 1.09E-01 | -4.85E-02 | 5.27E-02 |
| | 300.00 | 23.00 | 2.47E-01 | | -1.01E+00 | 1.19E-01 |
| + PB-210 | 46.50 * | 4.25 | 2.51E+00 | 2.51E+00 | 2.29E+00 | 1.23E+00 |
| PB-211 | 404.84 | 2.90 | 1.69E+00 | 1.69E+00 | -1.50E-01 | 8.02E-01 |
| | 831.96 | 2.90 | 2.53E+00 | | -2.92E-01 | 1.19E+00 |
| + BI-212 | 727.17 * | 11.80 | 6.50E-01 | 6.50E-01 | 7.69E-01 | 3.09E-01 |
| | 1620.62 | 2.75 | 2.23E+00 | | 1.68E-01 | 9.87E-01 |
| + PB-212 | 238.63 * | 44.60 | 2.49E-01 | 2.49E-01 | 1.39E+00 | 1.23E-01 |
| | 300.09 * | 3.41 | 3.19E+00 | | 1.80E+00 | 1.57E+00 |
| + BI-214 | 609.31 * | 46.30 | 2.24E-01 | 2.24E-01 | 2.12E+00 | 1.08E-01 |
| | 1120.29 * | 15.10 | 7.38E-01 | | 2.39E+00 | 3.52E-01 |
| | 1764.49 * | 15.80 | 4.79E-01 | | 2.58E+00 | 2.17E-01 |
| | 2204.22 * | 4.98 | 1.43E+00 | | 2.48E+00 | 6.35E-01 |
| + PB-214 | 295.21 * | 19.19 | 5.52E-01 | 2.56E-01 | 2.52E+00 | 2.71E-01 |
| | 351.92 * | 37.19 | 2.56E-01 | | 2.38E+00 | 1.25E-01 |
| RN-219 | 401.80 | 6.50 | 7.54E-01 | 7.54E-01 | -4.09E-02 | 3.59E-01 |
| RA-223 | 323.87 | 3.88 | 1.31E+00 | 1.31E+00 | 2.10E-01 | 6.26E-01 |
| + RA-224 | 240.98 * | 3.95 | 2.80E+00 | 2.80E+00 | 4.60E+00 | 1.38E+00 |
| RA-225 | 40.00 | 31.00 | 1.29E+00 | 1.29E+00 | 7.41E-02 | 6.27E-01 |
| + RA-226 | 186.21 * | 3.28 | 2.55E+00 | 2.55E+00 | 4.05E+00 | 1.25E+00 |
| TH-227 | 50.10 | 8.40 | 8.28E-01 | 5.71E-01 | -1.11E-01 | 4.04E-01 |
| | 236.00 | 11.50 | 5.71E-01 | | -4.77E+00 | 2.78E-01 |
| | 256.20 | 6.30 | 7.81E-01 | | -2.76E-01 | 3.77E-01 |
| + AC-228 | 338.32 * | 11.40 | 6.96E-01 | 3.73E-01 | 1.28E+00 | 3.39E-01 |
| | 911.07 * | 27.70 | 3.73E-01 | | 1.23E+00 | 1.79E-01 |
| | 969.11 * | 16.60 | 6.45E-01 | | 9.40E-01 | 3.09E-01 |
| TH-230 | 48.44 | 16.90 | 4.81E-01 | 4.81E-01 | -6.77E-02 | 2.35E-01 |
| | 62.85 | 4.60 | 1.61E+00 | | 2.11E+00 | 7.90E-01 |
| | 67.67 | 0.37 | 1.77E+01 | | -7.82E-01 | 8.70E+00 |
| PA-231 | 283.67 | 1.60 | 3.04E+00 | 2.27E+00 | -2.09E+00 | 1.46E+00 |
| | 302.67 | 2.30 | 2.27E+00 | | -3.45E-01 | 1.09E+00 |
| TH-231 | 25.64 | 14.70 | 3.66E+00 | 9.52E-01 | -4.52E-01 | 1.78E+00 |
| | 84.21 | 6.40 | 9.52E-01 | | -2.59E+00 | 4.67E-01 |
| PA-233 | 311.98 | 38.60 | 2.73E-01 | 2.73E-01 | 4.62E-02 | 1.31E-01 |
| PA-234 | 131.20 | 20.40 | 2.52E-01 | 2.52E-01 | 1.10E-01 | 1.23E-01 |
| | 733.99 | 8.80 | 7.62E-01 | | 1.19E-01 | 3.60E-01 |
| | 946.00 | 12.00 | 5.74E-01 | | 9.45E-02 | 2.68E-01 |
| PA-234M | 1001.03 | 0.92 | 7.61E+00 | 7.61E+00 | 8.67E-01 | 3.54E+00 |
| + TH-234 | 63.29 * | 3.80 | 3.21E+00 | 3.21E+00 | 2.14E+00 | 1.59E+00 |
| U-235 | 143.76 | 10.50 | 4.79E-01 | 4.79E-01 | 1.01E-01 | 2.33E-01 |
| | 163.35 | 4.70 | 1.12E+00 | | 3.94E-01 | 5.48E-01 |
| | 205.31 | 4.70 | 1.15E+00 | | 4.02E-01 | 5.58E-01 |
| NP-237 | 86.50 | 12.60 | 5.24E-01 | 5.24E-01 | 2.53E-01 | 2.58E-01 |
| NP-239 | 106.10 | 22.70 | 1.45E+03 | 1.45E+03 | 8.22E+01 | 7.07E+02 |
| | 228.18 | 10.70 | 3.41E+03 | | 1.47E+03 | 1.65E+03 |
| | 277.60 | 14.10 | 2.53E+03 | | 8.94E+01 | 1.22E+03 |
| AM-241 | 59.54 | 35.90 | 1.84E-01 | 1.84E-01 | -3.40E-01 | 9.02E-02 |
| + AM-243 | 74.67 * | 66.00 | 1.87E-01 | 1.87E-01 | 3.72E-01 | 9.24E-02 |

Analysis Report for 1510085-04
 CP5007S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CM-243 | 209.75 | 3.29 | 1.70E+00 | 3.73E-01 | 1.47E+00 | 8.26E-01 |
| | 228.14 | 10.60 | 5.04E-01 | | 2.17E-01 | 2.44E-01 |
| | 277.60 | 14.00 | 3.73E-01 | | 1.32E-02 | 1.80E-01 |

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| Creation Date | Comment | User |
|---------------|---------|------|
|---------------|---------|------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5007S01-02

Elapsed Live time: 3600
 Elapsed Real Time: 3602

| Channel | 1 | 9 | 17 | 25 | 33 | 41 | 49 | 57 | 65 | 73 | 81 | 89 | 97 | 105 | 113 | 121 | 129 | 137 | 145 | 153 | 161 | 169 | 177 | 185 | 193 | 201 | 209 | 217 | 225 | 233 | 241 | 249 | 257 | 265 | 273 | 281 | 289 | 297 | 305 | 313 | 321 | 329 | 337 | 345 | 353 | 361 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------|---|---|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|-----|-----|----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|----|-----|----|----|-----|-----|----|----|-----|-----|-----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|-----|----|----|-----|-----|-----|-----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|-----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|-----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|-----|-----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|-----|----|----|-----|----|----|----|----|----|-----|----|----|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17: | 0 | 0 | 46 | 96 | 89 | 84 | 98 | 84 | 81 | 75 | 73 | 77 | 85 | 81 | 88 | 84 | 83 | 70 | 86 | 104 | 87 | 94 | 90 | 111 | 99 | 128 | 249 | 120 | 49 | 99 | 122 | 93 | 121 | 126 | 166 | 117 | 126 | 57 | 141 | 162 | 137 | 156 | 162 | 159 | 247 | 338 | 65 | 171 | 189 | 200 | 188 | 188 | 174 | 183 | 204 | 73 | 197 | 241 | 537 | 445 | 570 | 733 | 177 | 195 | 81 | 178 | 180 | 142 | 195 | 221 | 167 | 229 | 339 | 89 | 175 | 222 | 225 | 180 | 414 | 314 | 157 | 132 | 97 | 103 | 113 | 127 | 124 | 108 | 107 | 105 | 101 | 105 | 105 | 125 | 127 | 113 | 116 | 122 | 104 | 112 | 116 | 113 | 129 | 150 | 111 | 119 | 94 | 110 | 103 | 116 | 121 | 97 | 95 | 111 | 116 | 115 | 83 | 104 | 124 | 129 | 103 | 131 | 108 | 115 | 126 | 110 | 111 | 101 | 137 | 102 | 113 | 109 | 116 | 96 | 108 | 89 | 123 | 145 | 98 | 103 | 102 | 117 | 98 | 114 | 104 | 114 | 153 | 98 | 108 | 114 | 91 | 102 | 93 | 82 | 106 | 161 | 91 | 99 | 108 | 107 | 110 | 84 | 96 | 85 | 169 | 76 | 68 | 98 | 78 | 82 | 96 | 88 | 76 | 177 | 77 | 95 | 71 | 99 | 83 | 104 | 84 | 89 | 185 | 108 | 259 | 234 | 86 | 84 | 90 | 83 | 74 | 193 | 83 | 91 | 64 | 66 | 82 | 82 | 82 | 81 | 201 | 81 | 76 | 72 | 68 | 90 | 86 | 69 | 94 | 209 | 96 | 115 | 58 | 61 | 67 | 69 | 76 | 69 | 217 | 64 | 61 | 66 | 78 | 62 | 73 | 84 | 48 | 225 | 54 | 66 | 64 | 78 | 71 | 68 | 74 | 64 | 233 | 60 | 78 | 72 | 96 | 93 | 170 | 698 | 273 | 241 | 105 | 225 | 171 | 59 | 55 | 38 | 52 | 54 | 249 | 58 | 65 | 54 | 50 | 47 | 38 | 48 | 53 | 257 | 55 | 58 | 70 | 53 | 58 | 48 | 43 | 42 | 265 | 64 | 37 | 39 | 55 | 60 | 62 | 104 | 53 | 273 | 40 | 40 | 54 | 41 | 60 | 59 | 36 | 58 | 281 | 54 | 51 | 41 | 32 | 47 | 42 | 50 | 50 | 289 | 44 | 50 | 53 | 45 | 46 | 61 | 275 | 391 | 297 | 71 | 54 | 36 | 69 | 71 | 43 | 43 | 42 | 305 | 27 | 42 | 48 | 38 | 31 | 53 | 37 | 34 | 313 | 32 | 31 | 34 | 37 | 43 | 41 | 43 | 27 | 321 | 33 | 34 | 38 | 44 | 38 | 38 | 41 | 50 | 329 | 65 | 40 | 36 | 28 | 36 | 32 | 32 | 43 | 337 | 24 | 79 | 143 | 45 | 33 | 40 | 26 | 34 | 345 | 36 | 30 | 31 | 40 | 38 | 42 | 113 | 599 | 353 | 437 | 47 | 35 | 31 | 34 | 25 | 32 | 29 | 361 | 25 | 19 | 26 | 29 | 19 | 28 | 28 | 17 |

369: 27 28 30 33 34 27 33 31

Sample Title: CP5007S01-02

| Channel | --- | --- | --- | --- | --- | --- | --- | --- |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|
| 377: | 35 | 21 | 23 | 24 | 36 | 21 | 17 | 32 |
| 385: | 23 | 29 | 27 | 27 | 31 | 39 | 31 | 30 |
| 393: | 33 | 33 | 31 | 35 | 26 | 25 | 27 | 24 |
| 401: | 29 | 28 | 24 | 25 | 26 | 28 | 25 | 27 |
| 409: | 31 | 47 | 44 | 32 | 28 | 25 | 22 | 40 |
| 417: | 25 | 23 | 25 | 25 | 18 | 20 | 30 | 32 |
| 425: | 24 | 23 | 28 | 30 | 20 | 27 | 23 | 18 |
| 433: | 29 | 19 | 28 | 20 | 25 | 22 | 23 | 28 |
| 441: | 27 | 20 | 22 | 24 | 26 | 22 | 16 | 23 |
| 449: | 19 | 20 | 19 | 20 | 29 | 18 | 24 | 23 |
| 457: | 18 | 27 | 24 | 15 | 27 | 26 | 52 | 33 |
| 465: | 22 | 21 | 19 | 17 | 19 | 21 | 27 | 29 |
| 473: | 16 | 25 | 18 | 26 | 24 | 22 | 17 | 19 |
| 481: | 26 | 15 | 22 | 9 | 18 | 22 | 20 | 24 |
| 489: | 18 | 18 | 23 | 26 | 18 | 23 | 26 | 24 |
| 497: | 22 | 16 | 25 | 16 | 17 | 21 | 23 | 16 |
| 505: | 20 | 21 | 20 | 17 | 22 | 42 | 103 | 68 |
| 513: | 34 | 27 | 25 | 25 | 16 | 20 | 20 | 22 |
| 521: | 24 | 17 | 18 | 22 | 13 | 10 | 20 | 26 |
| 529: | 16 | 21 | 14 | 15 | 23 | 20 | 23 | 20 |
| 537: | 18 | 17 | 14 | 22 | 14 | 17 | 18 | 10 |
| 545: | 17 | 25 | 23 | 19 | 16 | 15 | 13 | 22 |
| 553: | 18 | 13 | 15 | 12 | 13 | 15 | 13 | 11 |
| 561: | 12 | 24 | 28 | 15 | 24 | 17 | 14 | 12 |
| 569: | 23 | 18 | 20 | 16 | 20 | 13 | 12 | 17 |
| 577: | 12 | 12 | 17 | 21 | 18 | 24 | 101 | 173 |
| 585: | 30 | 17 | 20 | 14 | 17 | 12 | 11 | 12 |
| 593: | 21 | 13 | 16 | 16 | 11 | 16 | 14 | 16 |
| 601: | 18 | 14 | 10 | 14 | 21 | 21 | 19 | 33 |
| 609: | 277 | 424 | 105 | 24 | 11 | 15 | 18 | 11 |
| 617: | 14 | 16 | 12 | 13 | 12 | 16 | 12 | 17 |
| 625: | 13 | 13 | 18 | 8 | 19 | 17 | 19 | 16 |
| 633: | 15 | 23 | 13 | 14 | 18 | 18 | 17 | 18 |
| 641: | 10 | 17 | 20 | 8 | 13 | 9 | 22 | 12 |
| 649: | 13 | 18 | 12 | 14 | 6 | 11 | 16 | 13 |
| 657: | 10 | 17 | 12 | 13 | 15 | 19 | 12 | 12 |
| 665: | 14 | 23 | 12 | 11 | 12 | 10 | 9 | 10 |
| 673: | 12 | 10 | 14 | 16 | 12 | 17 | 15 | 21 |
| 681: | 13 | 17 | 17 | 16 | 18 | 14 | 13 | 20 |
| 689: | 7 | 12 | 10 | 15 | 13 | 15 | 10 | 22 |
| 697: | 15 | 18 | 30 | 12 | 15 | 25 | 17 | 18 |
| 705: | 19 | 14 | 15 | 17 | 7 | 15 | 13 | 13 |
| 713: | 11 | 16 | 8 | 19 | 11 | 11 | 19 | 12 |
| 721: | 12 | 16 | 13 | 8 | 15 | 20 | 27 | 34 |
| 729: | 21 | 16 | 11 | 11 | 17 | 18 | 13 | 10 |
| 737: | 16 | 14 | 11 | 19 | 17 | 15 | 19 | 15 |
| 745: | 9 | 24 | 10 | 10 | 13 | 10 | 11 | 11 |
| 753: | 6 | 14 | 16 | 18 | 7 | 9 | 12 | 18 |
| 761: | 14 | 8 | 19 | 12 | 13 | 12 | 25 | 35 |
| 769: | 49 | 27 | 9 | 20 | 24 | 12 | 16 | 7 |
| 777: | 10 | 12 | 14 | 9 | 13 | 19 | 6 | 10 |
| 785: | 14 | 25 | 20 | 16 | 10 | 9 | 9 | 13 |
| 793: | 13 | 15 | 14 | 31 | 14 | 5 | 13 | 7 |

801: 6 7 9 11 11 24 17 9

Sample Title: CP5007S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|-----|----|----|----|----|----|----|-----|
| 809: | 3 | 6 | 10 | 7 | 5 | 12 | 13 | 9 |
| 817: | 8 | 6 | 12 | 18 | 18 | 17 | 7 | 13 |
| 825: | 9 | 8 | 15 | 17 | 11 | 13 | 14 | 17 |
| 833: | 13 | 14 | 12 | 15 | 14 | 12 | 14 | 20 |
| 841: | 16 | 16 | 9 | 9 | 8 | 5 | 6 | 14 |
| 849: | 8 | 9 | 7 | 14 | 11 | 10 | 2 | 11 |
| 857: | 7 | 7 | 15 | 20 | 28 | 24 | 15 | 13 |
| 865: | 11 | 11 | 12 | 8 | 5 | 9 | 5 | 13 |
| 873: | 8 | 14 | 12 | 16 | 7 | 8 | 7 | 13 |
| 881: | 12 | 7 | 13 | 13 | 13 | 5 | 11 | 10 |
| 889: | 12 | 8 | 6 | 11 | 12 | 18 | 6 | 11 |
| 897: | 9 | 15 | 11 | 10 | 11 | 5 | 8 | 8 |
| 905: | 8 | 13 | 14 | 11 | 3 | 14 | 82 | 118 |
| 913: | 26 | 19 | 13 | 7 | 6 | 7 | 10 | 3 |
| 921: | 9 | 12 | 7 | 7 | 5 | 6 | 5 | 4 |
| 929: | 8 | 9 | 10 | 10 | 8 | 28 | 23 | 17 |
| 937: | 10 | 11 | 19 | 10 | 5 | 13 | 8 | 7 |
| 945: | 10 | 5 | 16 | 6 | 14 | 7 | 9 | 10 |
| 953: | 8 | 9 | 3 | 6 | 9 | 6 | 7 | 13 |
| 961: | 7 | 11 | 7 | 18 | 28 | 26 | 6 | 18 |
| 969: | 69 | 62 | 14 | 6 | 9 | 7 | 7 | 11 |
| 977: | 7 | 7 | 12 | 15 | 10 | 9 | 8 | 10 |
| 985: | 10 | 9 | 8 | 12 | 10 | 10 | 5 | 8 |
| 993: | 7 | 8 | 6 | 9 | 8 | 7 | 7 | 9 |
| 1001: | 12 | 14 | 7 | 6 | 9 | 7 | 2 | 9 |
| 1009: | 3 | 10 | 5 | 5 | 12 | 8 | 6 | 5 |
| 1017: | 4 | 4 | 6 | 3 | 10 | 9 | 8 | 6 |
| 1025: | 7 | 15 | 12 | 6 | 6 | 6 | 10 | 5 |
| 1033: | 13 | 14 | 8 | 14 | 10 | 9 | 16 | 3 |
| 1041: | 12 | 8 | 8 | 9 | 5 | 8 | 8 | 13 |
| 1049: | 4 | 11 | 7 | 10 | 9 | 8 | 11 | 5 |
| 1057: | 8 | 12 | 11 | 12 | 5 | 8 | 9 | 8 |
| 1065: | 12 | 11 | 10 | 7 | 8 | 10 | 11 | 7 |
| 1073: | 10 | 10 | 6 | 10 | 3 | 13 | 8 | 12 |
| 1081: | 9 | 8 | 15 | 11 | 8 | 8 | 4 | 10 |
| 1089: | 8 | 5 | 5 | 8 | 9 | 8 | 6 | 9 |
| 1097: | 5 | 8 | 11 | 5 | 7 | 10 | 9 | 13 |
| 1105: | 10 | 7 | 9 | 8 | 11 | 5 | 9 | 10 |
| 1113: | 14 | 14 | 8 | 6 | 6 | 8 | 14 | 54 |
| 1121: | 101 | 43 | 11 | 13 | 9 | 8 | 3 | 8 |
| 1129: | 9 | 12 | 10 | 7 | 8 | 8 | 7 | 16 |
| 1137: | 10 | 11 | 9 | 4 | 12 | 9 | 12 | 6 |
| 1145: | 7 | 13 | 11 | 11 | 7 | 9 | 9 | 7 |
| 1153: | 10 | 7 | 12 | 17 | 16 | 10 | 6 | 9 |
| 1161: | 10 | 8 | 12 | 13 | 9 | 7 | 7 | 8 |
| 1169: | 11 | 11 | 13 | 11 | 10 | 13 | 6 | 10 |
| 1177: | 9 | 11 | 10 | 7 | 9 | 8 | 11 | 12 |
| 1185: | 8 | 12 | 9 | 9 | 6 | 8 | 9 | 5 |
| 1193: | 8 | 7 | 6 | 12 | 7 | 8 | 7 | 7 |
| 1201: | 5 | 12 | 4 | 8 | 15 | 6 | 8 | 14 |
| 1209: | 10 | 7 | 11 | 13 | 10 | 6 | 10 | 7 |
| 1217: | 14 | 14 | 15 | 6 | 9 | 11 | 8 | 9 |
| 1225: | 14 | 14 | 9 | 9 | 12 | 12 | 11 | 10 |

1233: 11 7 5 15 17 26 35 18

Sample Title: CP5007S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|-----|-----|-----|----|----|
| 1241: | 8 | 10 | 16 | 5 | 9 | 12 | 7 | 7 |
| 1249: | 10 | 7 | 6 | 8 | 10 | 4 | 7 | 6 |
| 1257: | 3 | 11 | 18 | 8 | 6 | 3 | 9 | 10 |
| 1265: | 5 | 6 | 7 | 13 | 2 | 4 | 5 | 2 |
| 1273: | 3 | 5 | 7 | 8 | 5 | 3 | 11 | 13 |
| 1281: | 13 | 12 | 7 | 9 | 1 | 4 | 9 | 8 |
| 1289: | 7 | 9 | 4 | 12 | 5 | 6 | 7 | 8 |
| 1297: | 5 | 5 | 4 | 5 | 7 | 6 | 10 | 8 |
| 1305: | 2 | 4 | 8 | 2 | 3 | 6 | 9 | 4 |
| 1313: | 4 | 3 | 10 | 6 | 7 | 5 | 3 | 4 |
| 1321: | 4 | 9 | 7 | 6 | 6 | 5 | 3 | 9 |
| 1329: | 2 | 2 | 1 | 3 | 3 | 7 | 8 | 7 |
| 1337: | 6 | 7 | 3 | 5 | 5 | 2 | 11 | 6 |
| 1345: | 13 | 7 | 6 | 4 | 5 | 3 | 5 | 5 |
| 1353: | 6 | 4 | 3 | 4 | 2 | 4 | 2 | 4 |
| 1361: | 4 | 7 | 4 | 1 | 5 | 4 | 4 | 6 |
| 1369: | 2 | 3 | 6 | 4 | 2 | 5 | 3 | 3 |
| 1377: | 16 | 27 | 19 | 12 | 3 | 5 | 4 | 5 |
| 1385: | 11 | 4 | 1 | 5 | 5 | 2 | 1 | 1 |
| 1393: | 4 | 3 | 2 | 2 | 3 | 5 | 5 | 5 |
| 1401: | 5 | 6 | 4 | 1 | 4 | 5 | 4 | 19 |
| 1409: | 16 | 4 | 4 | 2 | 2 | 4 | 4 | 3 |
| 1417: | 6 | 4 | 1 | 3 | 2 | 6 | 2 | 4 |
| 1425: | 6 | 2 | 3 | 3 | 3 | 4 | 2 | 2 |
| 1433: | 6 | 9 | 2 | 2 | 2 | 6 | 4 | 3 |
| 1441: | 2 | 4 | 3 | 6 | 2 | 7 | 0 | 2 |
| 1449: | 9 | 4 | 3 | 4 | 3 | 6 | 6 | 1 |
| 1457: | 4 | 5 | 21 | 116 | 359 | 290 | 49 | 6 |
| 1465: | 2 | 3 | 5 | 1 | 4 | 2 | 4 | 3 |
| 1473: | 7 | 2 | 2 | 1 | 3 | 4 | 1 | 4 |
| 1481: | 3 | 1 | 3 | 1 | 1 | 2 | 5 | 3 |
| 1489: | 3 | 2 | 2 | 6 | 4 | 3 | 2 | 5 |
| 1497: | 5 | 2 | 2 | 3 | 0 | 10 | 1 | 3 |
| 1505: | 2 | 2 | 1 | 5 | 11 | 13 | 5 | 6 |
| 1513: | 10 | 2 | 8 | 1 | 2 | 1 | 4 | 3 |
| 1521: | 0 | 4 | 1 | 0 | 2 | 3 | 4 | 2 |
| 1529: | 3 | 2 | 3 | 3 | 4 | 1 | 2 | 3 |
| 1537: | 3 | 3 | 7 | 1 | 6 | 6 | 7 | 4 |
| 1545: | 5 | 3 | 2 | 4 | 1 | 0 | 1 | 3 |
| 1553: | 2 | 2 | 3 | 0 | 2 | 4 | 3 | 4 |
| 1561: | 3 | 1 | 2 | 4 | 4 | 3 | 2 | 5 |
| 1569: | 0 | 2 | 1 | 3 | 1 | 4 | 3 | 0 |
| 1577: | 2 | 1 | 5 | 5 | 7 | 3 | 1 | 5 |
| 1585: | 3 | 1 | 7 | 4 | 12 | 7 | 3 | 6 |
| 1593: | 11 | 9 | 6 | 0 | 2 | 1 | 0 | 6 |
| 1601: | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 2 |
| 1609: | 2 | 3 | 6 | 1 | 0 | 2 | 4 | 2 |
| 1617: | 1 | 2 | 4 | 1 | 8 | 4 | 1 | 3 |
| 1625: | 2 | 1 | 1 | 3 | 1 | 5 | 5 | 2 |
| 1633: | 1 | 1 | 4 | 2 | 3 | 3 | 5 | 3 |
| 1641: | 5 | 1 | 1 | 3 | 2 | 1 | 3 | 0 |
| 1649: | 2 | 6 | 1 | 1 | 2 | 2 | 0 | 1 |
| 1657: | 3 | 1 | 0 | 2 | 4 | 7 | 2 | 1 |

1665: 1 1 2 4 3 2 1 3

Sample Title: CP5007S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|----|---|----|----|----|---|---|
| 1673: | 1 | 1 | 4 | 0 | 3 | 3 | 5 | 1 |
| 1681: | 2 | 3 | 0 | 3 | 2 | 6 | 0 | 0 |
| 1689: | 1 | 0 | 0 | 0 | 2 | 1 | 2 | 2 |
| 1697: | 1 | 1 | 0 | 1 | 4 | 1 | 1 | 0 |
| 1705: | 2 | 1 | 3 | 3 | 1 | 1 | 2 | 1 |
| 1713: | 1 | 0 | 1 | 1 | 0 | 4 | 0 | 0 |
| 1721: | 0 | 2 | 1 | 0 | 3 | 1 | 1 | 4 |
| 1729: | 8 | 10 | 6 | 2 | 2 | 0 | 2 | 2 |
| 1737: | 1 | 2 | 0 | 1 | 2 | 0 | 2 | 0 |
| 1745: | 1 | 1 | 0 | 0 | 0 | 3 | 1 | 2 |
| 1753: | 3 | 0 | 4 | 2 | 1 | 1 | 1 | 3 |
| 1761: | 4 | 3 | 9 | 34 | 67 | 32 | 9 | 1 |
| 1769: | 2 | 2 | 1 | 3 | 2 | 3 | 1 | 1 |
| 1777: | 2 | 2 | 2 | 0 | 1 | 1 | 2 | 1 |
| 1785: | 1 | 1 | 1 | 1 | 0 | 3 | 0 | 1 |
| 1793: | 1 | 2 | 1 | 2 | 0 | 1 | 1 | 0 |
| 1801: | 1 | 1 | 0 | 2 | 0 | 1 | 2 | 1 |
| 1809: | 2 | 4 | 0 | 1 | 2 | 1 | 1 | 2 |
| 1817: | 1 | 0 | 1 | 2 | 0 | 2 | 1 | 1 |
| 1825: | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 1 |
| 1833: | 3 | 0 | 2 | 3 | 0 | 1 | 1 | 2 |
| 1841: | 1 | 3 | 2 | 0 | 3 | 2 | 6 | 5 |
| 1849: | 8 | 1 | 3 | 3 | 2 | 2 | 1 | 0 |
| 1857: | 1 | 3 | 2 | 1 | 2 | 1 | 1 | 1 |
| 1865: | 1 | 4 | 2 | 1 | 1 | 1 | 1 | 0 |
| 1873: | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 2 |
| 1881: | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 2 |
| 1889: | 1 | 0 | 2 | 1 | 3 | 0 | 2 | 3 |
| 1897: | 3 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| 1905: | 0 | 0 | 0 | 2 | 1 | 3 | 1 | 1 |
| 1913: | 3 | 2 | 1 | 1 | 2 | 0 | 1 | 2 |
| 1921: | 2 | 0 | 3 | 2 | 2 | 1 | 1 | 2 |
| 1929: | 5 | 1 | 6 | 1 | 4 | 2 | 2 | 3 |
| 1937: | 3 | 3 | 2 | 2 | 1 | 1 | 2 | 1 |
| 1945: | 1 | 1 | 2 | 1 | 2 | 4 | 1 | 0 |
| 1953: | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 |
| 1961: | 2 | 1 | 1 | 0 | 3 | 2 | 3 | 1 |
| 1969: | 1 | 0 | 2 | 3 | 0 | 0 | 1 | 0 |
| 1977: | 2 | 1 | 1 | 1 | 1 | 4 | 1 | 0 |
| 1985: | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 0 |
| 1993: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2001: | 2 | 1 | 1 | 1 | 3 | 2 | 0 | 0 |
| 2009: | 0 | 2 | 0 | 1 | 0 | 2 | 4 | 0 |
| 2017: | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 4 |
| 2025: | 1 | 1 | 2 | 3 | 1 | 2 | 1 | 0 |
| 2033: | 0 | 2 | 0 | 1 | 2 | 0 | 2 | 0 |
| 2041: | 1 | 2 | 0 | 0 | 0 | 3 | 1 | 2 |
| 2049: | 0 | 1 | 2 | 1 | 3 | 1 | 0 | 1 |
| 2057: | 1 | 0 | 1 | 0 | 1 | 2 | 2 | 0 |
| 2065: | 1 | 1 | 0 | 1 | 3 | 2 | 2 | 1 |
| 2073: | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 2 |
| 2081: | 0 | 2 | 0 | 1 | 1 | 1 | 2 | 3 |
| 2089: | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |

2097: 2 1 0 1 1 4 5 2

Sample Title: CP5007S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|----|----|---|---|---|
| 2105: | 6 | 2 | 1 | 1 | 2 | 5 | 0 | 0 |
| 2113: | 1 | 3 | 1 | 1 | 2 | 3 | 7 | 3 |
| 2121: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 2129: | 0 | 1 | 1 | 1 | 0 | 2 | 2 | 0 |
| 2137: | 0 | 1 | 1 | 3 | 1 | 1 | 3 | 0 |
| 2145: | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 1 |
| 2153: | 1 | 0 | 0 | 1 | 3 | 1 | 0 | 3 |
| 2161: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2169: | 0 | 1 | 3 | 0 | 2 | 1 | 0 | 2 |
| 2177: | 1 | 0 | 3 | 1 | 1 | 0 | 1 | 0 |
| 2185: | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 1 |
| 2193: | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 1 |
| 2201: | 0 | 2 | 7 | 16 | 13 | 4 | 2 | 1 |
| 2209: | 3 | 0 | 1 | 1 | 0 | 2 | 0 | 1 |
| 2217: | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 2225: | 3 | 1 | 2 | 1 | 1 | 0 | 1 | 3 |
| 2233: | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2241: | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 2 |
| 2249: | 2 | 1 | 1 | 4 | 0 | 2 | 2 | 0 |
| 2257: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 2 |
| 2265: | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 3 |
| 2273: | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2281: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2289: | 1 | 2 | 2 | 4 | 0 | 3 | 3 | 2 |
| 2297: | 0 | 5 | 1 | 1 | 1 | 2 | 1 | 1 |
| 2305: | 2 | 2 | 1 | 2 | 2 | 0 | 2 | 1 |
| 2313: | 3 | 2 | 2 | 0 | 2 | 1 | 3 | 1 |
| 2321: | 1 | 2 | 3 | 3 | 0 | 3 | 2 | 0 |
| 2329: | 3 | 0 | 1 | 0 | 2 | 2 | 0 | 1 |
| 2337: | 0 | 4 | 2 | 1 | 1 | 0 | 1 | 0 |
| 2345: | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2353: | 2 | 2 | 1 | 0 | 0 | 2 | 1 | 4 |
| 2361: | 0 | 0 | 3 | 2 | 2 | 0 | 1 | 2 |
| 2369: | 3 | 1 | 1 | 0 | 2 | 1 | 1 | 1 |
| 2377: | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 |
| 2385: | 2 | 0 | 2 | 2 | 0 | 0 | 2 | 1 |
| 2393: | 1 | 1 | 2 | 1 | 2 | 2 | 0 | 0 |
| 2401: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2409: | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| 2417: | 0 | 1 | 1 | 0 | 3 | 0 | 0 | 0 |
| 2425: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2433: | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2441: | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 7 |
| 2449: | 5 | 1 | 0 | 1 | 0 | 0 | 0 | 2 |
| 2457: | 4 | 0 | 1 | 1 | 3 | 1 | 1 | 0 |
| 2465: | 0 | 1 | 1 | 0 | 2 | 2 | 1 | 2 |
| 2473: | 0 | 1 | 1 | 0 | 1 | 2 | 0 | 0 |
| 2481: | 0 | 0 | 2 | 0 | 1 | 1 | 1 | 0 |
| 2489: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2497: | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 0 |
| 2505: | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |
| 2513: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 2521: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |

2529: 1 1 1 1 0 0 0 1

Sample Title: CP5007S01-02

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2537: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2545: | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 0 |
| 2553: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 3 |
| 2561: | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 0 |
| 2569: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2577: | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 2585: | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| 2593: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2601: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2609: | 0 | 0 | 2 | 0 | 9 | 32 | 39 | 20 |
| 2617: | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2625: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2633: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2641: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2649: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2657: | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 2 |
| 2665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2673: | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2681: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2689: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2697: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2705: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2721: | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 |
| 2729: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2737: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2745: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| 2753: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2761: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2769: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2785: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2801: | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 |
| 2809: | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| 2817: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2825: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2833: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 2841: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2849: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2857: | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 |
| 2865: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2873: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2881: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2889: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2897: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2913: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2921: | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

2961: 0 0 0 0 0 0 0 0 0

Sample Title: CP5007S01-02

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 2969: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2977: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2985: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2993: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3001: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3009: | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3033: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3049: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3065: | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 3073: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3081: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3089: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3097: | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3113: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3121: | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3129: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3137: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3153: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3169: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3193: | 1 | 1 | 0 | 2 | 0 | 2 | 1 | 0 |
| 3201: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3217: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3249: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3257: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 3281: | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 |
| 3289: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3321: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 3329: | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3345: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3361: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3369: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

3393: 1 0 1 0 0 0 0 0 1

Sample Title: CP5007S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 3401: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3417: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3425: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | |
| 3433: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | |
| 3449: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | |
| 3457: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 3465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3473: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 3481: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | |
| 3489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 3497: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 3505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3521: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 3529: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | |
| 3537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3545: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3561: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3585: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3601: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3617: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3625: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3633: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 3641: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3649: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | |
| 3657: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3665: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3673: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3681: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3689: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3697: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | |
| 3705: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3729: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3745: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 3761: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3769: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | |
| 3777: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3785: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | |
| 3793: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3801: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3817: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |

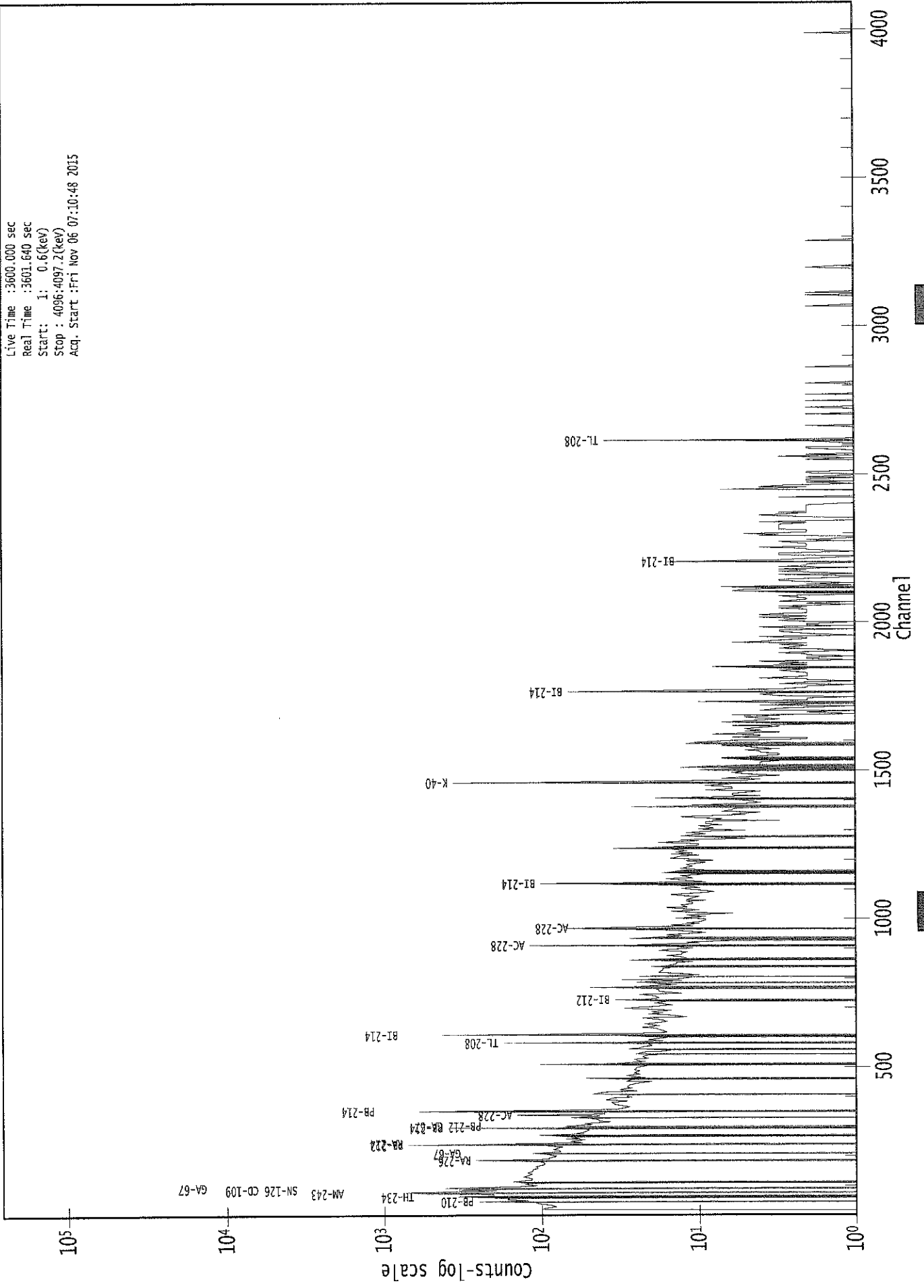
3825: 0 0 0 0 0 1 0 1

Sample Title: CP5007S01-02

| Channel | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---------|---|---|---|---|---|---|---|---|
| 3833: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3857: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3865: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 3889: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 |
| 3993: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |

0000029238.CNF

Live Time :3600.000 sec
 Real Time :3601.640 sec
 Start: 1: 0.6(kev)
 Stop : 4096:4097.2(kev)
 Acq. Start :FPI Nov 06 07:10:48 2015



ROI Type: 1
 ROI Type: 2

Analysis Report for 1510085-05
CP5007S03-04

✓
11/14

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-05
Sample Description : CP5007S03-04
Sample Type : SOIL

Sample Size : 5.758E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:37:11AM
Acquisition Started : 11/6/2015 6:08:16AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.04 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 7 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29234

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-05
CP5007S03-04

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 7:08:34AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 46.75 | 46.85 | 0.0000 | 0.00 |
| 2 | 53.08 | 53.18 | 0.0000 | 0.00 |
| 3 | 71.91 | 72.00 | 0.0000 | 0.00 |
| 4 | 75.12 | 75.21 | 0.0000 | 0.00 |
| 5 | 87.43 | 87.51 | 0.0000 | 0.00 |
| 6 | 92.76 | 92.84 | 0.0000 | 0.00 |
| 7 | 106.13 | 106.20 | 0.0000 | 0.00 |
| 8 | 154.40 | 154.44 | 0.0000 | 0.00 |
| 9 | 186.01 | 186.04 | 0.0000 | 0.00 |
| 10 | 208.71 | 208.72 | 0.0000 | 0.00 |
| 11 | 238.75 | 238.75 | 0.0000 | 0.00 |
| 12 | 241.77 | 241.77 | 0.0000 | 0.00 |
| 13 | 270.20 | 270.18 | 0.0000 | 0.00 |
| 14 | 277.35 | 277.33 | 0.0000 | 0.00 |
| 15 | 288.12 | 288.09 | 0.0000 | 0.00 |
| 16 | 295.17 | 295.14 | 0.0000 | 0.00 |
| 17 | 300.90 | 300.86 | 0.0000 | 0.00 |
| 18 | 326.82 | 326.77 | 0.0000 | 0.00 |
| 19 | 338.44 | 338.39 | 0.0000 | 0.00 |
| 20 | 351.96 | 351.90 | 0.0000 | 0.00 |
| 21 | 409.46 | 409.37 | 0.0000 | 0.00 |
| 22 | 463.34 | 463.22 | 0.0000 | 0.00 |
| 23 | 510.92 | 510.77 | 0.0000 | 0.00 |
| 24 | 583.16 | 582.98 | 0.0000 | 0.00 |
| 25 | 609.40 | 609.21 | 0.0000 | 0.00 |
| 26 | 614.38 | 614.19 | 0.0000 | 0.00 |
| 27 | 651.74 | 651.52 | 0.0000 | 0.00 |
| 28 | 727.29 | 727.04 | 0.0000 | 0.00 |
| 29 | 860.96 | 860.66 | 0.0000 | 0.00 |
| 30 | 895.87 | 895.56 | 0.0000 | 0.00 |
| 31 | 911.30 | 910.97 | 0.0000 | 0.00 |
| 32 | 934.28 | 933.95 | 0.0000 | 0.00 |
| 33 | 964.61 | 964.26 | 0.0000 | 0.00 |
| 34 | 968.89 | 968.54 | 0.0000 | 0.00 |
| 35 | 1002.65 | 1002.29 | 0.0000 | 0.00 |
| 36 | 1033.27 | 1032.89 | 0.0000 | 0.00 |
| 37 | 1061.80 | 1061.41 | 0.0000 | 0.00 |
| 38 | 1120.62 | 1120.21 | 0.0000 | 0.00 |
| 39 | 1127.62 | 1127.21 | 0.0000 | 0.00 |
| 40 | 1245.47 | 1245.02 | 0.0000 | 0.00 |
| 41 | 1334.91 | 1334.43 | 0.0000 | 0.00 |
| 42 | 1377.56 | 1377.07 | 0.0000 | 0.00 |

Analysis Report for 1510085-05
CP5007S03-04

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1407.98 | 1407.48 | 0.0000 | 0.00 |
| 44 | 1455.59 | 1455.07 | 0.0000 | 0.00 |
| 45 | 1460.99 | 1460.47 | 0.0000 | 0.00 |
| 46 | 1539.80 | 1539.25 | 0.0000 | 0.00 |
| 47 | 1559.86 | 1559.31 | 0.0000 | 0.00 |
| 48 | 1592.40 | 1591.84 | 0.0000 | 0.00 |
| 49 | 1630.64 | 1630.07 | 0.0000 | 0.00 |
| 50 | 1661.03 | 1660.45 | 0.0000 | 0.00 |
| 51 | 1697.29 | 1696.70 | 0.0000 | 0.00 |
| 52 | 1728.55 | 1727.96 | 0.0000 | 0.00 |
| 53 | 1764.30 | 1763.70 | 0.0000 | 0.00 |
| 54 | 1782.98 | 1782.38 | 0.0000 | 0.00 |
| 55 | 1789.90 | 1789.29 | 0.0000 | 0.00 |
| 56 | 1847.93 | 1847.31 | 0.0000 | 0.00 |
| 57 | 2002.71 | 2002.06 | 0.0000 | 0.00 |
| 58 | 2048.04 | 2047.37 | 0.0000 | 0.00 |
| 59 | 2102.72 | 2102.04 | 0.0000 | 0.00 |
| 60 | 2116.91 | 2116.23 | 0.0000 | 0.00 |
| 61 | 2203.74 | 2203.05 | 0.0000 | 0.00 |
| 62 | 2221.38 | 2220.69 | 0.0000 | 0.00 |
| 63 | 2229.02 | 2228.32 | 0.0000 | 0.00 |
| 64 | 2275.69 | 2274.99 | 0.0000 | 0.00 |
| 65 | 2385.27 | 2384.55 | 0.0000 | 0.00 |
| 66 | 2427.73 | 2427.01 | 0.0000 | 0.00 |
| 67 | 2613.97 | 2613.23 | 0.0000 | 0.00 |
| 68 | 2798.95 | 2798.20 | 0.0000 | 0.00 |

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510085-05
CP5007S03-04

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 7:08:34AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 46.75 | 44 - | 50 | 46.85 | 1.58E+02 | 99.34 | 1.66E+03 | 1.64 |
| 2 | 53.08 | 51 - | 56 | 53.18 | 7.85E+01 | 79.60 | 1.19E+03 | 2.08 |
| m 3 | 71.91 | 59 - | 79 | 72.00 | 7.20E+01 | 50.47 | 5.58E+02 | 1.00 |
| m 4 | 75.12 | 59 - | 79 | 75.21 | 5.54E+02 | 75.39 | 7.52E+02 | 1.21 |
| 5 | 87.43 | 86 - | 89 | 87.51 | 1.17E+02 | 68.35 | 1.06E+03 | 1.62 |
| 6 | 92.76 | 90 - | 96 | 92.84 | 3.01E+02 | 100.12 | 1.56E+03 | 1.66 |
| 7 | 106.13 | 104 - | 109 | 106.20 | 5.80E+01 | 69.63 | 9.22E+02 | 1.28 |
| 8 | 154.40 | 150 - | 158 | 154.44 | 7.61E+01 | 90.55 | 1.20E+03 | 2.66 |
| 9 | 186.01 | 183 - | 189 | 186.04 | 2.05E+02 | 72.26 | 8.05E+02 | 1.44 |
| 10 | 208.71 | 205 - | 213 | 208.72 | 1.24E+02 | 78.28 | 8.72E+02 | 1.93 |
| M 11 | 238.75 | 234 - | 244 | 238.75 | 9.80E+02 | 75.42 | 4.22E+02 | 1.66 |
| m 12 | 241.77 | 234 - | 244 | 241.77 | 2.33E+02 | 72.58 | 4.02E+02 | 1.56 |
| 13 | 270.20 | 267 - | 273 | 270.18 | 9.35E+01 | 50.84 | 3.95E+02 | 1.53 |
| 14 | 277.35 | 274 - | 282 | 277.33 | 6.29E+01 | 59.02 | 5.02E+02 | 3.35 |
| 15 | 288.12 | 285 - | 291 | 288.09 | 5.11E+01 | 48.33 | 3.86E+02 | 1.87 |
| M 16 | 295.17 | 292 - | 304 | 295.14 | 3.28E+02 | 46.90 | 2.13E+02 | 1.50 |
| m 17 | 300.90 | 292 - | 304 | 300.86 | 5.24E+01 | 38.38 | 2.69E+02 | 1.51 |
| 18 | 326.82 | 323 - | 330 | 326.77 | 5.58E+01 | 53.25 | 4.34E+02 | 1.09 |
| 19 | 338.44 | 335 - | 342 | 338.39 | 1.72E+02 | 55.61 | 4.02E+02 | 1.71 |
| 20 | 351.96 | 348 - | 355 | 351.90 | 5.60E+02 | 67.08 | 3.78E+02 | 1.31 |
| 21 | 409.46 | 406 - | 413 | 409.37 | 3.51E+01 | 43.73 | 2.94E+02 | 2.04 |
| 22 | 463.34 | 459 - | 467 | 463.22 | 4.57E+01 | 46.31 | 3.03E+02 | 1.45 |
| 23 | 510.92 | 506 - | 515 | 510.77 | 2.24E+02 | 49.69 | 2.23E+02 | 2.37 |
| 24 | 583.16 | 578 - | 587 | 582.98 | 3.33E+02 | 55.22 | 2.45E+02 | 1.63 |
| M 25 | 609.40 | 598 - | 617 | 609.21 | 4.01E+02 | 47.12 | 1.32E+02 | 1.67 |
| m 26 | 614.38 | 598 - | 617 | 614.19 | 2.23E+01 | 33.26 | 1.34E+02 | 3.02 |
| 27 | 651.74 | 647 - | 655 | 651.52 | 3.50E+01 | 31.29 | 1.26E+02 | 2.65 |
| 28 | 727.29 | 724 - | 729 | 727.04 | 5.72E+01 | 26.93 | 9.95E+01 | 1.38 |
| 29 | 860.96 | 857 - | 865 | 860.66 | 4.81E+01 | 28.38 | 9.38E+01 | 2.35 |
| 30 | 895.87 | 892 - | 900 | 895.56 | 2.88E+01 | 25.39 | 8.24E+01 | 6.46 |
| 31 | 911.30 | 908 - | 915 | 910.97 | 1.94E+02 | 35.44 | 8.00E+01 | 1.72 |
| 32 | 934.28 | 931 - | 937 | 933.95 | 3.82E+01 | 23.09 | 6.77E+01 | 1.44 |
| M 33 | 964.61 | 959 - | 973 | 964.26 | 3.74E+01 | 28.21 | 1.04E+02 | 2.56 |
| m 34 | 968.89 | 959 - | 973 | 968.54 | 1.36E+02 | 30.43 | 7.80E+01 | 1.96 |
| 35 | 1002.65 | 999 - | 1005 | 1002.29 | 2.10E+01 | 21.66 | 7.00E+01 | 1.47 |
| 36 | 1033.27 | 1027 - | 1039 | 1032.89 | 2.95E+01 | 35.77 | 1.37E+02 | 4.27 |
| 37 | 1061.80 | 1058 - | 1064 | 1061.41 | 1.96E+01 | 22.84 | 8.07E+01 | 3.77 |
| M 38 | 1120.62 | 1114 - | 1135 | 1120.21 | 9.26E+01 | 27.35 | 5.43E+01 | 2.31 |
| m 39 | 1127.62 | 1114 - | 1135 | 1127.21 | 1.93E+01 | 20.10 | 5.96E+01 | 2.31 |
| 40 | 1245.47 | 1243 - | 1248 | 1245.02 | 1.69E+01 | 19.08 | 5.82E+01 | 2.87 |

Analysis Report for 1510085-05
CP5007S03-04

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-------------|---------|---------------|---------------|----------------------|------------------|------------|
| 41 | 1334.91 | 1327 - 1341 | | 1334.43 | 4.03E+01 | 24.11 | 4.14E+01 | 9.79 |
| 42 | 1377.56 | 1373 - 1382 | | 1377.07 | 3.87E+01 | 20.49 | 3.27E+01 | 2.92 |
| 43 | 1407.98 | 1405 - 1410 | | 1407.48 | 2.20E+01 | 13.34 | 1.80E+01 | 2.92 |
| M 44 | 1455.59 | 1453 - 1467 | | 1455.07 | 1.08E+01 | 10.58 | 1.23E+01 | 3.38 |
| m 45 | 1460.99 | 1453 - 1467 | | 1460.47 | 7.04E+02 | 55.42 | 4.58E+01 | 2.28 |
| 46 | 1539.80 | 1535 - 1544 | | 1539.25 | 1.33E+01 | 15.94 | 2.54E+01 | 7.20 |
| 47 | 1559.86 | 1553 - 1565 | | 1559.31 | 1.51E+01 | 19.74 | 3.79E+01 | 1.09 |
| 48 | 1592.40 | 1590 - 1595 | | 1591.84 | 1.00E+01 | 13.30 | 2.80E+01 | 2.48 |
| 49 | 1630.64 | 1626 - 1635 | | 1630.07 | 1.32E+01 | 16.82 | 2.76E+01 | 1.97 |
| 50 | 1661.03 | 1656 - 1665 | | 1660.45 | 1.09E+01 | 10.68 | 1.03E+01 | 1.89 |
| 51 | 1697.29 | 1691 - 1700 | | 1696.70 | 1.03E+01 | 10.49 | 9.33E+00 | 3.69 |
| 52 | 1728.55 | 1723 - 1733 | | 1727.96 | 2.11E+01 | 11.24 | 5.88E+00 | 5.84 |
| 53 | 1764.30 | 1757 - 1768 | | 1763.70 | 9.64E+01 | 20.78 | 5.27E+00 | 2.31 |
| 54 | 1782.98 | 1779 - 1785 | | 1782.38 | 8.00E+00 | 5.66 | 0.00E+00 | 1.33 |
| 55 | 1789.90 | 1787 - 1792 | | 1789.29 | 6.19E+00 | 6.40 | 3.63E+00 | 1.08 |
| 56 | 1847.93 | 1842 - 1850 | | 1847.31 | 1.20E+01 | 12.85 | 1.80E+01 | 3.88 |
| 57 | 2002.71 | 1997 - 2007 | | 2002.06 | 1.80E+01 | 8.49 | 0.00E+00 | 2.58 |
| 58 | 2048.04 | 2044 - 2050 | | 2047.37 | 7.22E+00 | 6.95 | 3.56E+00 | 3.12 |
| 59 | 2102.72 | 2097 - 2106 | | 2102.04 | 2.60E+01 | 10.20 | 0.00E+00 | 2.25 |
| 60 | 2116.91 | 2113 - 2119 | | 2116.23 | 6.50E+00 | 6.65 | 3.00E+00 | 2.16 |
| 61 | 2203.74 | 2198 - 2207 | | 2203.05 | 1.42E+01 | 12.61 | 1.36E+01 | 1.37 |
| 62 | 2221.38 | 2216 - 2224 | | 2220.69 | 1.60E+01 | 8.00 | 0.00E+00 | 2.90 |
| 63 | 2229.02 | 2225 - 2232 | | 2228.32 | 6.78E+00 | 7.21 | 4.44E+00 | 2.51 |
| 64 | 2275.69 | 2270 - 2278 | | 2274.99 | 1.27E+01 | 12.85 | 1.66E+01 | 4.59 |
| 65 | 2385.27 | 2381 - 2387 | | 2384.55 | 6.31E+00 | 6.65 | 3.38E+00 | 2.86 |
| 66 | 2427.73 | 2424 - 2430 | | 2427.01 | 8.55E+00 | 7.23 | 2.90E+00 | 1.60 |
| 67 | 2613.97 | 2607 - 2619 | | 2613.23 | 1.10E+02 | 22.23 | 6.72E+00 | 3.34 |
| 68 | 2798.95 | 2795 - 2800 | | 2798.20 | 5.00E+00 | 4.47 | 0.00E+00 | 2.75 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 7:08:34AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|

Analysis Report for 1510085-05

CP5007S03-04

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| | 1 | 46.75 | 44 - | 50 | 1.58E+02 | 99.34 | 1.66E+03 | 7.90E+01 |
| | 2 | 53.08 | 51 - | 56 | 7.85E+01 | 79.60 | 1.19E+03 | 6.38E+01 |
| m | 3 | 71.91 | 59 - | 79 | 7.20E+01 | 50.47 | 5.58E+02 | 3.88E+01 |
| m | 4 | 75.12 | 59 - | 79 | 5.54E+02 | 75.39 | 7.52E+02 | 4.51E+01 |
| | 5 | 87.43 | 86 - | 89 | 1.17E+02 | 68.35 | 1.06E+03 | 5.33E+01 |
| | 6 | 92.76 | 90 - | 96 | 3.01E+02 | 100.12 | 1.56E+03 | 7.72E+01 |
| | 7 | 106.13 | 104 - | 109 | 5.80E+01 | 69.63 | 9.22E+02 | 5.58E+01 |
| | 8 | 154.40 | 150 - | 158 | 7.61E+01 | 90.55 | 1.20E+03 | 7.30E+01 |
| | 9 | 186.01 | 183 - | 189 | 2.05E+02 | 72.26 | 8.05E+02 | 5.45E+01 |
| | 10 | 208.71 | 205 - | 213 | 1.24E+02 | 78.28 | 8.72E+02 | 6.17E+01 |
| M | 11 | 238.75 | 234 - | 244 | 9.80E+02 | 75.42 | 4.22E+02 | 3.38E+01 |
| m | 12 | 241.77 | 234 - | 244 | 2.33E+02 | 72.58 | 4.02E+02 | 3.30E+01 |
| | 13 | 270.20 | 267 - | 273 | 9.35E+01 | 50.84 | 3.95E+02 | 3.87E+01 |
| | 14 | 277.35 | 274 - | 282 | 6.29E+01 | 59.02 | 5.02E+02 | 4.67E+01 |
| | 15 | 288.12 | 285 - | 291 | 5.11E+01 | 48.33 | 3.86E+02 | 3.79E+01 |
| M | 16 | 295.17 | 292 - | 304 | 3.28E+02 | 46.90 | 2.13E+02 | 2.40E+01 |
| m | 17 | 300.90 | 292 - | 304 | 5.24E+01 | 38.38 | 2.69E+02 | 2.70E+01 |
| | 18 | 326.82 | 323 - | 330 | 5.58E+01 | 53.25 | 4.34E+02 | 4.20E+01 |
| | 19 | 338.44 | 335 - | 342 | 1.72E+02 | 55.61 | 4.02E+02 | 4.03E+01 |
| | 20 | 351.96 | 348 - | 355 | 5.60E+02 | 67.08 | 3.78E+02 | 3.91E+01 |
| | 21 | 409.46 | 406 - | 413 | 3.51E+01 | 43.73 | 2.94E+02 | 3.46E+01 |
| | 22 | 463.34 | 459 - | 467 | 4.57E+01 | 46.31 | 3.03E+02 | 3.64E+01 |
| | 23 | 510.92 | 506 - | 515 | 2.24E+02 | 49.69 | 2.23E+02 | 3.26E+01 |
| | 24 | 583.16 | 578 - | 587 | 3.33E+02 | 55.22 | 2.45E+02 | 3.40E+01 |
| M | 25 | 609.40 | 598 - | 617 | 4.01E+02 | 47.12 | 1.32E+02 | 1.89E+01 |
| m | 26 | 614.38 | 598 - | 617 | 2.23E+01 | 33.26 | 1.34E+02 | 1.91E+01 |
| | 27 | 651.74 | 647 - | 655 | 3.50E+01 | 31.29 | 1.26E+02 | 2.38E+01 |
| | 28 | 727.29 | 724 - | 729 | 5.72E+01 | 26.93 | 9.95E+01 | 1.83E+01 |
| | 29 | 860.96 | 857 - | 865 | 4.81E+01 | 28.38 | 9.38E+01 | 2.03E+01 |
| | 30 | 895.87 | 892 - | 900 | 2.88E+01 | 25.39 | 8.24E+01 | 1.89E+01 |
| | 31 | 911.30 | 908 - | 915 | 1.94E+02 | 35.44 | 8.00E+01 | 1.80E+01 |
| | 32 | 934.28 | 931 - | 937 | 3.82E+01 | 23.09 | 6.77E+01 | 1.60E+01 |
| M | 33 | 964.61 | 959 - | 973 | 3.74E+01 | 28.21 | 1.04E+02 | 1.68E+01 |
| m | 34 | 968.89 | 959 - | 973 | 1.36E+02 | 30.43 | 7.80E+01 | 1.45E+01 |
| | 35 | 1002.65 | 999 - | 1005 | 2.10E+01 | 21.66 | 7.00E+01 | 1.61E+01 |
| | 36 | 1033.27 | 1027 - | 1039 | 2.95E+01 | 35.77 | 1.37E+02 | 2.80E+01 |
| | 37 | 1061.80 | 1058 - | 1064 | 1.96E+01 | 22.84 | 8.07E+01 | 1.73E+01 |
| M | 38 | 1120.62 | 1114 - | 1135 | 9.26E+01 | 27.35 | 5.43E+01 | 1.21E+01 |
| m | 39 | 1127.62 | 1114 - | 1135 | 1.93E+01 | 20.10 | 5.96E+01 | 1.27E+01 |
| | 40 | 1245.47 | 1243 - | 1248 | 1.69E+01 | 19.08 | 5.82E+01 | 1.42E+01 |
| | 41 | 1334.91 | 1327 - | 1341 | 4.03E+01 | 24.11 | 4.14E+01 | 1.69E+01 |
| | 42 | 1377.56 | 1373 - | 1382 | 3.87E+01 | 20.49 | 3.27E+01 | 1.34E+01 |
| | 43 | 1407.98 | 1405 - | 1410 | 2.20E+01 | 13.34 | 1.80E+01 | 7.80E+00 |
| M | 44 | 1455.59 | 1453 - | 1467 | 1.08E+01 | 10.58 | 1.23E+01 | 5.77E+00 |
| m | 45 | 1460.99 | 1453 - | 1467 | 7.04E+02 | 55.42 | 4.58E+01 | 1.11E+01 |
| | 46 | 1539.80 | 1535 - | 1544 | 1.33E+01 | 15.94 | 2.54E+01 | 1.16E+01 |
| | 47 | 1559.86 | 1553 - | 1565 | 1.51E+01 | 19.74 | 3.79E+01 | 1.49E+01 |
| | 48 | 1592.40 | 1590 - | 1595 | 1.00E+01 | 13.30 | 2.80E+01 | 9.62E+00 |
| | 49 | 1630.64 | 1626 - | 1635 | 1.32E+01 | 16.82 | 2.76E+01 | 1.25E+01 |
| | 50 | 1661.03 | 1656 - | 1665 | 1.09E+01 | 10.68 | 1.03E+01 | 6.90E+00 |
| | 51 | 1697.29 | 1691 - | 1700 | 1.03E+01 | 10.49 | 9.33E+00 | 6.81E+00 |

Analysis Report for 1510085-05

CP5007S03-04

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 52 | 1728.55 | 1723 - | 1733 | 2.11E+01 | 11.24 | 5.88E+00 | 5.33E+00 |
| 53 | 1764.30 | 1757 - | 1768 | 9.64E+01 | 20.78 | 5.27E+00 | 5.61E+00 |
| 54 | 1782.98 | 1779 - | 1785 | 8.00E+00 | 5.66 | 0.00E+00 | 0.00E+00 |
| 55 | 1789.90 | 1787 - | 1792 | 6.19E+00 | 6.40 | 3.63E+00 | 3.31E+00 |
| 56 | 1847.93 | 1842 - | 1850 | 1.20E+01 | 12.85 | 1.80E+01 | 8.89E+00 |
| 57 | 2002.71 | 1997 - | 2007 | 1.80E+01 | 8.49 | 0.00E+00 | 0.00E+00 |
| 58 | 2048.04 | 2044 - | 2050 | 7.22E+00 | 6.95 | 3.56E+00 | 3.62E+00 |
| 59 | 2102.72 | 2097 - | 2106 | 2.60E+01 | 10.20 | 0.00E+00 | 0.00E+00 |
| 60 | 2116.91 | 2113 - | 2119 | 6.50E+00 | 6.65 | 3.00E+00 | 3.51E+00 |
| 61 | 2203.74 | 2198 - | 2207 | 1.42E+01 | 12.61 | 1.36E+01 | 8.31E+00 |
| 62 | 2221.38 | 2216 - | 2224 | 1.60E+01 | 8.00 | 0.00E+00 | 0.00E+00 |
| 63 | 2229.02 | 2225 - | 2232 | 6.78E+00 | 7.21 | 4.44E+00 | 4.10E+00 |
| 64 | 2275.69 | 2270 - | 2278 | 1.27E+01 | 12.85 | 1.66E+01 | 8.78E+00 |
| 65 | 2385.27 | 2381 - | 2387 | 6.31E+00 | 6.65 | 3.38E+00 | 3.58E+00 |
| 66 | 2427.73 | 2424 - | 2430 | 8.55E+00 | 7.23 | 2.90E+00 | 3.49E+00 |
| 67 | 2613.97 | 2607 - | 2619 | 1.10E+02 | 22.23 | 6.72E+00 | 6.13E+00 |
| 68 | 2798.95 | 2795 - | 2800 | 5.00E+00 | 4.47 | 0.00E+00 | 0.00E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 7:08:34AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|--------------------------------------|
| 1 | 46.75 | 44 - | 50 | 46.85 | 1.58E+02 | 99.34 | 1.66E+03 | PB-210 |
| 2 | 53.08 | 51 - | 56 | 53.18 | 7.85E+01 | 79.60 | 1.19E+03 | ..... |
| m 3 | 71.91 | 59 - | 79 | 72.00 | 7.20E+01 | 50.47 | 5.58E+02 | PM-145 |
| m 4 | 75.12 | 59 - | 79 | 75.21 | 5.54E+02 | 75.39 | 7.52E+02 | AM-243 |
| 5 | 87.43 | 86 - | 89 | 87.51 | 1.17E+02 | 68.35 | 1.06E+03 | SN-126 CD-109 LU-176 NP-237 |

Analysis Report for 1510085-05

CP5007S03-04

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide | |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|---------|
| | | | | | | | | EU-155 | |
| 6 | 92.76 | 90 - | 96 | 92.84 | 3.01E+02 | 100.12 | 1.56E+03 | GA-67 | |
| 7 | 106.13 | 104 - | 109 | 106.20 | 5.80E+01 | 69.63 | 9.22E+02 | NP-239 | |
| | | | | | | | | EU-155 | |
| 8 | 154.40 | 150 - | 158 | 154.44 | 7.61E+01 | 90.55 | 1.20E+03 | ..... |  |
| 9 | 186.01 | 183 - | 189 | 186.04 | 2.05E+02 | 72.26 | 8.05E+02 | RA-226 | |
| 10 | 208.71 | 205 - | 213 | 208.72 | 1.24E+02 | 78.28 | 8.72E+02 | GA-67 | |
| M | 11 | 238.75 | 234 - | 244 | 238.75 | 9.80E+02 | 75.42 | 4.22E+02 | PB-212 |
| m | 12 | 241.77 | 234 - | 244 | 241.77 | 2.33E+02 | 72.58 | 4.02E+02 | RA-224 |
| | 13 | 270.20 | 267 - | 273 | 270.18 | 9.35E+01 | 50.84 | 3.95E+02 | ..... |
| | 14 | 277.35 | 274 - | 282 | 277.33 | 6.29E+01 | 59.02 | 5.02E+02 | CM-243 |
| | | | | | | | | NP-239 | |
| | 15 | 288.12 | 285 - | 291 | 288.09 | 5.11E+01 | 48.33 | 3.86E+02 | ..... |
| M | 16 | 295.17 | 292 - | 304 | 295.14 | 3.28E+02 | 46.90 | 2.13E+02 | PB-214 |
| m | 17 | 300.90 | 292 - | 304 | 300.86 | 5.24E+01 | 38.38 | 2.69E+02 | GA-67 |
| | | | | | | | | PB-212 | |
| | | | | | | | | BI-210M | |
| | 18 | 326.82 | 323 - | 330 | 326.77 | 5.58E+01 | 53.25 | 4.34E+02 | ..... |
| | 19 | 338.44 | 335 - | 342 | 338.39 | 1.72E+02 | 55.61 | 4.02E+02 | AC-228 |
| | 20 | 351.96 | 348 - | 355 | 351.90 | 5.60E+02 | 67.08 | 3.78E+02 | PB-214 |
| | 21 | 409.46 | 406 - | 413 | 409.37 | 3.51E+01 | 43.73 | 2.94E+02 | ..... |
| | 22 | 463.34 | 459 - | 467 | 463.22 | 4.57E+01 | 46.31 | 3.03E+02 | SB-125 |
| | 23 | 510.92 | 506 - | 515 | 510.77 | 2.24E+02 | 49.69 | 2.23E+02 | ..... |
| | 24 | 583.16 | 578 - | 587 | 582.98 | 3.33E+02 | 55.22 | 2.45E+02 | TL-208 |
| M | 25 | 609.40 | 598 - | 617 | 609.21 | 4.01E+02 | 47.12 | 1.32E+02 | BI-214 |
| m | 26 | 614.38 | 598 - | 617 | 614.19 | 2.23E+01 | 33.26 | 1.34E+02 | AG-108M |
| | 27 | 651.74 | 647 - | 655 | 651.52 | 3.50E+01 | 31.29 | 1.26E+02 | ..... |
| | 28 | 727.29 | 724 - | 729 | 727.04 | 5.72E+01 | 26.93 | 9.95E+01 | BI-212 |
| | 29 | 860.96 | 857 - | 865 | 860.66 | 4.81E+01 | 28.38 | 9.38E+01 | TL-208 |
| | 30 | 895.87 | 892 - | 900 | 895.56 | 2.88E+01 | 25.39 | 8.24E+01 | ..... |
| | 31 | 911.30 | 908 - | 915 | 910.97 | 1.94E+02 | 35.44 | 8.00E+01 | AC-228 |
| | | | | | | | | LU-172 | |
| | 32 | 934.28 | 931 - | 937 | 933.95 | 3.82E+01 | 23.09 | 6.77E+01 | ..... |
| M | 33 | 964.61 | 959 - | 973 | 964.26 | 3.74E+01 | 28.21 | 1.04E+02 | EU-152 |
| m | 34 | 968.89 | 959 - | 973 | 968.54 | 1.36E+02 | 30.43 | 7.80E+01 | AC-228 |
| | 35 | 1002.65 | 999 - | 1005 | 1002.29 | 2.10E+01 | 21.66 | 7.00E+01 | ..... |
| | 36 | 1033.27 | 1027 - | 1039 | 1032.89 | 2.95E+01 | 35.77 | 1.37E+02 | ..... |
| | 37 | 1061.80 | 1058 - | 1064 | 1061.41 | 1.96E+01 | 22.84 | 8.07E+01 | ..... |
| M | 38 | 1120.62 | 1114 - | 1135 | 1120.21 | 9.26E+01 | 27.35 | 5.43E+01 | SC-46 |
| | | | | | | | | BI-214 | |
| | | | | | | | | TA-182 | |
| m | 39 | 1127.62 | 1114 - | 1135 | 1127.21 | 1.93E+01 | 20.10 | 5.96E+01 | ..... |
| | 40 | 1245.47 | 1243 - | 1248 | 1245.02 | 1.69E+01 | 19.08 | 5.82E+01 | ..... |
| | 41 | 1334.91 | 1327 - | 1341 | 1334.43 | 4.03E+01 | 24.11 | 4.14E+01 | ..... |
| | 42 | 1377.56 | 1373 - | 1382 | 1377.07 | 3.87E+01 | 20.49 | 3.27E+01 | ..... |
| | 43 | 1407.98 | 1405 - | 1410 | 1407.48 | 2.20E+01 | 13.34 | 1.80E+01 | EU-152 |
| M | 44 | 1455.59 | 1453 - | 1467 | 1455.07 | 1.08E+01 | 10.58 | 1.23E+01 | ..... |
| m | 45 | 1460.99 | 1453 - | 1467 | 1460.47 | 7.04E+02 | 55.42 | 4.58E+01 | K-40 |
| | 46 | 1539.80 | 1535 - | 1544 | 1539.25 | 1.33E+01 | 15.94 | 2.54E+01 | ..... |
| | 47 | 1559.86 | 1553 - | 1565 | 1559.31 | 1.51E+01 | 19.74 | 3.79E+01 | ..... |
| | 48 | 1592.40 | 1590 - | 1595 | 1591.84 | 1.00E+01 | 13.30 | 2.80E+01 | ..... |
| | 49 | 1630.64 | 1626 - | 1635 | 1630.07 | 1.32E+01 | 16.82 | 2.76E+01 | ..... |
| | 50 | 1661.03 | 1656 - | 1665 | 1660.45 | 1.09E+01 | 10.68 | 1.03E+01 | ..... |
| | 51 | 1697.29 | 1691 - | 1700 | 1696.70 | 1.03E+01 | 10.49 | 9.33E+00 | ..... |

Analysis Report for 1510085-05

CP5007S03-04

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 52 | 1728.55 | 1723 - | 1733 | 1727.96 | 2.11E+01 | 11.24 | 5.88E+00 | ..... |
| 53 | 1764.30 | 1757 - | 1768 | 1763.70 | 9.64E+01 | 20.78 | 5.27E+00 | BI-214 |
| 54 | 1782.98 | 1779 - | 1785 | 1782.38 | 8.00E+00 | 5.66 | 0.00E+00 | ..... |
| 55 | 1789.90 | 1787 - | 1792 | 1789.29 | 6.19E+00 | 6.40 | 3.63E+00 | ..... |
| 56 | 1847.93 | 1842 - | 1850 | 1847.31 | 1.20E+01 | 12.85 | 1.80E+01 | ..... |
| 57 | 2002.71 | 1997 - | 2007 | 2002.06 | 1.80E+01 | 8.49 | 0.00E+00 | ..... |
| 58 | 2048.04 | 2044 - | 2050 | 2047.37 | 7.22E+00 | 6.95 | 3.56E+00 | ..... |
| 59 | 2102.72 | 2097 - | 2106 | 2102.04 | 2.60E+01 | 10.20 | 0.00E+00 | ..... |
| 60 | 2116.91 | 2113 - | 2119 | 2116.23 | 6.50E+00 | 6.65 | 3.00E+00 | ..... |
| 61 | 2203.74 | 2198 - | 2207 | 2203.05 | 1.42E+01 | 12.61 | 1.36E+01 | BI-214 |
| 62 | 2221.38 | 2216 - | 2224 | 2220.69 | 1.60E+01 | 8.00 | 0.00E+00 | ..... |
| 63 | 2229.02 | 2225 - | 2232 | 2228.32 | 6.78E+00 | 7.21 | 4.44E+00 | ..... |
| 64 | 2275.69 | 2270 - | 2278 | 2274.99 | 1.27E+01 | 12.85 | 1.66E+01 | ..... |
| 65 | 2385.27 | 2381 - | 2387 | 2384.55 | 6.31E+00 | 6.65 | 3.38E+00 | ..... |
| 66 | 2427.73 | 2424 - | 2430 | 2427.01 | 8.55E+00 | 7.23 | 2.90E+00 | ..... |
| 67 | 2613.97 | 2607 - | 2619 | 2613.23 | 1.10E+02 | 22.23 | 6.72E+00 | TL-208 |
| 68 | 2798.95 | 2795 - | 2800 | 2798.20 | 5.00E+00 | 4.47 | 0.00E+00 | ..... |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 7:08:34AM

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty | |
|----------|--------------|---------------|----------------------|-----------------|------------------------|----------|
| | 1 | 46.75 | 1.58E+02 | 99.34 | 1.36E-02 | 1.68E-03 |
| | 2 | 53.08 | 7.85E+01 | 79.60 | 1.82E-02 | 1.68E-03 |
| m | 3 | 71.91 | 7.20E+01 | 50.47 | 2.65E-02 | 2.91E-03 |
| m | 4 | 75.12 | 5.54E+02 | 75.39 | 2.72E-02 | 3.22E-03 |
| | 5 | 87.43 | 1.17E+02 | 68.35 | 2.84E-02 | 4.44E-03 |
| | 6 | 92.76 | 3.01E+02 | 100.12 | 2.85E-02 | 4.29E-03 |
| | 7 | 106.13 | 5.80E+01 | 69.63 | 2.80E-02 | 3.70E-03 |
| | 8 | 154.40 | 7.61E+01 | 90.55 | 2.37E-02 | 2.02E-03 |
| | 9 | 186.01 | 2.05E+02 | 72.26 | 2.11E-02 | 1.65E-03 |
| | 10 | 208.71 | 1.24E+02 | 78.28 | 1.96E-02 | 1.63E-03 |
| M | 11 | 238.75 | 9.80E+02 | 75.42 | 1.79E-02 | 1.60E-03 |
| m | 12 | 241.77 | 2.33E+02 | 72.58 | 1.77E-02 | 1.60E-03 |
| | 13 | 270.20 | 9.35E+01 | 50.84 | 1.64E-02 | 1.57E-03 |

Analysis Report for 1510085-05
CP5007S03-04

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 14 | 277.35 | 6.29E+01 | 59.02 | 1.61E-02 | 1.56E-03 |
| | 15 | 288.12 | 5.11E+01 | 48.33 | 1.57E-02 | 1.51E-03 |
| M | 16 | 295.17 | 3.28E+02 | 46.90 | 1.55E-02 | 1.48E-03 |
| m | 17 | 300.90 | 5.24E+01 | 38.38 | 1.53E-02 | 1.45E-03 |
| | 18 | 326.82 | 5.58E+01 | 53.25 | 1.44E-02 | 1.33E-03 |
| | 19 | 338.44 | 1.72E+02 | 55.61 | 1.41E-02 | 1.27E-03 |
| | 20 | 351.96 | 5.60E+02 | 67.08 | 1.37E-02 | 1.21E-03 |
| | 21 | 409.46 | 3.51E+01 | 43.73 | 1.24E-02 | 1.00E-03 |
| | 22 | 463.34 | 4.57E+01 | 46.31 | 1.13E-02 | 9.47E-04 |
| | 23 | 510.92 | 2.24E+02 | 49.69 | 1.06E-02 | 8.98E-04 |
| | 24 | 583.16 | 3.33E+02 | 55.22 | 9.58E-03 | 8.25E-04 |
| M | 25 | 609.40 | 4.01E+02 | 47.12 | 9.27E-03 | 7.98E-04 |
| m | 26 | 614.38 | 2.23E+01 | 33.26 | 9.21E-03 | 7.93E-04 |
| | 27 | 651.74 | 3.50E+01 | 31.29 | 8.81E-03 | 7.55E-04 |
| | 28 | 727.29 | 5.72E+01 | 26.93 | 8.09E-03 | 7.03E-04 |
| | 29 | 860.96 | 4.81E+01 | 28.38 | 7.06E-03 | 6.17E-04 |
| | 30 | 895.87 | 2.88E+01 | 25.39 | 6.84E-03 | 5.95E-04 |
| | 31 | 911.30 | 1.94E+02 | 35.44 | 6.74E-03 | 5.87E-04 |
| | 32 | 934.28 | 3.82E+01 | 23.09 | 6.61E-03 | 5.75E-04 |
| M | 33 | 964.61 | 3.74E+01 | 28.21 | 6.44E-03 | 5.59E-04 |
| m | 34 | 968.89 | 1.36E+02 | 30.43 | 6.42E-03 | 5.57E-04 |
| | 35 | 1002.65 | 2.10E+01 | 21.66 | 6.24E-03 | 5.40E-04 |
| | 36 | 1033.27 | 2.95E+01 | 35.77 | 6.09E-03 | 5.24E-04 |
| | 37 | 1061.80 | 1.96E+01 | 22.84 | 5.96E-03 | 5.10E-04 |
| M | 38 | 1120.62 | 9.26E+01 | 27.35 | 5.70E-03 | 4.80E-04 |
| m | 39 | 1127.62 | 1.93E+01 | 20.10 | 5.67E-03 | 4.76E-04 |
| | 40 | 1245.47 | 1.69E+01 | 19.08 | 5.25E-03 | 4.86E-04 |
| | 41 | 1334.91 | 4.03E+01 | 24.11 | 4.98E-03 | 5.25E-04 |
| | 42 | 1377.56 | 3.87E+01 | 20.49 | 4.87E-03 | 5.08E-04 |
| | 43 | 1407.98 | 2.20E+01 | 13.34 | 4.79E-03 | 4.95E-04 |
| M | 44 | 1455.59 | 1.08E+01 | 10.58 | 4.68E-03 | 4.75E-04 |
| m | 45 | 1460.99 | 7.04E+02 | 55.42 | 4.67E-03 | 4.73E-04 |
| | 46 | 1539.80 | 1.33E+01 | 15.94 | 4.51E-03 | 4.41E-04 |
| | 47 | 1559.86 | 1.51E+01 | 19.74 | 4.48E-03 | 4.32E-04 |
| | 48 | 1592.40 | 1.00E+01 | 13.30 | 4.42E-03 | 4.19E-04 |
| | 49 | 1630.64 | 1.32E+01 | 16.82 | 4.36E-03 | 4.03E-04 |
| | 50 | 1661.03 | 1.09E+01 | 10.68 | 4.32E-03 | 3.90E-04 |
| | 51 | 1697.29 | 1.03E+01 | 10.49 | 4.27E-03 | 3.75E-04 |
| | 52 | 1728.55 | 2.11E+01 | 11.24 | 4.23E-03 | 3.62E-04 |
| | 53 | 1764.30 | 9.64E+01 | 20.78 | 4.19E-03 | 3.48E-04 |
| | 54 | 1782.98 | 8.00E+00 | 5.66 | 4.16E-03 | 3.40E-04 |
| | 55 | 1789.90 | 6.19E+00 | 6.40 | 4.16E-03 | 3.37E-04 |
| | 56 | 1847.93 | 1.20E+01 | 12.85 | 4.10E-03 | 3.18E-04 |
| | 57 | 2002.71 | 1.80E+01 | 8.49 | 3.99E-03 | 3.18E-04 |
| | 58 | 2048.04 | 7.22E+00 | 6.95 | 3.97E-03 | 3.18E-04 |
| | 59 | 2102.72 | 2.60E+01 | 10.20 | 3.95E-03 | 3.18E-04 |
| | 60 | 2116.91 | 6.50E+00 | 6.65 | 3.95E-03 | 3.18E-04 |
| | 61 | 2203.74 | 1.42E+01 | 12.61 | 3.93E-03 | 3.18E-04 |
| | 62 | 2221.38 | 1.60E+01 | 8.00 | 3.93E-03 | 3.18E-04 |
| | 63 | 2229.02 | 6.78E+00 | 7.21 | 3.93E-03 | 3.18E-04 |
| | 64 | 2275.69 | 1.27E+01 | 12.85 | 3.93E-03 | 3.18E-04 |
| | 65 | 2385.27 | 6.31E+00 | 6.65 | 3.95E-03 | 3.18E-04 |
| | 66 | 2427.73 | 8.55E+00 | 7.23 | 3.96E-03 | 3.18E-04 |

Analysis Report for 1510085-05
 CP5007S03-04

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 67 | 2613.97 | 1.10E+02 | 22.23 | 4.05E-03 | 3.18E-04 |
| 68 | 2798.95 | 5.00E+00 | 4.47 | 4.21E-03 | 3.18E-04 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 7:08:34AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 1 | 46.75 | 1.58E+02 | 99.34 | 6.46E+01 | 1.16E+01 | 9.31E+01 | 1.00E+02 |
| 2 | 53.08 | 7.85E+01 | 79.60 | | | 7.85E+01 | 7.96E+01 |
| m 3 | 71.91 | 7.20E+01 | 50.47 | | | 7.20E+01 | 5.05E+01 |
| m 4 | 75.12 | 5.54E+02 | 75.39 | | | 5.54E+02 | 7.54E+01 |
| 5 | 87.43 | 1.17E+02 | 68.35 | 1.46E+00 | 7.88E+00 | 1.15E+02 | 6.88E+01 |
| 6 | 92.76 | 3.01E+02 | 100.12 | 5.70E+01 | 9.03E+00 | 2.44E+02 | 1.01E+02 |
| 7 | 106.13 | 5.80E+01 | 69.63 | | | 5.80E+01 | 6.96E+01 |
| 8 | 154.40 | 7.61E+01 | 90.55 | | | 7.61E+01 | 9.06E+01 |
| 9 | 186.01 | 2.05E+02 | 72.26 | 4.72E+01 | 7.97E+00 | 1.57E+02 | 7.27E+01 |
| 10 | 208.71 | 1.24E+02 | 78.28 | | | 1.24E+02 | 7.83E+01 |
| M 11 | 238.75 | 9.80E+02 | 75.42 | 2.36E+01 | 1.35E+01 | 9.56E+02 | 7.66E+01 |
| m 12 | 241.77 | 2.33E+02 | 72.58 | 6.38E+00 | 3.91E+00 | 2.27E+02 | 7.27E+01 |
| 13 | 270.20 | 9.35E+01 | 50.84 | | | 9.35E+01 | 5.08E+01 |
| 14 | 277.35 | 6.29E+01 | 59.02 | | | 6.29E+01 | 5.90E+01 |
| 15 | 288.12 | 5.11E+01 | 48.33 | | | 5.11E+01 | 4.83E+01 |
| M 16 | 295.17 | 3.28E+02 | 46.90 | 8.57E+00 | 6.10E+00 | 3.20E+02 | 4.73E+01 |
| m 17 | 300.90 | 5.24E+01 | 38.38 | | | 5.24E+01 | 3.84E+01 |
| 18 | 326.82 | 5.58E+01 | 53.25 | | | 5.58E+01 | 5.33E+01 |
| 19 | 338.44 | 1.72E+02 | 55.61 | | | 1.72E+02 | 5.56E+01 |
| 20 | 351.96 | 5.60E+02 | 67.08 | 1.40E+01 | 5.55E+00 | 5.46E+02 | 6.73E+01 |
| 21 | 409.46 | 3.51E+01 | 43.73 | | | 3.51E+01 | 4.37E+01 |
| 22 | 463.34 | 4.57E+01 | 46.31 | | | 4.57E+01 | 4.63E+01 |
| 23 | 510.92 | 2.24E+02 | 49.69 | 8.41E+01 | 5.50E+00 | 1.40E+02 | 5.00E+01 |
| 24 | 583.16 | 3.33E+02 | 55.22 | 7.32E+00 | 4.08E+00 | 3.26E+02 | 5.54E+01 |
| M 25 | 609.40 | 4.01E+02 | 47.12 | 1.30E+01 | 3.89E+00 | 3.88E+02 | 4.73E+01 |
| m 26 | 614.38 | 2.23E+01 | 33.26 | | | 2.23E+01 | 3.33E+01 |
| 27 | 651.74 | 3.50E+01 | 31.29 | | | 3.50E+01 | 3.13E+01 |
| 28 | 727.29 | 5.72E+01 | 26.93 | | | 5.72E+01 | 2.69E+01 |

Analysis Report for 1510085-05

CP5007S03-04

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 29 | 860.96 | 4.81E+01 | 28.38 | | | 4.81E+01 | 2.84E+01 |
| 30 | 895.87 | 2.88E+01 | 25.39 | | | 2.88E+01 | 2.54E+01 |
| 31 | 911.30 | 1.94E+02 | 35.44 | 5.60E+00 | 3.32E+00 | 1.88E+02 | 3.56E+01 |
| 32 | 934.28 | 3.82E+01 | 23.09 | | | 3.82E+01 | 2.31E+01 |
| M 33 | 964.61 | 3.74E+01 | 28.21 | | | 3.74E+01 | 2.82E+01 |
| m 34 | 968.89 | 1.36E+02 | 30.43 | | | 1.36E+02 | 3.04E+01 |
| 35 | 1002.65 | 2.10E+01 | 21.66 | | | 2.10E+01 | 2.17E+01 |
| 36 | 1033.27 | 2.95E+01 | 35.77 | | | 2.95E+01 | 3.58E+01 |
| 37 | 1061.80 | 1.96E+01 | 22.84 | | | 1.96E+01 | 2.28E+01 |
| M 38 | 1120.62 | 9.26E+01 | 27.35 | 3.93E+00 | 2.96E+00 | 8.87E+01 | 2.75E+01 |
| m 39 | 1127.62 | 1.93E+01 | 20.10 | | | 1.93E+01 | 2.01E+01 |
| 40 | 1245.47 | 1.69E+01 | 19.08 | | | 1.69E+01 | 1.91E+01 |
| 41 | 1334.91 | 4.03E+01 | 24.11 | | | 4.03E+01 | 2.41E+01 |
| 42 | 1377.56 | 3.87E+01 | 20.49 | | | 3.87E+01 | 2.05E+01 |
| 43 | 1407.98 | 2.20E+01 | 13.34 | | | 2.20E+01 | 1.33E+01 |
| M 44 | 1455.59 | 1.08E+01 | 10.58 | | | 1.08E+01 | 1.06E+01 |
| m 45 | 1460.99 | 7.04E+02 | 55.42 | 1.12E+01 | 2.55E+00 | 6.93E+02 | 5.55E+01 |
| 46 | 1539.80 | 1.33E+01 | 15.94 | | | 1.33E+01 | 1.59E+01 |
| 47 | 1559.86 | 1.51E+01 | 19.74 | | | 1.51E+01 | 1.97E+01 |
| 48 | 1592.40 | 1.00E+01 | 13.30 | | | 1.00E+01 | 1.33E+01 |
| 49 | 1630.64 | 1.32E+01 | 16.82 | | | 1.32E+01 | 1.68E+01 |
| 50 | 1661.03 | 1.09E+01 | 10.68 | | | 1.09E+01 | 1.07E+01 |
| 51 | 1697.29 | 1.03E+01 | 10.49 | | | 1.03E+01 | 1.05E+01 |
| 52 | 1728.55 | 2.11E+01 | 11.24 | | | 2.11E+01 | 1.12E+01 |
| 53 | 1764.30 | 9.64E+01 | 20.78 | 4.23E+00 | 2.21E+00 | 9.21E+01 | 2.09E+01 |
| 54 | 1782.98 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| 55 | 1789.90 | 6.19E+00 | 6.40 | | | 6.19E+00 | 6.40E+00 |
| 56 | 1847.93 | 1.20E+01 | 12.85 | | | 1.20E+01 | 1.28E+01 |
| 57 | 2002.71 | 1.80E+01 | 8.49 | | | 1.80E+01 | 8.49E+00 |
| 58 | 2048.04 | 7.22E+00 | 6.95 | | | 7.22E+00 | 6.95E+00 |
| 59 | 2102.72 | 2.60E+01 | 10.20 | | | 2.60E+01 | 1.02E+01 |
| 60 | 2116.91 | 6.50E+00 | 6.65 | | | 6.50E+00 | 6.65E+00 |
| 61 | 2203.74 | 1.42E+01 | 12.61 | 5.94E-01 | 1.16E+00 | 1.36E+01 | 1.27E+01 |
| 62 | 2221.38 | 1.60E+01 | 8.00 | | | 1.60E+01 | 8.00E+00 |
| 63 | 2229.02 | 6.78E+00 | 7.21 | | | 6.78E+00 | 7.21E+00 |
| 64 | 2275.69 | 1.27E+01 | 12.85 | | | 1.27E+01 | 1.28E+01 |
| 65 | 2385.27 | 6.31E+00 | 6.65 | | | 6.31E+00 | 6.65E+00 |
| 66 | 2427.73 | 8.55E+00 | 7.23 | | | 8.55E+00 | 7.23E+00 |
| 67 | 2613.97 | 1.10E+02 | 22.23 | 7.38E+00 | 1.57E+00 | 1.02E+02 | 2.23E+01 |
| 68 | 2798.95 | 5.00E+00 | 4.47 | | | 5.00E+00 | 4.47E+00 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510085-05

CP5007S03-04

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 7:08:34AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 1 | 1.58E+02 | 99.34 | 6.46E+01 | 1.16E+01 | 9.31E+01 | 1.00E+02 |
| | 2 | 7.85E+01 | 79.60 | | | 7.85E+01 | 7.96E+01 |
| m | 3 | 7.20E+01 | 50.47 | | | 7.20E+01 | 5.05E+01 |
| m | 4 | 5.54E+02 | 75.39 | | | 5.54E+02 | 7.54E+01 |
| | 5 | 1.17E+02 | 68.35 | 1.46E+00 | 7.88E+00 | 1.15E+02 | 6.88E+01 |
| | 6 | 3.01E+02 | 100.12 | 5.70E+01 | 9.03E+00 | 2.44E+02 | 1.01E+02 |
| | 7 | 5.80E+01 | 69.63 | | | 5.80E+01 | 6.96E+01 |
| | 8 | 7.61E+01 | 90.55 | | | 7.61E+01 | 9.06E+01 |
| | 9 | 2.05E+02 | 72.26 | 4.72E+01 | 7.97E+00 | 1.57E+02 | 7.27E+01 |
| | 10 | 1.24E+02 | 78.28 | | | 1.24E+02 | 7.83E+01 |
| M | 11 | 9.80E+02 | 75.42 | 2.36E+01 | 1.35E+01 | 9.56E+02 | 7.66E+01 |
| m | 12 | 2.33E+02 | 72.58 | 6.38E+00 | 3.91E+00 | 2.27E+02 | 7.27E+01 |
| | 13 | 9.35E+01 | 50.84 | | | 9.35E+01 | 5.08E+01 |
| | 14 | 6.29E+01 | 59.02 | | | 6.29E+01 | 5.90E+01 |
| | 15 | 5.11E+01 | 48.33 | | | 5.11E+01 | 4.83E+01 |
| M | 16 | 3.28E+02 | 46.90 | 8.57E+00 | 6.10E+00 | 3.20E+02 | 4.73E+01 |
| m | 17 | 5.24E+01 | 38.38 | | | 5.24E+01 | 3.84E+01 |
| | 18 | 5.58E+01 | 53.25 | | | 5.58E+01 | 5.33E+01 |
| | 19 | 1.72E+02 | 55.61 | | | 1.72E+02 | 5.56E+01 |
| | 20 | 5.60E+02 | 67.08 | 1.40E+01 | 5.55E+00 | 5.46E+02 | 6.73E+01 |
| | 21 | 3.51E+01 | 43.73 | | | 3.51E+01 | 4.37E+01 |
| | 22 | 4.57E+01 | 46.31 | | | 4.57E+01 | 4.63E+01 |
| | 23 | 2.24E+02 | 49.69 | 8.41E+01 | 5.50E+00 | 1.40E+02 | 5.00E+01 |
| | 24 | 3.33E+02 | 55.22 | 7.32E+00 | 4.08E+00 | 3.26E+02 | 5.54E+01 |
| M | 25 | 4.01E+02 | 47.12 | 1.30E+01 | 3.89E+00 | 3.88E+02 | 4.73E+01 |
| m | 26 | 2.23E+01 | 33.26 | | | 2.23E+01 | 3.33E+01 |
| | 27 | 3.50E+01 | 31.29 | | | 3.50E+01 | 3.13E+01 |
| | 28 | 5.72E+01 | 26.93 | | | 5.72E+01 | 2.69E+01 |
| | 29 | 4.81E+01 | 28.38 | | | 4.81E+01 | 2.84E+01 |
| | 30 | 2.88E+01 | 25.39 | | | 2.88E+01 | 2.54E+01 |
| | 31 | 1.94E+02 | 35.44 | 5.60E+00 | 3.32E+00 | 1.88E+02 | 3.56E+01 |
| | 32 | 3.82E+01 | 23.09 | | | 3.82E+01 | 2.31E+01 |
| M | 33 | 3.74E+01 | 28.21 | | | 3.74E+01 | 2.82E+01 |
| m | 34 | 1.36E+02 | 30.43 | | | 1.36E+02 | 3.04E+01 |
| | 35 | 2.10E+01 | 21.66 | | | 2.10E+01 | 2.17E+01 |
| | 36 | 2.95E+01 | 35.77 | | | 2.95E+01 | 3.58E+01 |
| | 37 | 1.96E+01 | 22.84 | | | 1.96E+01 | 2.28E+01 |
| M | 38 | 9.26E+01 | 27.35 | 3.93E+00 | 2.96E+00 | 8.87E+01 | 2.75E+01 |
| m | 39 | 1.93E+01 | 20.10 | | | 1.93E+01 | 2.01E+01 |
| | 40 | 1.69E+01 | 19.08 | | | 1.69E+01 | 1.91E+01 |
| | 41 | 4.03E+01 | 24.11 | | | 4.03E+01 | 2.41E+01 |

Analysis Report for 1510085-05
CP5007S03-04

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 42 | 1377.56 | 3.87E+01 | 20.49 | | 3.87E+01 | 2.05E+01 |
| | 43 | 1407.98 | 2.20E+01 | 13.34 | | 2.20E+01 | 1.33E+01 |
| M | 44 | 1455.59 | 1.08E+01 | 10.58 | | 1.08E+01 | 1.06E+01 |
| m | 45 | 1460.99 | 7.04E+02 | 55.42 | 1.12E+01 | 2.55E+00 | 6.93E+02 |
| | 46 | 1539.80 | 1.33E+01 | 15.94 | | 1.33E+01 | 1.59E+01 |
| | 47 | 1559.86 | 1.51E+01 | 19.74 | | 1.51E+01 | 1.97E+01 |
| | 48 | 1592.40 | 1.00E+01 | 13.30 | | 1.00E+01 | 1.33E+01 |
| | 49 | 1630.64 | 1.32E+01 | 16.82 | | 1.32E+01 | 1.68E+01 |
| | 50 | 1661.03 | 1.09E+01 | 10.68 | | 1.09E+01 | 1.07E+01 |
| | 51 | 1697.29 | 1.03E+01 | 10.49 | | 1.03E+01 | 1.05E+01 |
| | 52 | 1728.55 | 2.11E+01 | 11.24 | | 2.11E+01 | 1.12E+01 |
| | 53 | 1764.30 | 9.64E+01 | 20.78 | 4.23E+00 | 2.21E+00 | 9.21E+01 |
| | 54 | 1782.98 | 8.00E+00 | 5.66 | | 8.00E+00 | 5.66E+00 |
| | 55 | 1789.90 | 6.19E+00 | 6.40 | | 6.19E+00 | 6.40E+00 |
| | 56 | 1847.93 | 1.20E+01 | 12.85 | | 1.20E+01 | 1.28E+01 |
| | 57 | 2002.71 | 1.80E+01 | 8.49 | | 1.80E+01 | 8.49E+00 |
| | 58 | 2048.04 | 7.22E+00 | 6.95 | | 7.22E+00 | 6.95E+00 |
| | 59 | 2102.72 | 2.60E+01 | 10.20 | | 2.60E+01 | 1.02E+01 |
| | 60 | 2116.91 | 6.50E+00 | 6.65 | | 6.50E+00 | 6.65E+00 |
| | 61 | 2203.74 | 1.42E+01 | 12.61 | 5.94E-01 | 1.16E+00 | 1.36E+01 |
| | 62 | 2221.38 | 1.60E+01 | 8.00 | | 1.60E+01 | 8.00E+00 |
| | 63 | 2229.02 | 6.78E+00 | 7.21 | | 6.78E+00 | 7.21E+00 |
| | 64 | 2275.69 | 1.27E+01 | 12.85 | | 1.27E+01 | 1.28E+01 |
| | 65 | 2385.27 | 6.31E+00 | 6.65 | | 6.31E+00 | 6.65E+00 |
| | 66 | 2427.73 | 8.55E+00 | 7.23 | | 8.55E+00 | 7.23E+00 |
| | 67 | 2613.97 | 1.10E+02 | 22.23 | 7.38E+00 | 1.57E+00 | 1.02E+02 |
| | 68 | 2798.95 | 5.00E+00 | 4.47 | | 5.00E+00 | 4.47E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.995 | 1460.81 | * 10.67 | 1.81E+01 | 2.37E+00 |
| GA-67 | 0.621 | 93.31 | * 35.70 | 1.82E+02 | 7.45E+02 |
| | | 208.95 | * 2.24 | 2.15E+03 | 8.52E+03 |
| | | 300.22 | * 16.00 | 1.63E+02 | 6.73E+02 |

Analysis Report for 1510085-05
 CP5007S03-04

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| EU-155 | 0.882 | 86.50 * | 30.90 | 1.73E-01 | 1.07E-01 |
| | | 105.30 * | 20.70 | 1.32E-01 | 1.60E-01 |
| TL-208 | 0.959 | 583.14 * | 30.22 | 1.47E+00 | 2.80E-01 |
| | | 860.37 * | 4.48 | 1.98E+00 | 1.18E+00 |
| | | 2614.66 * | 35.85 | 9.18E-01 | 2.13E-01 |
| PB-210 | 0.990 | 46.50 * | 4.25 | 2.11E+00 | 2.28E+00 |
| BI-212 | 0.764 | 727.17 * | 11.80 | 7.82E-01 | 3.74E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.990 | 238.63 * | 44.60 | 1.56E+00 | 1.88E-01 |
| | | 300.09 * | 3.41 | 1.31E+00 | 9.69E-01 |
| BI-214 | 0.993 | 609.31 * | 46.30 | 1.18E+00 | 1.76E-01 |
| | | 1120.29 * | 15.10 | 1.34E+00 | 4.32E-01 |
| | | 1764.49 * | 15.80 | 1.82E+00 | 4.39E-01 |
| | | 2204.22 * | 4.98 | 9.07E-01 | 8.47E-01 |
| PB-214 | 1.000 | 295.21 * | 19.19 | 1.40E+00 | 2.47E-01 |
| | | 351.92 * | 37.19 | 1.40E+00 | 2.11E-01 |
| RA-224 | 0.904 | 240.98 * | 3.95 | 4.23E+00 | 1.41E+00 |
| RA-226 | 0.994 | 186.21 * | 3.28 | 2.97E+00 | 5.60E+00 |
| AC-228 | 0.993 | 338.32 * | 11.40 | 1.40E+00 | 4.69E-01 |
| | | 911.07 * | 27.70 | 1.31E+00 | 2.73E-01 |
| | | 969.11 * | 16.60 | 1.66E+00 | 3.99E-01 |
| AM-243 | 0.968 | 74.67 * | 66.00 | 4.02E-01 | 7.27E-02 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 7:08:34AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide | |
|----------|--------------|-----------------|--------------------------|-----------|-------------------|------------------|
| m | 2 | 53.08 | 2.18148E-02 | 50.68 | Tol. | PM-145 |
| | 3 | 71.91 | 2.00043E-02 | 35.04 | | |
| | 8 | 154.40 | 2.11375E-02 | 59.50 | | |
| | 13 | 270.20 | 2.59861E-02 | 27.17 | Tol. | NP-239 CM-243 |
| | 14 | 277.35 | 1.74814E-02 | 46.89 | | |
| 15 | 288.12 | 1.42037E-02 | 47.26 | Sum | | |

Analysis Report for 1510085-05
CP5007S03-04

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| 18 | 326.82 | 1.55037E-02 | 47.71 | Sum | |
| 21 | 409.46 | 9.74359E-03 | 62.33 | | |
| 22 | 463.34 | 1.26960E-02 | 50.66 | Tol. | SB-125 |
| 23 | 510.92 | 3.89736E-02 | 17.82 | | |
| m 26 | 614.38 | 6.18156E-03 | 74.73 | Tol. | AG-108M |
| 27 | 651.74 | 9.71230E-03 | 44.75 | | |
| 30 | 895.87 | 7.99603E-03 | 44.10 | | |
| 32 | 934.28 | 1.06019E-02 | 30.24 | Sum | |
| M 33 | 964.61 | 1.03989E-02 | 37.68 | Tol. | EU-152 |
| 35 | 1002.65 | 5.83333E-03 | 51.56 | | |
| 36 | 1033.27 | 8.19870E-03 | 60.59 | | |
| 37 | 1061.80 | 5.45370E-03 | 58.17 | Sum | |
| m 39 | 1127.62 | 5.35634E-03 | 52.12 | | |
| 40 | 1245.47 | 4.69203E-03 | 56.48 | | |
| 41 | 1334.91 | 1.11908E-02 | 29.93 | | |
| 42 | 1377.56 | 1.07374E-02 | 26.51 | | |
| 43 | 1407.98 | 6.11111E-03 | 30.32 | Tol. | EU-152 |
| M 44 | 1455.59 | 2.98618E-03 | 49.22 | | |
| 46 | 1539.80 | 3.69658E-03 | 59.88 | | |
| 47 | 1559.86 | 4.18301E-03 | 65.53 | | |
| 48 | 1592.40 | 2.77778E-03 | 66.52 | D-Esc | |
| 49 | 1630.64 | 3.66770E-03 | 63.70 | | |
| 50 | 1661.03 | 3.02083E-03 | 49.09 | | |
| 51 | 1697.29 | 2.87037E-03 | 50.75 | | |
| 52 | 1728.55 | 5.85070E-03 | 26.67 | | |
| 54 | 1782.98 | 2.22222E-03 | 35.36 | | |
| 55 | 1789.90 | 1.71875E-03 | 51.74 | | |
| 56 | 1847.93 | 3.33333E-03 | 53.52 | Sum | |
| 57 | 2002.71 | 5.00000E-03 | 23.57 | Sum | |
| 58 | 2048.04 | 2.00617E-03 | 48.09 | | |
| 59 | 2102.72 | 7.22222E-03 | 19.61 | S-Esc | |
| 60 | 2116.91 | 1.80556E-03 | 51.17 | Sum | |
| 62 | 2221.38 | 4.44444E-03 | 25.00 | | |
| 63 | 2229.02 | 1.88272E-03 | 53.20 | | |
| 64 | 2275.69 | 3.53175E-03 | 50.51 | | |
| 65 | 2385.27 | 1.75347E-03 | 52.69 | | |
| 66 | 2427.73 | 2.37500E-03 | 42.27 | | |
| 68 | 2798.95 | 1.38889E-03 | 44.72 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-05
CP5007S03-04

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|---|----------|----------------------|----------------------|
| K-40 | 0.99 | 1460.81 | * | 10.67 | 1.81E+01 | 2.37E+00 |
| GA-67 | 0.62 | 93.31 | * | 35.70 | 1.82E+02 | 7.45E+02 |
| | | 208.95 | * | 2.24 | 2.15E+03 | 8.52E+03 |
| | | 300.22 | * | 16.00 | 1.63E+02 | 6.73E+02 |
| EU-155 | 0.88 | 86.50 | * | 30.90 | 1.73E-01 | 1.07E-01 |
| | | 105.30 | * | 20.70 | 1.32E-01 | 1.60E-01 |
| TL-208 | 0.95 | 583.14 | * | 30.22 | 1.47E+00 | 2.80E-01 |
| | | 860.37 | * | 4.48 | 1.98E+00 | 1.18E+00 |
| | | 2614.66 | * | 35.85 | 9.18E-01 | 2.13E-01 |
| PB-210 | 0.99 | 46.50 | * | 4.25 | 2.11E+00 | 2.28E+00 |
| BI-212 | 0.76 | 727.17 | * | 11.80 | 7.82E-01 | 3.74E-01 |
| | | 1620.62 | | 2.75 | | |
| PB-212 | 0.99 | 238.63 | * | 44.60 | 1.56E+00 | 1.88E-01 |
| | | 300.09 | * | 3.41 | 1.31E+00 | 9.69E-01 |
| BI-214 | 0.99 | 609.31 | * | 46.30 | 1.18E+00 | 1.76E-01 |
| | | 1120.29 | * | 15.10 | 1.34E+00 | 4.32E-01 |
| | | 1764.49 | * | 15.80 | 1.82E+00 | 4.39E-01 |
| | | 2204.22 | * | 4.98 | 9.07E-01 | 8.47E-01 |
| PB-214 | 1.00 | 295.21 | * | 19.19 | 1.40E+00 | 2.47E-01 |
| | | 351.92 | * | 37.19 | 1.40E+00 | 2.11E-01 |
| RA-224 | 0.90 | 240.98 | * | 3.95 | 4.23E+00 | 1.41E+00 |
| RA-226 | 0.99 | 186.21 | * | 3.28 | 2.97E+00 | 5.60E+00 |
| AC-228 | 0.99 | 338.32 | * | 11.40 | 1.40E+00 | 4.69E-01 |
| | | 911.07 | * | 27.70 | 1.31E+00 | 2.73E-01 |
| | | 969.11 | * | 16.60 | 1.66E+00 | 3.99E-01 |
| AM-243 | 0.96 | 74.67 | * | 66.00 | 4.02E-01 | 7.27E-02 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-05

CP5007S03-04

INTERFERENCE CORRECTED REPORT

| | Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---|-------------------------|--------------------------------------|---|---|-----------------|
| | K-40 | 0.995 | 1.81E+01 | 2.37E+00 | |
| | GA-67 | 0.621 | 1.23E+02 | 4.86E+02 | |
| X | CD-109 | 0.943 | | | |
| X | SN-126 | 0.997 | | | |
| | EU-155 | 0.882 | 1.60E-01 | 8.88E-02 | |
| | TL-208 | 0.959 | 1.14E+00 | 1.68E-01 | |
| | PB-210 | 0.990 | 2.11E+00 | 2.28E+00 | |
| | BI-212 | 0.764 | 7.82E-01 | 3.74E-01 | |
| | PB-212 | 0.990 | 1.52E+00 | 1.86E-01 | |
| | BI-214 | 0.993 | 1.26E+00 | 1.50E-01 | |
| | PB-214 | 1.000 | 1.40E+00 | 1.61E-01 | |
| | RA-224 | 0.904 | 4.23E+00 | 1.41E+00 | |
| | RA-226 | 0.994 | 2.97E+00 | 5.60E+00 | |
| | AC-228 | 0.993 | 1.42E+00 | 2.03E-01 | |
| X | NP-237 | 0.873 | | | |
| | AM-243 | 0.968 | 4.02E-01 | 7.27E-02 | |

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-05
CP5007S03-04

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 7:08:34AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| | 2 | 53.08 | 2.18148E-02 | | |
| m | 3 | 71.91 | 2.00043E-02 | Tol. | PM-145 |
| | 8 | 154.40 | 2.11375E-02 | | |
| | 13 | 270.20 | 2.59861E-02 | | |
| | 14 | 277.35 | 1.74814E-02 | Tol. | NP-239 CM-243 |
| | 15 | 288.12 | 1.42037E-02 | Sum | |
| | 18 | 326.82 | 1.55037E-02 | Sum | |
| | 21 | 409.46 | 9.74359E-03 | | |
| | 22 | 463.34 | 1.26960E-02 | Tol. | SB-125 |
| | 23 | 510.92 | 3.89736E-02 | | |
| m | 26 | 614.38 | 6.18156E-03 | Tol. | AG-108M |
| | 27 | 651.74 | 9.71230E-03 | | |
| | 30 | 895.87 | 7.99603E-03 | | |
| | 32 | 934.28 | 1.06019E-02 | Sum | |
| M | 33 | 964.61 | 1.03989E-02 | Tol. | EU-152 |
| | 35 | 1002.65 | 5.83333E-03 | | |
| | 36 | 1033.27 | 8.19870E-03 | | |
| | 37 | 1061.80 | 5.45370E-03 | Sum | |
| m | 39 | 1127.62 | 5.35634E-03 | | |
| | 40 | 1245.47 | 4.69203E-03 | | |
| | 41 | 1334.91 | 1.11908E-02 | | |
| | 42 | 1377.56 | 1.07374E-02 | | |
| | 43 | 1407.98 | 6.11111E-03 | Tol. | EU-152 |
| M | 44 | 1455.59 | 2.98618E-03 | | |
| | 46 | 1539.80 | 3.69658E-03 | | |
| | 47 | 1559.86 | 4.18301E-03 | | |
| | 48 | 1592.40 | 2.77778E-03 | D-Esc | |
| | 49 | 1630.64 | 3.66770E-03 | | |
| | 50 | 1661.03 | 3.02083E-03 | | |
| | 51 | 1697.29 | 2.87037E-03 | | |
| | 52 | 1728.55 | 5.85070E-03 | | |
| | 54 | 1782.98 | 2.22222E-03 | | |
| | 55 | 1789.90 | 1.71875E-03 | | |
| | 56 | 1847.93 | 3.33333E-03 | Sum | |

Analysis Report for 1510085-05
CP5007S03-04

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 57 | 2002.71 | 5.00000E-03 | 23.57 | Sum | |
| 58 | 2048.04 | 2.00617E-03 | 48.09 | | |
| 59 | 2102.72 | 7.22222E-03 | 19.61 | S-Esc | |
| 60 | 2116.91 | 1.80556E-03 | 51.17 | Sum | |
| 62 | 2221.38 | 4.44444E-03 | 25.00 | | |
| 63 | 2229.02 | 1.88272E-03 | 53.20 | | |
| 64 | 2275.69 | 3.53175E-03 | 50.51 | | |
| 65 | 2385.27 | 1.75347E-03 | 52.69 | | |
| 66 | 2427.73 | 2.37500E-03 | 42.27 | | |
| 68 | 2798.95 | 1.38889E-03 | 44.72 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-----------------|-----------------|----------|-------------------------|----------------------------|-------------------------|
| + | BE-7 | 477.59 | 10.42 | -1.88E-01 | 7.29E-01 | 7.29E-01 |
| + | NA-22 | 1274.54 | 99.94 | -1.57E-02 | 7.72E-02 | 7.72E-02 |
| + | NA-24 | 1368.53 | 99.99 | -3.59E+11 | 9.08E+12 | 1.83E+13 |
| | | 2754.09 | 99.86 | -4.50E+12 | | 9.08E+12 |
| + | AL-26 | 1808.65 | 99.76 | 1.33E-02 | 5.50E-02 | 5.50E-02 |
| + | K-40 | 1460.81 | * 10.67 | 1.81E+01 | 1.34E+00 | 1.34E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -6.58E-04 | 5.12E-02 | 5.12E-02 |
| | | 78.34 | 96.00 | 3.11E-01 | | 7.45E-02 |
| + | SC-46 | 889.25 | 99.98 | -1.37E-02 | 7.71E-02 | 7.71E-02 |
| | | 1120.51 | 99.99 | 2.83E-01 | | 1.68E-01 |
| + | V-48 | 983.52 | 99.98 | -7.79E-02 | 2.51E-01 | 2.51E-01 |
| | | 1312.10 | 97.50 | -5.78E-02 | | 2.62E-01 |
| + | CR-51 | 320.08 | 9.83 | -2.70E-01 | 1.10E+00 | 1.10E+00 |
| + | MN-54 | 834.83 | 99.97 | -2.69E-02 | 8.01E-02 | 8.01E-02 |
| + | CO-56 | 846.75 | 99.96 | 4.00E-03 | 9.54E-02 | 9.54E-02 |
| | | 1037.75 | 14.03 | -3.84E-01 | | 6.97E-01 |
| | | 1238.25 | 67.00 | 1.73E-01 | | 2.15E-01 |

Analysis Report for 1510085-05

CP5007S03-04

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | CO-56 | 1771.40 | 15.51 | 1.53E-02 | 9.54E-02 | 4.16E-01 |
| | | 2598.48 | 16.90 | 1.66E-02 | | 2.68E-01 |
| + | CO-57 | 122.06 | 85.51 | -1.95E-02 | 5.82E-02 | 5.82E-02 |
| | | 136.48 | 10.60 | -3.30E-01 | | 4.79E-01 |
| + | CO-58 | 810.76 | 99.40 | -6.27E-02 | 8.83E-02 | 8.83E-02 |
| + | FE-59 | 1099.22 | 56.50 | -7.86E-02 | 2.09E-01 | 2.09E-01 |
| | | 1291.56 | 43.20 | 5.33E-02 | | 3.06E-01 |
| + | CO-60 | 1173.22 | 100.00 | 1.35E-02 | 7.56E-02 | 9.00E-02 |
| | | 1332.49 | 100.00 | 1.36E-02 | | 7.56E-02 |
| + | ZN-65 | 1115.52 | 50.75 | -3.26E-03 | 1.50E-01 | 1.50E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.82E+02 | 1.19E+02 | 1.19E+02 |
| | | 208.95 | * 2.24 | 2.15E+03 | | 2.19E+03 |
| | | 300.22 | * 16.00 | 1.63E+02 | | 3.72E+02 |
| + | SE-75 | 121.11 | 16.70 | 1.89E-01 | 9.66E-02 | 3.27E-01 |
| | | 136.00 | 59.20 | 2.12E-02 | | 9.71E-02 |
| | | 264.65 | 59.80 | 8.87E-03 | | 9.66E-02 |
| | | 279.53 | 25.20 | -1.05E-01 | | 2.43E-01 |
| | | 400.65 | 11.40 | 1.65E-01 | | 5.51E-01 |
| + | RB-82 | 776.52 | 13.00 | -1.21E-01 | 1.18E+00 | 1.18E+00 |
| + | RB-83 | 520.41 | 46.00 | 2.69E-02 | 1.52E-01 | 1.52E-01 |
| | | 529.64 | 30.30 | -1.12E-01 | | 2.05E-01 |
| | | 552.65 | 16.40 | 1.96E-01 | | 4.50E-01 |
| + | KR-85 | 513.99 | 0.43 | -6.87E+00 | 1.50E+01 | 1.50E+01 |
| + | SR-85 | 513.99 | 99.27 | -4.12E-02 | 8.97E-02 | 8.97E-02 |
| + | Y-88 | 898.02 | 93.40 | -2.68E-02 | 7.55E-02 | 9.17E-02 |
| | | 1836.01 | 99.38 | 2.71E-02 | | 7.55E-02 |
| + | NB-93M | 16.57 | 9.43 | -7.78E+03 | 5.48E+03 | 5.48E+03 |
| + | NB-94 | 702.63 | 100.00 | 1.89E-02 | 6.63E-02 | 7.50E-02 |
| | | 871.10 | 100.00 | 1.21E-03 | | 6.63E-02 |
| + | NB-95 | 765.79 | 99.81 | 1.57E-01 | 1.67E-01 | 1.67E-01 |
| + | NB-95M | 235.69 | 25.00 | -6.25E+02 | 1.02E+02 | 1.02E+02 |
| + | ZR-95 | 724.18 | 43.70 | 1.30E-02 | 1.83E-01 | 2.56E-01 |
| | | 756.72 | 55.30 | 3.75E-02 | | 1.83E-01 |
| + | MO-99 | 181.06 | 6.20 | 1.85E+02 | 1.04E+03 | 1.45E+03 |
| | | 739.58 | 12.80 | 1.36E+01 | | 1.04E+03 |
| | | 778.00 | 4.50 | -2.19E+02 | | 2.82E+03 |
| + | RU-103 | 497.08 | 89.00 | 1.22E-02 | 1.00E-01 | 1.00E-01 |
| + | RU-106 | 621.84 | 9.80 | 2.85E-01 | 7.11E-01 | 7.11E-01 |
| + | AG-108M | 433.93 | 89.90 | 2.95E-02 | 5.79E-02 | 5.79E-02 |
| | | 614.37 | 90.40 | -7.03E-01 | | 7.78E-02 |
| | | 722.95 | 90.50 | 1.24E-02 | | 7.44E-02 |
| + | CD-109 | 88.03 | * 3.72 | 1.49E+00 | 1.42E+00 | 1.42E+00 |
| + | AG-110M | 657.75 | 93.14 | 1.47E-02 | 7.19E-02 | 7.19E-02 |
| | | 677.61 | 10.53 | -2.50E-01 | | 6.42E-01 |
| | | 706.67 | 16.46 | -1.12E-01 | | 4.88E-01 |
| | | 763.93 | 21.98 | -1.20E-01 | | 4.06E-01 |
| | | 884.67 | 71.63 | -1.77E-02 | | 9.71E-02 |
| | | 1384.27 | 23.94 | 1.28E-01 | | 2.93E-01 |

Analysis Report for 1510085-05
CP5007S03-04

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | CD-113M | 263.70 | 0.02 | 6.83E+01 | 2.17E+02 | 2.17E+02 |
| + | SN-113 | 255.12 | 1.93 | -2.87E-01 | 9.81E-02 | 3.03E+00 |
| | | 391.69 | 64.90 | -2.70E-04 | | 9.81E-02 |
| + | TE123M | 159.00 | 84.10 | 5.55E-03 | 6.82E-02 | 6.82E-02 |
| + | SB-124 | 602.71 | 97.87 | -1.91E-01 | 1.08E-01 | 1.08E-01 |
| | | 645.85 | 7.26 | 8.34E-03 | | 1.29E+00 |
| | | 722.78 | 11.10 | 1.43E-01 | | 8.55E-01 |
| | | 1691.02 | 49.00 | 0.00E+00 | | 1.53E-01 |
| + | I-125 | 35.49 | 6.49 | 2.45E+00 | 5.51E+00 | 5.51E+00 |
| + | SB-125 | 176.33 | 6.89 | 2.33E-03 | 1.88E-01 | 7.47E-01 |
| | | 427.89 | 29.33 | 4.73E-02 | | 1.88E-01 |
| | | 463.38 | 10.35 | 2.35E-01 | | 6.07E-01 |
| | | 600.56 | 17.80 | 2.59E-01 | | 4.40E-01 |
| | | 635.90 | 11.32 | -8.17E-02 | | 5.63E-01 |
| + | SB-126 | 414.70 | 83.30 | -3.94E-02 | 3.19E-01 | 3.19E-01 |
| | | 666.33 | 99.60 | 3.23E-02 | | 3.45E-01 |
| | | 695.00 | 99.60 | 5.94E-02 | | 3.63E-01 |
| | | 720.50 | 53.80 | -2.16E-01 | | 6.20E-01 |
| + | SN-126 | 87.57 | * 37.00 | 1.43E-01 | 1.37E-01 | 1.37E-01 |
| + | SB-127 | 473.00 | 25.00 | 2.36E+01 | 4.18E+01 | 4.96E+01 |
| | | 685.20 | 35.70 | 1.59E+01 | | 4.18E+01 |
| | | 783.80 | 14.70 | 3.05E+01 | | 1.16E+02 |
| + | I-129 | 29.78 | 57.00 | -3.30E-03 | 1.15E+00 | 1.15E+00 |
| | | 33.60 | 13.20 | -1.71E+00 | | 2.38E+00 |
| | | 39.58 | 7.52 | 5.51E-01 | | 2.12E+00 |
| + | I-131 | 284.30 | 6.05 | 7.79E-01 | 7.96E-01 | 1.08E+01 |
| | | 364.48 | 81.20 | 1.50E-01 | | 7.96E-01 |
| | | 636.97 | 7.26 | -5.36E+00 | | 1.08E+01 |
| | | 722.89 | 1.80 | 8.26E+00 | | 4.95E+01 |
| + | TE-132 | 49.72 | 13.10 | -3.27E+02 | 3.43E+01 | 3.15E+02 |
| | | 228.16 | 88.00 | -1.52E+01 | | 3.43E+01 |
| + | BA-133 | 81.00 | 33.00 | 4.62E-02 | 8.65E-02 | 1.22E-01 |
| | | 302.84 | 17.80 | -5.12E-02 | | 3.06E-01 |
| | | 356.01 | 60.00 | -1.08E-02 | | 8.65E-02 |
| + | I-133 | 529.87 | 86.30 | -1.12E+09 | 1.40E+09 | 1.40E+09 |
| + | XE-133 | 81.00 | 38.00 | 2.09E+00 | 5.54E+00 | 5.54E+00 |
| + | CS-134 | 563.23 | 8.38 | 8.95E-02 | 8.39E-02 | 6.68E-01 |
| | | 569.32 | 15.43 | -7.57E-02 | | 3.63E-01 |
| | | 604.70 | 97.60 | -6.88E-01 | | 9.69E-02 |
| | | 795.84 | 85.40 | -7.96E-03 | | 8.39E-02 |
| | | 801.93 | 8.73 | 2.33E-01 | | 8.01E-01 |
| + | CS-135 | 268.24 | 16.00 | 2.49E-01 | 3.61E-01 | 3.61E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 1.40E+00 | 3.39E-01 | 3.43E+00 |
| | | 163.89 | 4.61 | -1.17E+00 | | 5.11E+00 |
| | | 176.55 | 13.56 | 1.24E+00 | | 1.79E+00 |
| | | 273.65 | 12.66 | -2.38E+00 | | 1.85E+00 |

Analysis Report for 1510085-05
CP5007S03-04

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | CS-136 | 340.57 | 48.50 | -5.04E-01 | 3.39E-01 | 6.37E-01 |
| | | 818.50 | 99.70 | -5.67E-02 | | 3.39E-01 |
| | | 1048.07 | 79.60 | -8.91E-02 | | 4.38E-01 |
| | | 1235.34 | 19.70 | 1.19E-01 | | 2.53E+00 |
| + | CS-137 | 661.65 | 85.12 | -2.97E-02 | 7.44E-02 | 7.44E-02 |
| + | LA-138 | 788.74 | 34.00 | 9.36E-02 | 8.40E-02 | 2.31E-01 |
| | | 1435.80 | 66.00 | -2.72E-02 | | 8.40E-02 |
| + | CE-139 | 165.85 | 80.35 | -7.71E-03 | 7.12E-02 | 7.12E-02 |
| + | BA-140 | 162.64 | 6.70 | -8.07E-03 | 1.02E+00 | 3.70E+00 |
| | | 304.84 | 4.50 | 9.52E-01 | | 5.57E+00 |
| | | 423.70 | 3.20 | -3.00E+00 | | 8.23E+00 |
| | | 437.55 | 2.00 | -1.12E+00 | | 1.25E+01 |
| | | 537.32 | 25.00 | -8.28E-01 | | 1.02E+00 |
| + | LA-140 | 328.77 | 20.50 | 5.48E-01 | 4.35E-01 | 1.41E+00 |
| | | 487.03 | 45.50 | 1.54E-01 | | 6.39E-01 |
| | | 815.85 | 23.50 | 9.72E-01 | | 1.60E+00 |
| | | 1596.49 | 95.49 | 6.89E-02 | | 4.35E-01 |
| + | CE-141 | 145.44 | 48.40 | 1.10E-01 | 1.99E-01 | 1.99E-01 |
| + | CE-143 | 57.36 | 11.80 | 8.83E+05 | 6.62E+05 | 1.57E+06 |
| | | 293.26 | 42.00 | 3.40E+05 | | 6.62E+05 |
| | | 664.55 | 5.20 | -2.12E+05 | | 4.42E+06 |
| + | CE-144 | 133.54 | 10.80 | 4.25E-02 | 4.79E-01 | 4.79E-01 |
| + | PM-144 | 476.78 | 42.00 | -3.34E-02 | 6.77E-02 | 1.30E-01 |
| | | 618.01 | 98.60 | -1.70E-02 | | 6.77E-02 |
| | | 696.49 | 99.49 | -4.31E-03 | | 7.44E-02 |
| + | PM-145 | 36.85 | 21.70 | 1.22E-01 | 5.10E-01 | 9.93E-01 |
| | | 37.36 | 39.70 | 6.27E-02 | | 5.10E-01 |
| | | 42.30 | 15.10 | 5.31E-02 | | 8.24E-01 |
| | | 72.40 | 2.31 | -2.71E+00 | | 2.10E+00 |
| + | PM-146 | 453.90 | 39.94 | 1.72E-02 | 1.37E-01 | 1.37E-01 |
| | | 735.90 | 14.01 | -8.09E-02 | | 5.08E-01 |
| | | 747.13 | 13.10 | -4.88E-02 | | 5.32E-01 |
| + | ND-147 | 91.11 | 28.90 | -1.91E+00 | 1.41E+00 | 1.41E+00 |
| | | 531.02 | 13.10 | -7.33E-01 | | 2.51E+00 |
| + | PM-149 | 285.90 | 3.10 | -1.16E+04 | 2.04E+04 | 2.04E+04 |
| + | EU-152 | 121.78 | 20.50 | -7.56E-02 | 2.26E-01 | 2.26E-01 |
| | | 244.69 | 5.40 | 6.33E-01 | | 1.02E+00 |
| | | 344.27 | 19.13 | 6.74E-02 | | 2.63E-01 |
| | | 778.89 | 9.20 | -2.08E-02 | | 7.58E-01 |
| | | 964.01 | 10.40 | -3.04E+00 | | 9.15E-01 |
| | | 1085.78 | 7.22 | 1.42E-01 | | 1.07E+00 |
| | | 1112.02 | 9.60 | 7.04E-02 | | 7.00E-01 |
| | | 1407.95 | 14.94 | 2.62E-01 | | 5.38E-01 |
| + | GD-153 | 97.43 | 31.30 | -2.49E-03 | 1.62E-01 | 1.62E-01 |
| | | 103.18 | 22.20 | -3.87E-02 | | 2.12E-01 |
| + | EU-154 | 123.07 | 40.50 | -1.59E-02 | 1.18E-01 | 1.18E-01 |
| | | 723.30 | 19.70 | 5.74E-02 | | 3.44E-01 |
| | | 873.19 | 11.50 | -1.20E-01 | | 5.71E-01 |
| | | 996.32 | 10.30 | 1.26E-01 | | 6.89E-01 |

Analysis Report for 1510085-05

CP5007S03-04

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | EU-154 | 1004.76 | 17.90 | 4.38E-02 | 1.18E-01 | 4.63E-01 |
| | | 1274.45 | 35.50 | -4.35E-02 | | 2.14E-01 |
| + | EU-155 | 86.50 | * 30.90 | 1.73E-01 | 1.66E-01 | 1.66E-01 |
| | | 105.30 | * 20.70 | 1.32E-01 | | 2.61E-01 |
| + | EU-156 | 811.77 | 10.40 | -4.38E-01 | 2.53E+00 | 2.53E+00 |
| | | 1153.47 | 7.20 | 1.25E+00 | | 4.90E+00 |
| | | 1230.71 | 8.90 | -2.08E-01 | | 3.90E+00 |
| + | HO-166M | 184.41 | 72.60 | 4.31E-02 | 8.58E-02 | 8.58E-02 |
| | | 280.45 | 29.60 | -7.55E-02 | | 1.74E-01 |
| | | 410.94 | 11.10 | 1.39E-01 | | 5.15E-01 |
| | | 711.69 | 54.10 | -6.44E-05 | | 1.38E-01 |
| + | TM-171 | 66.72 | 0.14 | -4.44E+00 | 3.52E+01 | 3.52E+01 |
| + | HF-172 | 81.75 | 4.52 | -9.76E-01 | 4.40E-01 | 9.02E-01 |
| | | 125.81 | 11.30 | -2.69E-01 | | 4.40E-01 |
| + | LU-172 | 181.53 | 20.60 | 9.14E-01 | 2.86E+00 | 5.12E+00 |
| | | 810.06 | 16.63 | -6.20E+00 | | 8.72E+00 |
| | | 912.12 | 15.25 | 4.89E+01 | | 2.07E+01 |
| | | 1093.66 | 62.50 | 1.15E+00 | | 2.86E+00 |
| + | LU-173 | 100.72 | 5.24 | 3.93E-01 | 2.71E-01 | 8.88E-01 |
| | | 272.11 | 21.20 | 3.16E-02 | | 2.71E-01 |
| + | HF-175 | 343.40 | 84.00 | 1.44E-02 | 8.19E-02 | 8.19E-02 |
| + | LU-176 | 88.34 | 13.30 | 2.90E-01 | 5.51E-02 | 4.69E-01 |
| | | 201.83 | 86.00 | 3.61E-02 | | 6.21E-02 |
| | | 306.78 | 94.00 | 3.96E-02 | | 5.51E-02 |
| + | TA-182 | 67.75 | 41.20 | -1.81E-03 | 1.41E-01 | 1.41E-01 |
| | | 1121.30 | 34.90 | 7.61E-01 | | 4.48E-01 |
| | | 1189.05 | 16.23 | -4.65E-01 | | 5.69E-01 |
| | | 1221.41 | 26.98 | 1.33E-01 | | 4.90E-01 |
| | | 1231.02 | 11.44 | -2.92E-01 | | 9.27E-01 |
| + | IR-192 | 308.46 | 29.68 | 1.05E-02 | 1.48E-01 | 2.24E-01 |
| | | 468.07 | 48.10 | -1.19E-02 | | 1.48E-01 |
| + | HG-203 | 279.19 | 77.30 | 5.36E-02 | 1.10E-01 | 1.10E-01 |
| + | BI-207 | 569.67 | 97.72 | -1.17E-02 | 5.59E-02 | 5.59E-02 |
| | | 1063.62 | 74.90 | -4.95E-03 | | 1.20E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.47E+00 | 1.63E-01 | 3.23E-01 |
| | | 860.37 | * 4.48 | 1.98E+00 | | 1.79E+00 |
| | | 2614.66 | * 35.85 | 9.18E-01 | | 1.63E-01 |
| + | BI-210M | 262.00 | 45.00 | -1.31E-02 | 1.10E-01 | 1.10E-01 |
| | | 300.00 | 23.00 | 2.35E-01 | | 2.55E-01 |
| + | PB-210 | 46.50 | * 4.25 | 2.11E+00 | 3.72E+00 | 3.72E+00 |
| + | PB-211 | 404.84 | 2.90 | 1.41E-01 | 1.73E+00 | 1.73E+00 |
| | | 831.96 | 2.90 | 6.54E-01 | | 2.61E+00 |
| + | BI-212 | 727.17 | * 11.80 | 7.82E-01 | 5.38E-01 | 5.38E-01 |
| | | 1620.62 | 2.75 | 6.54E-01 | | 3.01E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.56E+00 | 2.16E-01 | 2.16E-01 |
| | | 300.09 | * 3.41 | 1.31E+00 | | 3.00E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.18E+00 | 3.21E-01 | 3.96E-01 |
| | | 1120.29 | * 15.10 | 1.34E+00 | | 1.17E+00 |

Analysis Report for 1510085-05
CP5007S03-04

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | BI-214 | 1764.49 | * | 15.80 | 1.82E+00 | 3.21E-01 | 3.21E-01 |
| | | 2204.22 | * | 4.98 | 9.07E-01 | | 1.31E+00 |
| + | PB-214 | 295.21 | * | 19.19 | 1.40E+00 | 2.11E-01 | 5.24E-01 |
| | | 351.92 | * | 37.19 | 1.40E+00 | | 2.11E-01 |
| + | RN-219 | 401.80 | | 6.50 | -6.86E-01 | 7.62E-01 | 7.62E-01 |
| + | RA-223 | 323.87 | | 3.88 | 5.87E-01 | 1.44E+00 | 1.44E+00 |
| + | RA-224 | 240.98 | * | 3.95 | 4.23E+00 | 2.40E+00 | 2.40E+00 |
| + | RA-225 | 40.00 | | 31.00 | 5.22E-01 | 2.01E+00 | 2.01E+00 |
| + | RA-226 | 186.21 | * | 3.28 | 2.97E+00 | 2.17E+00 | 2.17E+00 |
| + | TH-227 | 50.10 | | 8.40 | -8.56E-01 | 7.05E-01 | 8.25E-01 |
| | | 236.00 | | 11.50 | -4.32E+00 | | 7.05E-01 |
| | | 256.20 | | 6.30 | -5.33E-01 | | 7.81E-01 |
| + | AC-228 | 338.32 | * | 11.40 | 1.40E+00 | 2.79E-01 | 6.76E-01 |
| | | 911.07 | * | 27.70 | 1.31E+00 | | 2.79E-01 |
| | | 969.11 | * | 16.60 | 1.66E+00 | | 8.43E-01 |
| + | TH-230 | 48.44 | | 16.90 | -4.24E-01 | 4.62E-01 | 4.62E-01 |
| | | 62.85 | | 4.60 | 1.78E+00 | | 1.28E+00 |
| | | 67.67 | | 0.37 | -1.68E-01 | | 1.31E+01 |
| + | PA-231 | 283.67 | | 1.60 | 2.22E-01 | 2.36E+00 | 3.09E+00 |
| | | 302.67 | | 2.30 | -3.94E-01 | | 2.36E+00 |
| + | TH-231 | 25.64 | | 14.70 | -6.96E+00 | 6.79E-01 | 1.39E+01 |
| | | 84.21 | | 6.40 | 6.12E-01 | | 6.79E-01 |
| + | PA-233 | 311.98 | | 38.60 | 9.42E-02 | 2.76E-01 | 2.76E-01 |
| + | PA-234 | 131.20 | | 20.40 | -6.03E-02 | 2.44E-01 | 2.44E-01 |
| | | 733.99 | | 8.80 | 2.18E-01 | | 8.23E-01 |
| | | 946.00 | | 12.00 | 3.24E-02 | | 6.07E-01 |
| + | PA-234M | 1001.03 | | 0.92 | 5.05E+00 | 8.72E+00 | 8.72E+00 |
| + | TH-234 | 63.29 | | 3.80 | 2.14E+00 | 1.54E+00 | 1.54E+00 |
| + | U-235 | 143.76 | | 10.50 | 8.97E-03 | 4.87E-01 | 4.87E-01 |
| | | 163.35 | | 4.70 | -2.27E-03 | | 1.04E+00 |
| | | 205.31 | | 4.70 | 2.26E-01 | | 1.11E+00 |
| + | NP-237 | 86.50 | * | 12.60 | 4.20E-01 | 4.01E-01 | 4.01E-01 |
| + | NP-239 | 106.10 | | 22.70 | 4.52E+02 | 1.39E+03 | 1.39E+03 |
| | | 228.18 | | 10.70 | -1.44E+03 | | 3.25E+03 |
| | | 277.60 | | 14.10 | 3.43E+02 | | 2.60E+03 |
| + | AM-241 | 59.54 | | 35.90 | -8.63E-02 | 1.40E-01 | 1.40E-01 |
| + | AM-243 | 74.67 | * | 66.00 | 4.02E-01 | 2.49E-01 | 2.49E-01 |
| + | CM-243 | 209.75 | | 3.29 | 1.74E+00 | 3.89E-01 | 1.82E+00 |
| | | 228.14 | | 10.60 | -2.15E-01 | | 4.87E-01 |
| | | 277.60 | | 14.00 | 5.13E-02 | | 3.89E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510085-05
CP5007S03-04

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 7.29E-01 | 7.29E-01 | -1.88E-01 | 3.42E-01 |
| NA-22 | 1274.54 | 99.94 | 7.72E-02 | 7.72E-02 | -1.57E-02 | 3.51E-02 |
| NA-24 | 1368.53 | 99.99 | 1.83E+13 | 9.08E+12 | -3.59E+11 | 8.17E+12 |
| | 2754.09 | 99.86 | 9.08E+12 | | -4.50E+12 | 3.40E+12 |
| AL-26 | 1808.65 | 99.76 | 5.50E-02 | 5.50E-02 | 1.33E-02 | 2.32E-02 |
| + K-40 | 1460.81 | * 10.67 | 1.34E+00 | 1.34E+00 | 1.81E+01 | 6.36E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 5.12E-02 | 5.12E-02 | -6.58E-04 | 2.49E-02 |
| | 78.34 | 96.00 | 7.45E-02 | | 3.11E-01 | 3.66E-02 |
| SC-46 | 889.25 | 99.98 | 7.71E-02 | 7.71E-02 | -1.37E-02 | 3.53E-02 |
| | 1120.51 | 99.99 | 1.68E-01 | | 2.83E-01 | 8.01E-02 |
| V-48 | 983.52 | 99.98 | 2.51E-01 | 2.51E-01 | -7.79E-02 | 1.15E-01 |
| | 1312.10 | 97.50 | 2.62E-01 | | -5.78E-02 | 1.18E-01 |
| CR-51 | 320.08 | 9.83 | 1.10E+00 | 1.10E+00 | -2.70E-01 | 5.22E-01 |
| MN-54 | 834.83 | 99.97 | 8.01E-02 | 8.01E-02 | -2.69E-02 | 3.75E-02 |
| CO-56 | 846.75 | 99.96 | 9.54E-02 | 9.54E-02 | 4.00E-03 | 4.45E-02 |
| | 1037.75 | 14.03 | 6.97E-01 | | -3.84E-01 | 3.21E-01 |
| | 1238.25 | 67.00 | 2.15E-01 | | 1.73E-01 | 1.01E-01 |
| | 1771.40 | 15.51 | 4.16E-01 | | 1.53E-02 | 1.72E-01 |
| | 2598.48 | 16.90 | 2.68E-01 | | 1.66E-02 | 1.00E-01 |
| CO-57 | 122.06 | 85.51 | 5.82E-02 | 5.82E-02 | -1.95E-02 | 2.83E-02 |
| | 136.48 | 10.60 | 4.79E-01 | | -3.30E-01 | 2.32E-01 |
| CO-58 | 810.76 | 99.40 | 8.83E-02 | 8.83E-02 | -6.27E-02 | 4.09E-02 |
| FE-59 | 1099.22 | 56.50 | 2.09E-01 | 2.09E-01 | -7.86E-02 | 9.57E-02 |
| | 1291.56 | 43.20 | 3.06E-01 | | 5.33E-02 | 1.40E-01 |
| CO-60 | 1173.22 | 100.00 | 9.00E-02 | 7.56E-02 | 1.35E-02 | 4.17E-02 |
| | 1332.49 | 100.00 | 7.56E-02 | | 1.36E-02 | 3.42E-02 |
| ZN-65 | 1115.52 | 50.75 | 1.50E-01 | 1.50E-01 | -3.26E-03 | 6.82E-02 |
| + GA-67 | 93.31 | * 35.70 | 1.19E+02 | 1.19E+02 | 1.82E+02 | 5.87E+01 |
| | 208.95 | * 2.24 | 2.19E+03 | | 2.15E+03 | 1.07E+03 |
| | 300.22 | * 16.00 | 3.72E+02 | | 1.63E+02 | 1.82E+02 |
| SE-75 | 121.11 | 16.70 | 3.27E-01 | 9.66E-02 | 1.89E-01 | 1.59E-01 |
| | 136.00 | 59.20 | 9.71E-02 | | 2.12E-02 | 4.71E-02 |
| | 264.65 | 59.80 | 9.66E-02 | | 8.87E-03 | 4.62E-02 |
| | 279.53 | 25.20 | 2.43E-01 | | -1.05E-01 | 1.16E-01 |
| | 400.65 | 11.40 | 5.51E-01 | | 1.65E-01 | 2.61E-01 |
| RB-82 | 776.52 | 13.00 | 1.18E+00 | 1.18E+00 | -1.21E-01 | 5.48E-01 |

Analysis Report for 1510085-05
CP5007S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| RB-83 | 520.41 | 46.00 | 1.52E-01 | 1.52E-01 | 2.69E-02 | 7.16E-02 |
| | 529.64 | 30.30 | 2.05E-01 | | -1.12E-01 | 9.51E-02 |
| | 552.65 | 16.40 | 4.50E-01 | | 1.96E-01 | 2.11E-01 |
| KR-85 | 513.99 | 0.43 | 1.50E+01 | 1.50E+01 | -6.87E+00 | 7.10E+00 |
| SR-85 | 513.99 | 99.27 | 8.97E-02 | 8.97E-02 | -4.12E-02 | 4.25E-02 |
| Y-88 | 898.02 | 93.40 | 9.17E-02 | 7.55E-02 | -2.68E-02 | 4.25E-02 |
| | 1836.01 | 99.38 | 7.55E-02 | | 2.71E-02 | 3.25E-02 |
| NB-93M | 16.57 | 9.43 | 5.48E+03 | 5.48E+03 | -7.78E+03 | 2.67E+03 |
| NB-94 | 702.63 | 100.00 | 7.50E-02 | 6.63E-02 | 1.89E-02 | 3.54E-02 |
| | 871.10 | 100.00 | 6.63E-02 | | 1.21E-03 | 3.07E-02 |
| NB-95 | 765.79 | 99.81 | 1.67E-01 | 1.67E-01 | 1.57E-01 | 7.91E-02 |
| NB-95M | 235.69 | 25.00 | 1.02E+02 | 1.02E+02 | -6.25E+02 | 4.98E+01 |
| ZR-95 | 724.18 | 43.70 | 2.56E-01 | 1.83E-01 | 1.30E-02 | 1.21E-01 |
| | 756.72 | 55.30 | 1.83E-01 | | 3.75E-02 | 8.61E-02 |
| MO-99 | 181.06 | 6.20 | 1.45E+03 | 1.04E+03 | 1.85E+02 | 7.00E+02 |
| | 739.58 | 12.80 | 1.04E+03 | | 1.36E+01 | 4.88E+02 |
| | 778.00 | 4.50 | 2.82E+03 | | -2.19E+02 | 1.31E+03 |
| RU-103 | 497.08 | 89.00 | 1.00E-01 | 1.00E-01 | 1.22E-02 | 4.71E-02 |
| RU-106 | 621.84 | 9.80 | 7.11E-01 | 7.11E-01 | 2.85E-01 | 3.35E-01 |
| AG-108M | 433.93 | 89.90 | 5.79E-02 | 5.79E-02 | 2.95E-02 | 2.73E-02 |
| | 614.37 | 90.40 | 7.78E-02 | | -7.03E-01 | 3.68E-02 |
| | 722.95 | 90.50 | 7.44E-02 | | 1.24E-02 | 3.48E-02 |
| CD-109 | 88.03 | * | 3.72 | 1.42E+00 | 1.49E+00 | 6.93E-01 |
| AG-110M | 657.75 | 93.14 | 7.19E-02 | 7.19E-02 | 1.47E-02 | 3.36E-02 |
| | 677.61 | 10.53 | 6.42E-01 | | -2.50E-01 | 3.00E-01 |
| | 706.67 | 16.46 | 4.88E-01 | | -1.12E-01 | 2.30E-01 |
| | 763.93 | 21.98 | 4.06E-01 | | -1.20E-01 | 1.92E-01 |
| | 884.67 | 71.63 | 9.71E-02 | | -1.77E-02 | 4.47E-02 |
| | 1384.27 | 23.94 | 2.93E-01 | | 1.28E-01 | 1.30E-01 |
| CD-113M | 263.70 | 0.02 | 2.17E+02 | 2.17E+02 | 6.83E+01 | 1.04E+02 |
| SN-113 | 255.12 | 1.93 | 3.03E+00 | 9.81E-02 | -2.87E-01 | 1.45E+00 |
| | 391.69 | 64.90 | 9.81E-02 | | -2.70E-04 | 4.65E-02 |
| TE123M | 159.00 | 84.10 | 6.82E-02 | 6.82E-02 | 5.55E-03 | 3.30E-02 |
| SB-124 | 602.71 | 97.87 | 1.08E-01 | 1.08E-01 | -1.91E-01 | 5.15E-02 |
| | 645.85 | 7.26 | 1.29E+00 | | 8.34E-03 | 6.06E-01 |
| | 722.78 | 11.10 | 8.55E-01 | | 1.43E-01 | 4.00E-01 |
| | 1691.02 | 49.00 | 1.53E-01 | | 0.00E+00 | 6.46E-02 |
| I-125 | 35.49 | 6.49 | 5.51E+00 | 5.51E+00 | 2.45E+00 | 2.68E+00 |
| SB-125 | 176.33 | 6.89 | 7.47E-01 | 1.88E-01 | 2.33E-03 | 3.61E-01 |
| | 427.89 | 29.33 | 1.88E-01 | | 4.73E-02 | 8.90E-02 |
| | 463.38 | 10.35 | 6.07E-01 | | 2.35E-01 | 2.88E-01 |
| | 600.56 | 17.80 | 4.40E-01 | | 2.59E-01 | 2.09E-01 |
| | 635.90 | 11.32 | 5.63E-01 | | -8.17E-02 | 2.64E-01 |
| | 414.70 | 83.30 | 3.19E-01 | 3.19E-01 | -3.94E-02 | 1.51E-01 |
| SB-126 | 666.33 | 99.60 | 3.45E-01 | | 3.23E-02 | 1.61E-01 |
| | 695.00 | 99.60 | 3.63E-01 | | 5.94E-02 | 1.70E-01 |
| | 720.50 | 53.80 | 6.20E-01 | | -2.16E-01 | 2.88E-01 |
| | 87.57 | * | 37.00 | 1.37E-01 | 1.37E-01 | 1.43E-01 | 6.67E-02 |
| SB-127 | 473.00 | 25.00 | 4.96E+01 | 4.18E+01 | 2.36E+01 | 2.34E+01 |
| | 685.20 | 35.70 | 4.18E+01 | | 1.59E+01 | 1.96E+01 |
| | 783.80 | 14.70 | 1.16E+02 | | 3.05E+01 | 5.46E+01 |
| I-129 | 29.78 | 57.00 | 1.15E+00 | 1.15E+00 | -3.30E-03 | 5.56E-01 |
| | 33.60 | 13.20 | 2.38E+00 | | -1.71E+00 | 1.15E+00 |

Analysis Report for 1510085-05
CP5007S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| I-129 | 39.58 | 7.52 | 2.12E+00 | 1.15E+00 | 5.51E-01 | 1.03E+00 |
| I-131 | 284.30 | 6.05 | 1.08E+01 | 7.96E-01 | 7.79E-01 | 5.17E+00 |
| | 364.48 | 81.20 | 7.96E-01 | | 1.50E-01 | 3.76E-01 |
| | 636.97 | 7.26 | 1.08E+01 | | -5.36E+00 | 5.05E+00 |
| | 722.89 | 1.80 | 4.95E+01 | | 8.26E+00 | 2.31E+01 |
| TE-132 | 49.72 | 13.10 | 3.15E+02 | 3.43E+01 | -3.27E+02 | 1.53E+02 |
| | 228.16 | 88.00 | 3.43E+01 | | -1.52E+01 | 1.65E+01 |
| BA-133 | 81.00 | 33.00 | 1.22E-01 | 8.65E-02 | 4.62E-02 | 5.91E-02 |
| | 302.84 | 17.80 | 3.06E-01 | | -5.12E-02 | 1.46E-01 |
| | 356.01 | 60.00 | 8.65E-02 | | -1.08E-02 | 4.11E-02 |
| I-133 | 529.87 | 86.30 | 1.40E+09 | 1.40E+09 | -1.12E+09 | 6.51E+08 |
| XE-133 | 81.00 | 38.00 | 5.54E+00 | 5.54E+00 | 2.09E+00 | 2.68E+00 |
| CS-134 | 563.23 | 8.38 | 6.68E-01 | 8.39E-02 | 8.95E-02 | 3.12E-01 |
| | 569.32 | 15.43 | 3.63E-01 | | -7.57E-02 | 1.70E-01 |
| | 604.70 | 97.60 | 9.69E-02 | | -6.88E-01 | 4.65E-02 |
| | 795.84 | 85.40 | 8.39E-02 | | -7.96E-03 | 3.91E-02 |
| | 801.93 | 8.73 | 8.01E-01 | | 2.33E-01 | 3.73E-01 |
| CS-135 | 268.24 | 16.00 | 3.61E-01 | 3.61E-01 | 2.49E-01 | 1.74E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.43E+00 | 3.39E-01 | 1.40E+00 | 1.67E+00 |
| | 163.89 | 4.61 | 5.11E+00 | | -1.17E+00 | 2.47E+00 |
| | 176.55 | 13.56 | 1.79E+00 | | 1.24E+00 | 8.67E-01 |
| | 273.65 | 12.66 | 1.85E+00 | | -2.38E+00 | 8.81E-01 |
| | 340.57 | 48.50 | 6.37E-01 | | -5.04E-01 | 3.06E-01 |
| | 818.50 | 99.70 | 3.39E-01 | | -5.67E-02 | 1.58E-01 |
| | 1048.07 | 79.60 | 4.38E-01 | | -8.91E-02 | 2.01E-01 |
| | 1235.34 | 19.70 | 2.53E+00 | | 1.19E-01 | 1.18E+00 |
| CS-137 | 661.65 | 85.12 | 7.44E-02 | 7.44E-02 | -2.97E-02 | 3.48E-02 |
| LA-138 | 788.74 | 34.00 | 2.31E-01 | 8.40E-02 | 9.36E-02 | 1.08E-01 |
| | 1435.80 | 66.00 | 8.40E-02 | | -2.72E-02 | 3.64E-02 |
| CE-139 | 165.85 | 80.35 | 7.12E-02 | 7.12E-02 | -7.71E-03 | 3.45E-02 |
| BA-140 | 162.64 | 6.70 | 3.70E+00 | 1.02E+00 | -8.07E-03 | 1.79E+00 |
| | 304.84 | 4.50 | 5.57E+00 | | 9.52E-01 | 2.65E+00 |
| | 423.70 | 3.20 | 8.23E+00 | | -3.00E+00 | 3.88E+00 |
| | 437.55 | 2.00 | 1.25E+01 | | -1.12E+00 | 5.87E+00 |
| | 537.32 | 25.00 | 1.02E+00 | | -8.28E-01 | 4.76E-01 |
| LA-140 | 328.77 | 20.50 | 1.41E+00 | 4.35E-01 | 5.48E-01 | 6.77E-01 |
| | 487.03 | 45.50 | 6.39E-01 | | 1.54E-01 | 3.01E-01 |
| | 815.85 | 23.50 | 1.60E+00 | | 9.72E-01 | 7.48E-01 |
| | 1596.49 | 95.49 | 4.35E-01 | | 6.89E-02 | 1.96E-01 |
| CE-141 | 145.44 | 48.40 | 1.99E-01 | 1.99E-01 | 1.10E-01 | 9.68E-02 |
| CE-143 | 57.36 | 11.80 | 1.57E+06 | 6.62E+05 | 8.83E+05 | 7.59E+05 |
| | 293.26 | 42.00 | 6.62E+05 | | 3.40E+05 | 3.21E+05 |
| | 664.55 | 5.20 | 4.42E+06 | | -2.12E+05 | 2.07E+06 |
| CE-144 | 133.54 | 10.80 | 4.79E-01 | 4.79E-01 | 4.25E-02 | 2.33E-01 |
| PM-144 | 476.78 | 42.00 | 1.30E-01 | 6.77E-02 | -3.34E-02 | 6.08E-02 |
| | 618.01 | 98.60 | 6.77E-02 | | -1.70E-02 | 3.18E-02 |
| | 696.49 | 99.49 | 7.44E-02 | | -4.31E-03 | 3.49E-02 |
| PM-145 | 36.85 | 21.70 | 9.93E-01 | 5.10E-01 | 1.22E-01 | 4.82E-01 |
| | 37.36 | 39.70 | 5.10E-01 | | 6.27E-02 | 2.48E-01 |
| | 42.30 | 15.10 | 8.24E-01 | | 5.31E-02 | 4.00E-01 |

Analysis Report for 1510085-05
CP5007S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| PM-145 | 72.40 | 2.31 | 2.10E+00 | 5.10E-01 | -2.71E+00 | 1.02E+00 |
| PM-146 | 453.90 | 39.94 | 1.37E-01 | 1.37E-01 | 1.72E-02 | 6.47E-02 |
| | 735.90 | 14.01 | 5.08E-01 | | -8.09E-02 | 2.38E-01 |
| | 747.13 | 13.10 | 5.32E-01 | | -4.88E-02 | 2.49E-01 |
| ND-147 | 91.11 | 28.90 | 1.41E+00 | 1.41E+00 | -1.91E+00 | 6.91E-01 |
| | 531.02 | 13.10 | 2.51E+00 | | -7.33E-01 | 1.17E+00 |
| PM-149 | 285.90 | 3.10 | 2.04E+04 | 2.04E+04 | -1.16E+04 | 9.76E+03 |
| EU-152 | 121.78 | 20.50 | 2.26E-01 | 2.26E-01 | -7.56E-02 | 1.10E-01 |
| | 244.69 | 5.40 | 1.02E+00 | | 6.33E-01 | 4.92E-01 |
| | 344.27 | 19.13 | 2.63E-01 | | 6.74E-02 | 1.25E-01 |
| | 778.89 | 9.20 | 7.58E-01 | | -2.08E-02 | 3.54E-01 |
| | 964.01 | 10.40 | 9.15E-01 | | -3.04E+00 | 4.31E-01 |
| | 1085.78 | 7.22 | 1.07E+00 | | 1.42E-01 | 4.95E-01 |
| | 1112.02 | 9.60 | 7.00E-01 | | 7.04E-02 | 3.18E-01 |
| | 1407.95 | 14.94 | 5.38E-01 | | 2.62E-01 | 2.44E-01 |
| GD-153 | 97.43 | 31.30 | 1.62E-01 | 1.62E-01 | -2.49E-03 | 7.86E-02 |
| | 103.18 | 22.20 | 2.12E-01 | | -3.87E-02 | 1.03E-01 |
| EU-154 | 123.07 | 40.50 | 1.18E-01 | 1.18E-01 | -1.59E-02 | 5.73E-02 |
| | 723.30 | 19.70 | 3.44E-01 | | 5.74E-02 | 1.61E-01 |
| | 873.19 | 11.50 | 5.71E-01 | | -1.20E-01 | 2.63E-01 |
| | 996.32 | 10.30 | 6.89E-01 | | 1.26E-01 | 3.17E-01 |
| | 1004.76 | 17.90 | 4.63E-01 | | 4.38E-02 | 2.16E-01 |
| | 1274.45 | 35.50 | 2.14E-01 | | -4.35E-02 | 9.72E-02 |
| + EU-155 | 86.50 | * 30.90 | 1.66E-01 | 1.66E-01 | 1.73E-01 | 8.08E-02 |
| | 105.30 | * 20.70 | 2.61E-01 | | 1.32E-01 | 1.27E-01 |
| EU-156 | 811.77 | 10.40 | 2.53E+00 | 2.53E+00 | -4.38E-01 | 1.18E+00 |
| | 1153.47 | 7.20 | 4.90E+00 | | 1.25E+00 | 2.28E+00 |
| | 1230.71 | 8.90 | 3.90E+00 | | -2.08E-01 | 1.80E+00 |
| HO-166M | 184.41 | 72.60 | 8.58E-02 | 8.58E-02 | 4.31E-02 | 4.18E-02 |
| | 280.45 | 29.60 | 1.74E-01 | | -7.55E-02 | 8.34E-02 |
| | 410.94 | 11.10 | 5.15E-01 | | 1.39E-01 | 2.45E-01 |
| | 711.69 | 54.10 | 1.38E-01 | | -6.44E-05 | 6.50E-02 |
| TM-171 | 66.72 | 0.14 | 3.52E+01 | 3.52E+01 | -4.44E+00 | 1.71E+01 |
| HF-172 | 81.75 | 4.52 | 9.02E-01 | 4.40E-01 | -9.76E-01 | 4.37E-01 |
| | 125.81 | 11.30 | 4.40E-01 | | -2.69E-01 | 2.14E-01 |
| LU-172 | 181.53 | 20.60 | 5.12E+00 | 2.86E+00 | 9.14E-01 | 2.47E+00 |
| | 810.06 | 16.63 | 8.72E+00 | | -6.20E+00 | 4.04E+00 |
| | 912.12 | 15.25 | 2.07E+01 | | 4.89E+01 | 9.95E+00 |
| | 1093.66 | 62.50 | 2.86E+00 | | 1.15E+00 | 1.32E+00 |
| LU-173 | 100.72 | 5.24 | 8.88E-01 | 2.71E-01 | 3.93E-01 | 4.32E-01 |
| | 272.11 | 21.20 | 2.71E-01 | | 3.16E-02 | 1.30E-01 |
| HF-175 | 343.40 | 84.00 | 8.19E-02 | 8.19E-02 | 1.44E-02 | 3.89E-02 |
| LU-176 | 88.34 | 13.30 | 4.69E-01 | 5.51E-02 | 2.90E-01 | 2.30E-01 |
| | 201.83 | 86.00 | 6.21E-02 | | 3.61E-02 | 3.00E-02 |
| | 306.78 | 94.00 | 5.51E-02 | | 3.96E-02 | 2.63E-02 |
| TA-182 | 67.75 | 41.20 | 1.41E-01 | 1.41E-01 | -1.81E-03 | 6.84E-02 |
| | 1121.30 | 34.90 | 4.48E-01 | | 7.61E-01 | 2.13E-01 |
| | 1189.05 | 16.23 | 5.69E-01 | | -4.65E-01 | 2.61E-01 |
| | 1221.41 | 26.98 | 4.90E-01 | | 1.33E-01 | 2.31E-01 |
| | 1231.02 | 11.44 | 9.27E-01 | | -2.92E-01 | 4.29E-01 |
| IR-192 | 308.46 | 29.68 | 2.24E-01 | 1.48E-01 | 1.05E-02 | 1.07E-01 |
| | 468.07 | 48.10 | 1.48E-01 | | -1.19E-02 | 6.96E-02 |
| HG-203 | 279.19 | 77.30 | 1.10E-01 | 1.10E-01 | 5.36E-02 | 5.26E-02 |

Analysis Report for 1510085-05
CP5007S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BI-207 | 569.67 | 97.72 | 5.59E-02 | 5.59E-02 | -1.17E-02 | 2.61E-02 |
| | 1063.62 | 74.90 | 1.20E-01 | | -4.95E-03 | 5.58E-02 |
| + TL-208 | 583.14 * | 30.22 | 3.23E-01 | 1.63E-01 | 1.47E+00 | 1.55E-01 |
| | 860.37 * | 4.48 | 1.79E+00 | | 1.98E+00 | 8.39E-01 |
| | 2614.66 * | 35.85 | 1.63E-01 | | 9.18E-01 | 6.91E-02 |
| BI-210M | 262.00 | 45.00 | 1.10E-01 | 1.10E-01 | -1.31E-02 | 5.28E-02 |
| | 300.00 | 23.00 | 2.55E-01 | | 2.35E-01 | 1.22E-01 |
| + PB-210 | 46.50 * | 4.25 | 3.72E+00 | 3.72E+00 | 2.11E+00 | 1.83E+00 |
| PB-211 | 404.84 | 2.90 | 1.73E+00 | 1.73E+00 | 1.41E-01 | 8.18E-01 |
| | 831.96 | 2.90 | 2.61E+00 | | 6.54E-01 | 1.22E+00 |
| + BI-212 | 727.17 * | 11.80 | 5.38E-01 | 5.38E-01 | 7.82E-01 | 2.50E-01 |
| | 1620.62 | 2.75 | 3.01E+00 | | 6.54E-01 | 1.36E+00 |
| + PB-212 | 238.63 * | 44.60 | 2.16E-01 | 2.16E-01 | 1.56E+00 | 1.06E-01 |
| | 300.09 * | 3.41 | 3.00E+00 | | 1.31E+00 | 1.46E+00 |
| + BI-214 | 609.31 * | 46.30 | 3.96E-01 | 3.21E-01 | 1.18E+00 | 1.94E-01 |
| | 1120.29 * | 15.10 | 1.17E+00 | | 1.34E+00 | 5.67E-01 |
| | 1764.49 * | 15.80 | 3.21E-01 | | 1.82E+00 | 1.34E-01 |
| | 2204.22 * | 4.98 | 1.31E+00 | | 9.07E-01 | 5.64E-01 |
| + PB-214 | 295.21 * | 19.19 | 5.24E-01 | 2.11E-01 | 1.40E+00 | 2.56E-01 |
| | 351.92 * | 37.19 | 2.11E-01 | | 1.40E+00 | 1.02E-01 |
| RN-219 | 401.80 | 6.50 | 7.62E-01 | 7.62E-01 | -6.86E-01 | 3.59E-01 |
| RA-223 | 323.87 | 3.88 | 1.44E+00 | 1.44E+00 | 5.87E-01 | 6.89E-01 |
| + RA-224 | 240.98 * | 3.95 | 2.40E+00 | 2.40E+00 | 4.23E+00 | 1.18E+00 |
| RA-225 | 40.00 | 31.00 | 2.01E+00 | 2.01E+00 | 5.22E-01 | 9.77E-01 |
| + RA-226 | 186.21 * | 3.28 | 2.17E+00 | 2.17E+00 | 2.97E+00 | 1.06E+00 |
| TH-227 | 50.10 | 8.40 | 8.25E-01 | 7.05E-01 | -8.56E-01 | 3.99E-01 |
| | 236.00 | 11.50 | 7.05E-01 | | -4.32E+00 | 3.44E-01 |
| | 256.20 | 6.30 | 7.81E-01 | | -5.33E-01 | 3.74E-01 |
| + AC-228 | 338.32 * | 11.40 | 6.76E-01 | 2.79E-01 | 1.40E+00 | 3.27E-01 |
| | 911.07 * | 27.70 | 2.79E-01 | | 1.31E+00 | 1.30E-01 |
| | 969.11 * | 16.60 | 8.43E-01 | | 1.66E+00 | 4.05E-01 |
| TH-230 | 48.44 | 16.90 | 4.62E-01 | 4.62E-01 | -4.24E-01 | 2.24E-01 |
| | 62.85 | 4.60 | 1.28E+00 | | 1.78E+00 | 6.23E-01 |
| | 67.67 | 0.37 | 1.31E+01 | | -1.68E-01 | 6.36E+00 |
| PA-231 | 283.67 | 1.60 | 3.09E+00 | 2.36E+00 | 2.22E-01 | 1.48E+00 |
| | 302.67 | 2.30 | 2.36E+00 | | -3.94E-01 | 1.13E+00 |
| TH-231 | 25.64 | 14.70 | 1.39E+01 | 6.79E-01 | -6.96E+00 | 6.72E+00 |
| | 84.21 | 6.40 | 6.79E-01 | | 6.12E-01 | 3.30E-01 |
| PA-233 | 311.98 | 38.60 | 2.76E-01 | 2.76E-01 | 9.42E-02 | 1.31E-01 |
| PA-234 | 131.20 | 20.40 | 2.44E-01 | 2.44E-01 | -6.03E-02 | 1.18E-01 |
| | 733.99 | 8.80 | 8.23E-01 | | 2.18E-01 | 3.86E-01 |
| | 946.00 | 12.00 | 6.07E-01 | | 3.24E-02 | 2.81E-01 |
| PA-234M | 1001.03 | 0.92 | 8.72E+00 | 8.72E+00 | 5.05E+00 | 4.05E+00 |
| TH-234 | 63.29 | 3.80 | 1.54E+00 | 1.54E+00 | 2.14E+00 | 7.49E-01 |
| U-235 | 143.76 | 10.50 | 4.87E-01 | 4.87E-01 | 8.97E-03 | 2.37E-01 |
| | 163.35 | 4.70 | 1.04E+00 | | -2.27E-03 | 5.05E-01 |
| | 205.31 | 4.70 | 1.11E+00 | | 2.26E-01 | 5.38E-01 |
| NP-237 | 86.50 * | 12.60 | 4.01E-01 | 4.01E-01 | 4.20E-01 | 1.96E-01 |
| NP-239 | 106.10 | 22.70 | 1.39E+03 | 1.39E+03 | 4.52E+02 | 6.78E+02 |
| | 228.18 | 10.70 | 3.25E+03 | | -1.44E+03 | 1.57E+03 |
| | 277.60 | 14.10 | 2.60E+03 | | 3.43E+02 | 1.25E+03 |
| AM-241 | 59.54 | 35.90 | 1.40E-01 | 1.40E-01 | -8.63E-02 | 6.76E-02 |
| + AM-243 | 74.67 * | 66.00 | 2.49E-01 | 2.49E-01 | 4.02E-01 | 1.23E-01 |

Analysis Report for 1510085-05
CP5007S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CM-243 | 209.75 | 3.29 | 1.82E+00 | 3.89E-01 | 1.74E+00 | 8.83E-01 |
| | 228.14 | 10.60 | 4.87E-01 | | -2.15E-01 | 2.35E-01 |
| | 277.60 | 14.00 | 3.89E-01 | | 5.13E-02 | 1.86E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| Creation Date | Comment | User |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5007S03-04

Elapsed Live time: 3600
 Elapsed Real Time: 3601

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 177 |
| 9: | 595 | 1224 | 1091 | 418 | 737 | 1583 | 293 | 142 |
| 17: | 163 | 145 | 150 | 125 | 130 | 118 | 130 | 115 |
| 25: | 104 | 121 | 97 | 125 | 105 | 119 | 109 | 104 |
| 33: | 122 | 99 | 113 | 146 | 127 | 123 | 135 | 142 |
| 41: | 125 | 127 | 143 | 123 | 114 | 181 | 225 | 131 |
| 49: | 101 | 113 | 104 | 138 | 122 | 114 | 113 | 84 |
| 57: | 103 | 102 | 78 | 116 | 116 | 132 | 176 | 188 |
| 65: | 116 | 111 | 134 | 121 | 131 | 138 | 128 | 161 |
| 73: | 138 | 209 | 475 | 226 | 535 | 407 | 84 | 109 |
| 81: | 111 | 101 | 102 | 148 | 136 | 100 | 214 | 225 |
| 89: | 109 | 175 | 156 | 127 | 233 | 173 | 110 | 105 |
| 97: | 77 | 80 | 84 | 101 | 73 | 64 | 87 | 69 |
| 105: | 86 | 120 | 87 | 79 | 78 | 74 | 73 | 85 |
| 113: | 82 | 87 | 74 | 84 | 64 | 63 | 68 | 74 |
| 121: | 86 | 87 | 72 | 69 | 94 | 91 | 84 | 76 |
| 129: | 110 | 82 | 88 | 72 | 71 | 97 | 71 | 78 |
| 137: | 68 | 71 | 74 | 77 | 90 | 84 | 65 | 96 |
| 145: | 85 | 77 | 75 | 59 | 77 | 72 | 73 | 72 |
| 153: | 81 | 93 | 86 | 74 | 65 | 62 | 60 | 61 |
| 161: | 72 | 62 | 58 | 62 | 66 | 66 | 63 | 60 |
| 169: | 70 | 55 | 54 | 82 | 67 | 62 | 71 | 55 |
| 177: | 54 | 66 | 58 | 41 | 56 | 63 | 43 | 60 |
| 185: | 90 | 193 | 107 | 64 | 50 | 72 | 66 | 64 |
| 193: | 54 | 61 | 58 | 57 | 53 | 62 | 56 | 57 |
| 201: | 75 | 51 | 63 | 44 | 44 | 62 | 58 | 54 |
| 209: | 98 | 94 | 50 | 51 | 49 | 55 | 59 | 54 |
| 217: | 46 | 52 | 55 | 42 | 45 | 41 | 45 | 47 |
| 225: | 53 | 37 | 44 | 47 | 57 | 42 | 51 | 51 |
| 233: | 42 | 46 | 49 | 43 | 70 | 344 | 588 | 116 |
| 241: | 122 | 169 | 61 | 33 | 46 | 42 | 53 | 31 |
| 249: | 44 | 36 | 29 | 37 | 33 | 30 | 37 | 45 |
| 257: | 28 | 35 | 51 | 35 | 32 | 37 | 32 | 37 |
| 265: | 26 | 39 | 29 | 32 | 48 | 81 | 45 | 30 |
| 273: | 26 | 22 | 36 | 39 | 47 | 42 | 29 | 35 |
| 281: | 37 | 27 | 35 | 28 | 30 | 33 | 31 | 52 |
| 289: | 48 | 24 | 26 | 27 | 35 | 45 | 231 | 132 |
| 297: | 30 | 27 | 32 | 54 | 57 | 32 | 26 | 21 |
| 305: | 33 | 27 | 31 | 30 | 30 | 22 | 24 | 26 |
| 313: | 26 | 35 | 17 | 30 | 32 | 28 | 23 | 29 |
| 321: | 30 | 27 | 29 | 35 | 38 | 35 | 26 | 57 |
| 329: | 32 | 21 | 32 | 25 | 23 | 28 | 20 | 27 |
| 337: | 28 | 129 | 93 | 27 | 29 | 20 | 32 | 22 |
| 345: | 22 | 23 | 22 | 16 | 31 | 29 | 116 | 398 |
| 353: | 106 | 22 | 31 | 25 | 20 | 23 | 22 | 23 |
| 361: | 20 | 19 | 16 | 17 | 22 | 30 | 18 | 21 |

369: 28 18 14 22 28 18 20 30

Sample Title: CP5007S03-04

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 19 | 19 | 21 | 17 | 20 | 29 | 21 | 30 |
| 385: | 31 | 23 | 20 | 21 | 27 | 20 | 23 | 20 |
| 393: | 19 | 30 | 19 | 27 | 22 | 19 | 32 | 18 |
| 401: | 18 | 23 | 16 | 18 | 24 | 15 | 22 | 23 |
| 409: | 35 | 30 | 21 | 20 | 16 | 19 | 23 | 15 |
| 417: | 17 | 22 | 20 | 21 | 12 | 18 | 18 | 22 |
| 425: | 20 | 17 | 26 | 27 | 14 | 18 | 11 | 21 |
| 433: | 20 | 14 | 20 | 17 | 16 | 10 | 18 | 19 |
| 441: | 15 | 15 | 20 | 15 | 18 | 18 | 19 | 20 |
| 449: | 14 | 22 | 17 | 25 | 20 | 15 | 14 | 20 |
| 457: | 16 | 17 | 15 | 22 | 14 | 20 | 42 | 28 |
| 465: | 15 | 21 | 20 | 15 | 15 | 17 | 15 | 15 |
| 473: | 21 | 25 | 20 | 12 | 15 | 12 | 19 | 12 |
| 481: | 17 | 19 | 19 | 18 | 25 | 12 | 19 | 18 |
| 489: | 21 | 15 | 16 | 17 | 14 | 16 | 21 | 18 |
| 497: | 14 | 12 | 12 | 14 | 14 | 16 | 14 | 18 |
| 505: | 16 | 9 | 18 | 20 | 33 | 61 | 94 | 55 |
| 513: | 22 | 16 | 8 | 12 | 17 | 9 | 13 | 17 |
| 521: | 12 | 28 | 18 | 10 | 18 | 25 | 13 | 10 |
| 529: | 12 | 15 | 9 | 10 | 15 | 17 | 16 | 11 |
| 537: | 13 | 6 | 16 | 17 | 24 | 8 | 12 | 16 |
| 545: | 16 | 14 | 14 | 11 | 15 | 10 | 18 | 15 |
| 553: | 25 | 12 | 14 | 9 | 16 | 12 | 11 | 14 |
| 561: | 12 | 10 | 15 | 14 | 17 | 12 | 13 | 15 |
| 569: | 13 | 11 | 15 | 17 | 14 | 16 | 19 | 12 |
| 577: | 11 | 7 | 14 | 16 | 14 | 67 | 194 | 96 |
| 585: | 23 | 10 | 15 | 16 | 9 | 12 | 8 | 11 |
| 593: | 11 | 14 | 18 | 9 | 20 | 19 | 14 | 8 |
| 601: | 15 | 23 | 28 | 12 | 15 | 20 | 21 | 65 |
| 609: | 230 | 134 | 16 | 12 | 21 | 13 | 17 | 15 |
| 617: | 8 | 10 | 11 | 11 | 8 | 13 | 14 | 14 |
| 625: | 16 | 14 | 7 | 11 | 9 | 13 | 10 | 7 |
| 633: | 22 | 7 | 9 | 6 | 10 | 10 | 11 | 14 |
| 641: | 13 | 8 | 18 | 11 | 13 | 6 | 12 | 13 |
| 649: | 10 | 8 | 5 | 19 | 13 | 15 | 3 | 8 |
| 657: | 15 | 13 | 10 | 10 | 10 | 10 | 10 | 9 |
| 665: | 14 | 13 | 6 | 11 | 11 | 10 | 10 | 8 |
| 673: | 13 | 4 | 12 | 9 | 10 | 10 | 15 | 7 |
| 681: | 12 | 14 | 15 | 10 | 7 | 14 | 13 | 6 |
| 689: | 15 | 2 | 9 | 7 | 12 | 17 | 11 | 6 |
| 697: | 10 | 14 | 12 | 15 | 15 | 12 | 17 | 14 |
| 705: | 9 | 14 | 9 | 17 | 10 | 15 | 15 | 11 |
| 713: | 13 | 10 | 15 | 13 | 6 | 11 | 5 | 12 |
| 721: | 10 | 10 | 7 | 8 | 8 | 16 | 46 | 21 |
| 729: | 8 | 10 | 14 | 12 | 10 | 11 | 12 | 11 |
| 737: | 11 | 14 | 7 | 8 | 14 | 10 | 13 | 7 |
| 745: | 9 | 11 | 11 | 10 | 13 | 10 | 11 | 9 |
| 753: | 6 | 14 | 14 | 9 | 20 | 11 | 5 | 11 |
| 761: | 9 | 12 | 17 | 14 | 14 | 16 | 17 | 31 |
| 769: | 16 | 12 | 9 | 15 | 8 | 10 | 10 | 8 |
| 777: | 9 | 10 | 9 | 9 | 7 | 15 | 4 | 15 |
| 785: | 10 | 23 | 10 | 12 | 11 | 9 | 10 | 14 |
| 793: | 5 | 10 | 18 | 18 | 4 | 3 | 7 | 6 |

801: 11 13 7 6 11 8 12 6

Sample Title: CP5007S03-04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|-----|----|
| 809: | 8 | 9 | 6 | 7 | 7 | 15 | 11 | 6 |
| 817: | 12 | 9 | 11 | 6 | 7 | 8 | 10 | 5 |
| 825: | 10 | 7 | 8 | 9 | 7 | 12 | 12 | 10 |
| 833: | 11 | 5 | 15 | 10 | 8 | 11 | 12 | 12 |
| 841: | 4 | 13 | 11 | 4 | 13 | 4 | 12 | 9 |
| 849: | 12 | 6 | 13 | 6 | 6 | 8 | 6 | 6 |
| 857: | 5 | 8 | 11 | 22 | 18 | 11 | 10 | 6 |
| 865: | 4 | 6 | 11 | 7 | 7 | 10 | 4 | 7 |
| 873: | 10 | 5 | 7 | 5 | 11 | 6 | 8 | 3 |
| 881: | 7 | 9 | 5 | 4 | 11 | 4 | 5 | 6 |
| 889: | 11 | 5 | 5 | 3 | 10 | 11 | 11 | 7 |
| 897: | 9 | 8 | 9 | 2 | 8 | 4 | 13 | 10 |
| 905: | 7 | 5 | 7 | 3 | 16 | 46 | 103 | 46 |
| 913: | 9 | 8 | 3 | 7 | 12 | 10 | 3 | 6 |
| 921: | 6 | 7 | 11 | 3 | 7 | 4 | 4 | 7 |
| 929: | 6 | 8 | 4 | 9 | 14 | 25 | 7 | 8 |
| 937: | 5 | 3 | 8 | 9 | 4 | 7 | 5 | 4 |
| 945: | 7 | 13 | 5 | 10 | 9 | 12 | 6 | 10 |
| 953: | 3 | 6 | 8 | 5 | 6 | 6 | 7 | 5 |
| 961: | 5 | 7 | 16 | 22 | 18 | 12 | 10 | 64 |
| 969: | 58 | 22 | 7 | 5 | 7 | 6 | 7 | 8 |
| 977: | 7 | 3 | 8 | 5 | 8 | 12 | 2 | 6 |
| 985: | 3 | 7 | 11 | 7 | 5 | 6 | 8 | 6 |
| 993: | 7 | 9 | 8 | 1 | 10 | 6 | 4 | 6 |
| 1001: | 9 | 16 | 8 | 10 | 3 | 7 | 9 | 8 |
| 1009: | 4 | 9 | 3 | 8 | 7 | 7 | 11 | 10 |
| 1017: | 10 | 5 | 7 | 7 | 5 | 8 | 13 | 6 |
| 1025: | 7 | 5 | 5 | 6 | 7 | 10 | 4 | 12 |
| 1033: | 12 | 9 | 5 | 7 | 9 | 7 | 5 | 6 |
| 1041: | 10 | 6 | 6 | 10 | 6 | 9 | 6 | 4 |
| 1049: | 8 | 3 | 7 | 5 | 8 | 6 | 10 | 5 |
| 1057: | 6 | 5 | 4 | 13 | 12 | 7 | 12 | 7 |
| 1065: | 5 | 11 | 10 | 7 | 7 | 8 | 7 | 6 |
| 1073: | 4 | 8 | 6 | 10 | 4 | 10 | 5 | 7 |
| 1081: | 11 | 6 | 6 | 5 | 7 | 6 | 10 | 7 |
| 1089: | 5 | 2 | 6 | 7 | 13 | 7 | 10 | 6 |
| 1097: | 3 | 6 | 4 | 3 | 8 | 12 | 5 | 9 |
| 1105: | 8 | 13 | 3 | 7 | 3 | 8 | 5 | 3 |
| 1113: | 6 | 1 | 7 | 7 | 8 | 4 | 27 | 46 |
| 1121: | 29 | 16 | 8 | 6 | 4 | 5 | 13 | 10 |
| 1129: | 7 | 7 | 6 | 9 | 8 | 8 | 3 | 6 |
| 1137: | 7 | 5 | 6 | 7 | 7 | 6 | 8 | 7 |
| 1145: | 10 | 7 | 6 | 7 | 6 | 6 | 5 | 8 |
| 1153: | 8 | 14 | 13 | 5 | 4 | 11 | 12 | 5 |
| 1161: | 4 | 6 | 6 | 7 | 7 | 12 | 7 | 1 |
| 1169: | 6 | 7 | 6 | 10 | 10 | 9 | 7 | 7 |
| 1177: | 11 | 9 | 7 | 5 | 6 | 11 | 8 | 9 |
| 1185: | 11 | 4 | 5 | 8 | 2 | 7 | 9 | 5 |
| 1193: | 8 | 10 | 7 | 7 | 10 | 9 | 4 | 12 |
| 1201: | 5 | 11 | 7 | 13 | 2 | 10 | 11 | 10 |
| 1209: | 15 | 10 | 14 | 7 | 10 | 3 | 5 | 14 |
| 1217: | 8 | 15 | 13 | 7 | 15 | 9 | 15 | 9 |
| 1225: | 11 | 8 | 7 | 6 | 10 | 4 | 8 | 7 |

1233: 9 7 5 15 13 14 19 8

Sample Title: CP5007S03-04

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1241: | 8 | 6 | 5 | 12 | 11 | 11 | 5 | 2 |
| 1249: | 7 | 4 | 9 | 8 | 8 | 9 | 6 | 4 |
| 1257: | 7 | 4 | 3 | 8 | 9 | 6 | 3 | 7 |
| 1265: | 4 | 11 | 5 | 4 | 4 | 8 | 4 | 4 |
| 1273: | 4 | 7 | 5 | 6 | 4 | 7 | 4 | 5 |
| 1281: | 9 | 8 | 7 | 10 | 6 | 8 | 4 | 7 |
| 1289: | 6 | 6 | 10 | 7 | 1 | 4 | 5 | 4 |
| 1297: | 4 | 2 | 6 | 4 | 3 | 3 | 5 | 3 |
| 1305: | 4 | 6 | 6 | 5 | 1 | 7 | 4 | 1 |
| 1313: | 3 | 7 | 4 | 2 | 6 | 5 | 5 | 3 |
| 1321: | 8 | 0 | 4 | 3 | 6 | 1 | 4 | 4 |
| 1329: | 4 | 2 | 8 | 8 | 4 | 3 | 2 | 2 |
| 1337: | 5 | 2 | 7 | 6 | 0 | 1 | 7 | 4 |
| 1345: | 4 | 3 | 3 | 4 | 1 | 3 | 7 | 1 |
| 1353: | 0 | 2 | 2 | 3 | 2 | 4 | 4 | 8 |
| 1361: | 5 | 2 | 3 | 4 | 3 | 5 | 3 | 2 |
| 1369: | 4 | 3 | 4 | 6 | 1 | 7 | 5 | 10 |
| 1377: | 13 | 12 | 3 | 1 | 3 | 0 | 1 | 6 |
| 1385: | 3 | 2 | 6 | 1 | 2 | 4 | 5 | 2 |
| 1393: | 4 | 5 | 1 | 4 | 4 | 2 | 4 | 3 |
| 1401: | 6 | 5 | 3 | 2 | 1 | 7 | 6 | 11 |
| 1409: | 5 | 1 | 2 | 1 | 4 | 4 | 3 | 5 |
| 1417: | 5 | 3 | 3 | 2 | 4 | 7 | 2 | 6 |
| 1425: | 3 | 2 | 2 | 3 | 3 | 3 | 5 | 6 |
| 1433: | 0 | 2 | 3 | 0 | 3 | 0 | 2 | 3 |
| 1441: | 2 | 3 | 2 | 4 | 7 | 2 | 3 | 2 |
| 1449: | 1 | 5 | 4 | 2 | 1 | 6 | 3 | 5 |
| 1457: | 4 | 11 | 99 | 250 | 266 | 84 | 14 | 3 |
| 1465: | 4 | 4 | 2 | 8 | 0 | 1 | 2 | 1 |
| 1473: | 1 | 1 | 2 | 3 | 2 | 3 | 2 | 0 |
| 1481: | 3 | 2 | 3 | 0 | 2 | 5 | 2 | 1 |
| 1489: | 0 | 5 | 1 | 3 | 1 | 2 | 5 | 4 |
| 1497: | 3 | 3 | 2 | 6 | 3 | 2 | 3 | 1 |
| 1505: | 1 | 0 | 1 | 7 | 4 | 3 | 2 | 1 |
| 1513: | 2 | 5 | 2 | 0 | 2 | 1 | 4 | 1 |
| 1521: | 1 | 1 | 0 | 2 | 3 | 2 | 3 | 3 |
| 1529: | 2 | 3 | 2 | 0 | 3 | 4 | 1 | 5 |
| 1537: | 2 | 7 | 2 | 2 | 1 | 2 | 4 | 0 |
| 1545: | 1 | 0 | 1 | 2 | 2 | 1 | 4 | 1 |
| 1553: | 3 | 1 | 1 | 3 | 3 | 8 | 1 | 2 |
| 1561: | 2 | 3 | 3 | 3 | 1 | 1 | 1 | 2 |
| 1569: | 2 | 0 | 2 | 1 | 1 | 3 | 3 | 1 |
| 1577: | 4 | 1 | 0 | 5 | 4 | 2 | 5 | 3 |
| 1585: | 3 | 3 | 7 | 5 | 3 | 1 | 8 | 7 |
| 1593: | 6 | 2 | 0 | 5 | 2 | 1 | 1 | 5 |
| 1601: | 4 | 1 | 4 | 2 | 3 | 2 | 2 | 0 |
| 1609: | 0 | 3 | 4 | 3 | 2 | 1 | 3 | 3 |
| 1617: | 1 | 2 | 5 | 6 | 6 | 1 | 3 | 2 |
| 1625: | 3 | 3 | 1 | 4 | 5 | 7 | 3 | 1 |
| 1633: | 2 | 1 | 0 | 1 | 2 | 2 | 0 | 1 |
| 1641: | 2 | 2 | 1 | 2 | 1 | 3 | 1 | 1 |
| 1649: | 0 | 3 | 0 | 1 | 0 | 1 | 0 | 0 |
| 1657: | 0 | 1 | 2 | 5 | 3 | 2 | 1 | 2 |

1665: 0 2 1 1 1 3 0 1

Sample Title: CP5007S03-04

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1673: | 0 | 1 | 5 | 0 | 1 | 2 | 2 | 1 |
| 1681: | 2 | 1 | 0 | 3 | 0 | 0 | 2 | 3 |
| 1689: | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 3 |
| 1697: | 2 | 3 | 1 | 0 | 0 | 0 | 3 | 1 |
| 1705: | 2 | 4 | 1 | 1 | 1 | 3 | 3 | 1 |
| 1713: | 0 | 0 | 4 | 3 | 0 | 1 | 0 | 0 |
| 1721: | 1 | 0 | 0 | 1 | 3 | 1 | 5 | 2 |
| 1729: | 5 | 4 | 2 | 1 | 0 | 1 | 1 | 2 |
| 1737: | 1 | 1 | 3 | 1 | 0 | 1 | 0 | 3 |
| 1745: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |
| 1753: | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 2 |
| 1761: | 2 | 5 | 21 | 38 | 23 | 3 | 2 | 0 |
| 1769: | 1 | 0 | 0 | 1 | 0 | 4 | 0 | 1 |
| 1777: | 0 | 0 | 0 | 1 | 1 | 1 | 4 | 1 |
| 1785: | 0 | 0 | 0 | 1 | 5 | 0 | 2 | 0 |
| 1793: | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 3 |
| 1801: | 0 | 1 | 2 | 1 | 1 | 1 | 2 | 1 |
| 1809: | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 0 |
| 1817: | 2 | 0 | 2 | 0 | 0 | 2 | 2 | 1 |
| 1825: | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 1833: | 4 | 1 | 1 | 0 | 0 | 4 | 1 | 0 |
| 1841: | 1 | 1 | 1 | 1 | 2 | 4 | 5 | 2 |
| 1849: | 5 | 0 | 2 | 0 | 0 | 3 | 1 | 0 |
| 1857: | 0 | 1 | 2 | 1 | 0 | 3 | 0 | 1 |
| 1865: | 2 | 3 | 2 | 2 | 2 | 0 | 1 | 0 |
| 1873: | 1 | 0 | 0 | 2 | 2 | 1 | 1 | 2 |
| 1881: | 2 | 0 | 2 | 1 | 3 | 0 | 1 | 2 |
| 1889: | 1 | 2 | 0 | 2 | 0 | 1 | 1 | 2 |
| 1897: | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 2 |
| 1905: | 0 | 3 | 2 | 2 | 1 | 2 | 3 | 0 |
| 1913: | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 0 |
| 1921: | 1 | 0 | 2 | 2 | 0 | 2 | 1 | 1 |
| 1929: | 0 | 3 | 1 | 3 | 0 | 2 | 1 | 3 |
| 1937: | 3 | 4 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1945: | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 |
| 1953: | 2 | 0 | 2 | 2 | 3 | 1 | 0 | 1 |
| 1961: | 0 | 0 | 1 | 2 | 1 | 3 | 2 | 1 |
| 1969: | 1 | 0 | 1 | 0 | 2 | 0 | 2 | 1 |
| 1977: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 1985: | 0 | 2 | 0 | 2 | 0 | 1 | 2 | 1 |
| 1993: | 1 | 1 | 1 | 0 | 0 | 2 | 1 | 2 |
| 2001: | 2 | 2 | 3 | 4 | 1 | 1 | 0 | 0 |
| 2009: | 2 | 0 | 1 | 0 | 0 | 1 | 2 | 2 |
| 2017: | 1 | 2 | 1 | 2 | 1 | 0 | 0 | 1 |
| 2025: | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 2 |
| 2033: | 2 | 2 | 1 | 1 | 0 | 1 | 0 | 2 |
| 2041: | 0 | 2 | 0 | 0 | 1 | 1 | 3 | 1 |
| 2049: | 3 | 0 | 1 | 0 | 3 | 1 | 1 | 0 |
| 2057: | 0 | 0 | 1 | 4 | 0 | 0 | 1 | 1 |
| 2065: | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 |
| 2073: | 1 | 0 | 1 | 2 | 1 | 2 | 4 | 1 |
| 2081: | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 2089: | 1 | 1 | 0 | 0 | 3 | 0 | 2 | 0 |

2097: 0 1 3 3 1 4 8 5

Sample Title: CP5007S03-04

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2105: | 1 | 0 | 0 | 4 | 0 | 1 | 1 | 0 |
| 2113: | 1 | 0 | 1 | 3 | 2 | 1 | 0 | 0 |
| 2121: | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 0 |
| 2129: | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 |
| 2137: | 1 | 0 | 0 | 2 | 2 | 2 | 1 | 0 |
| 2145: | 2 | 2 | 0 | 1 | 2 | 2 | 0 | 0 |
| 2153: | 1 | 5 | 4 | 1 | 0 | 1 | 1 | 1 |
| 2161: | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 2 |
| 2169: | 0 | 1 | 3 | 0 | 1 | 1 | 1 | 0 |
| 2177: | 2 | 0 | 5 | 0 | 1 | 0 | 1 | 1 |
| 2185: | 2 | 2 | 2 | 1 | 2 | 3 | 2 | 0 |
| 2193: | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 1 |
| 2201: | 4 | 2 | 8 | 3 | 1 | 1 | 0 | 0 |
| 2209: | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 2217: | 0 | 0 | 3 | 5 | 4 | 2 | 2 | 0 |
| 2225: | 0 | 0 | 2 | 3 | 2 | 1 | 1 | 0 |
| 2233: | 1 | 0 | 0 | 1 | 1 | 3 | 0 | 1 |
| 2241: | 1 | 0 | 1 | 2 | 1 | 2 | 0 | 0 |
| 2249: | 3 | 1 | 2 | 0 | 0 | 1 | 0 | 0 |
| 2257: | 2 | 1 | 2 | 1 | 0 | 1 | 0 | 0 |
| 2265: | 0 | 0 | 1 | 1 | 3 | 1 | 2 | 1 |
| 2273: | 5 | 1 | 5 | 3 | 3 | 0 | 0 | 0 |
| 2281: | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 2289: | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 1 |
| 2297: | 1 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| 2305: | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 2 |
| 2313: | 0 | 2 | 2 | 0 | 0 | 1 | 1 | 1 |
| 2321: | 0 | 2 | 0 | 2 | 3 | 2 | 2 | 3 |
| 2329: | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 2 |
| 2337: | 1 | 1 | 0 | 0 | 4 | 1 | 0 | 2 |
| 2345: | 3 | 2 | 2 | 1 | 0 | 2 | 3 | 1 |
| 2353: | 2 | 2 | 0 | 1 | 0 | 0 | 2 | 2 |
| 2361: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 3 |
| 2369: | 0 | 1 | 2 | 0 | 2 | 3 | 1 | 1 |
| 2377: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 |
| 2385: | 1 | 3 | 0 | 1 | 1 | 0 | 1 | 2 |
| 2393: | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 2401: | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 2 |
| 2409: | 2 | 1 | 1 | 0 | 2 | 2 | 0 | 0 |
| 2417: | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 |
| 2425: | 2 | 1 | 4 | 2 | 1 | 0 | 0 | 0 |
| 2433: | 2 | 0 | 1 | 1 | 0 | 2 | 0 | 0 |
| 2441: | 3 | 1 | 0 | 1 | 2 | 1 | 2 | 3 |
| 2449: | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 0 |
| 2457: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2465: | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 2 |
| 2473: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 2 |
| 2481: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2489: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2497: | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 2505: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2513: | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2521: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |

2529: 0 0 1 0 0 0 2 1

Sample Title: CP5007S03-04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|----|----|----|----|----|---|
| 2537: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2553: | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 1 |
| 2561: | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2569: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2577: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 2585: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2601: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2609: | 2 | 2 | 12 | 20 | 24 | 30 | 11 | 4 |
| 2617: | 4 | 3 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2625: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2633: | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 |
| 2641: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2649: | 1 | 2 | 1 | 2 | 0 | 1 | 0 | 1 |
| 2657: | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2665: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2673: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2689: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2705: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2713: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2721: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| 2729: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2737: | 0 | 2 | 0 | 1 | 0 | 0 | 3 | 0 |
| 2745: | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2753: | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 2761: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 2769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2785: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2793: | 1 | 0 | 0 | 0 | 2 | 0 | 3 | 0 |
| 2801: | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 0 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2817: | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| 2825: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2833: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2841: | 1 | 0 | 2 | 0 | 1 | 0 | 1 | 0 |
| 2849: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2857: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2865: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2873: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2881: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2889: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2897: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2921: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2929: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2953: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

2961: 1 0 0 1 0 1 0 1

Sample Title: CP5007S03-04

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2969: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2977: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 |
| 2985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3001: | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3009: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3049: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3065: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3089: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3097: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3113: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3129: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3137: | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3225: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3233: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3241: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3257: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3265: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3281: | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3297: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3313: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3321: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3337: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3345: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3369: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |

3393: 0 0 0 0 0 0 0 0 1

Sample Title: CP5007S03-04

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 3401: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 |
| 3425: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3433: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3457: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3489: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3505: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3537: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3545: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3561: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3585: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3601: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3657: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 3689: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 3697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3721: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3737: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3761: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3793: | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 0 |
| 3801: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

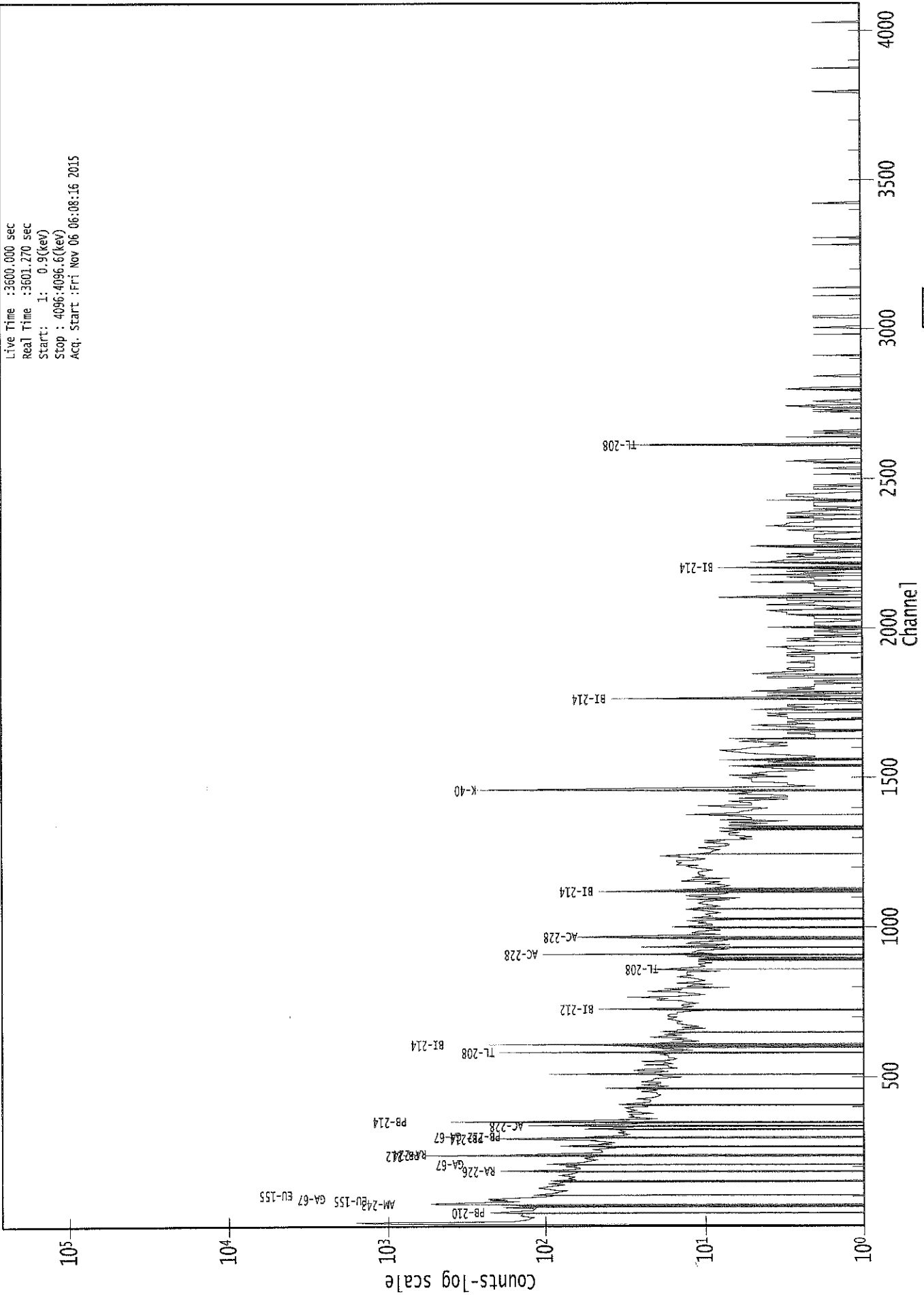
3825: 0 0 0 0 1 0 0 0

Sample Title: CP5007S03-04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 3833: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3857: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3913: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3921: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3969: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4041: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4057: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029234.CNF

Live Time :3600.000 sec
Real Time :3601.270 sec
Start: 1: 0.9(keV)
Stop : 4096.4096.6(keV)
Acq. Start :Fri Nov 06 06:08:16 2015



ROI Type: 2

ROI Type: 1

Analysis Report for 1510085-06
CP5007S06-07

✓
1116

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-06
Sample Description : CP5007S06-07
Sample Type : SOIL

Sample Size : 5.708E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:37:55AM
Acquisition Started : 11/6/2015 6:08:23AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3616.4 seconds

Dead Time : 0.45 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29235

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-06
CP5007S06-07

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 7:08:51AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 1 | 53.22 | 53.44 | 0.0000 | 0.00 |
| 2 | 76.47 | 76.68 | 0.0000 | 0.00 |
| 3 | 92.71 | 92.92 | 0.0000 | 0.00 |
| 4 | 99.92 | 100.12 | 0.0000 | 0.00 |
| 5 | 142.95 | 143.13 | 0.0000 | 0.00 |
| 6 | 186.10 | 186.25 | 0.0000 | 0.00 |
| 7 | 209.30 | 209.45 | 0.0000 | 0.00 |
| 8 | 227.51 | 227.65 | 0.0000 | 0.00 |
| 9 | 238.89 | 239.02 | 0.0000 | 0.00 |
| 10 | 241.97 | 242.10 | 0.0000 | 0.00 |
| 11 | 270.37 | 270.48 | 0.0000 | 0.00 |
| 12 | 295.13 | 295.23 | 0.0000 | 0.00 |
| 13 | 300.52 | 300.61 | 0.0000 | 0.00 |
| 14 | 327.23 | 327.31 | 0.0000 | 0.00 |
| 15 | 338.59 | 338.67 | 0.0000 | 0.00 |
| 16 | 352.13 | 352.20 | 0.0000 | 0.00 |
| 17 | 409.69 | 409.73 | 0.0000 | 0.00 |
| 18 | 463.10 | 463.12 | 0.0000 | 0.00 |
| 19 | 510.79 | 510.78 | 0.0000 | 0.00 |
| 20 | 583.38 | 583.34 | 0.0000 | 0.00 |
| 21 | 606.13 | 606.08 | 0.0000 | 0.00 |
| 22 | 609.45 | 609.40 | 0.0000 | 0.00 |
| 23 | 727.95 | 727.84 | 0.0000 | 0.00 |
| 24 | 795.30 | 795.16 | 0.0000 | 0.00 |
| 25 | 800.97 | 800.82 | 0.0000 | 0.00 |
| 26 | 839.21 | 839.05 | 0.0000 | 0.00 |
| 27 | 911.46 | 911.27 | 0.0000 | 0.00 |
| 28 | 968.59 | 968.37 | 0.0000 | 0.00 |
| 29 | 1001.90 | 1001.67 | 0.0000 | 0.00 |
| 30 | 1012.84 | 1012.60 | 0.0000 | 0.00 |
| 31 | 1079.15 | 1078.88 | 0.0000 | 0.00 |
| 32 | 1120.89 | 1120.61 | 0.0000 | 0.00 |
| 33 | 1155.40 | 1155.10 | 0.0000 | 0.00 |
| 34 | 1186.45 | 1186.13 | 0.0000 | 0.00 |
| 35 | 1363.29 | 1362.91 | 0.0000 | 0.00 |
| 36 | 1460.82 | 1460.40 | 0.0000 | 0.00 |
| 37 | 1510.09 | 1509.65 | 0.0000 | 0.00 |
| 38 | 1593.46 | 1592.99 | 0.0000 | 0.00 |
| 39 | 1625.73 | 1625.25 | 0.0000 | 0.00 |
| 40 | 1629.73 | 1629.25 | 0.0000 | 0.00 |
| 41 | 1730.08 | 1729.56 | 0.0000 | 0.00 |
| 42 | 1765.30 | 1764.77 | 0.0000 | 0.00 |

Analysis Report for 1510085-06
CP5007S06-07

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1848.15 | 1847.59 | 0.0000 | 0.00 |
| 44 | 1880.34 | 1879.77 | 0.0000 | 0.00 |
| 45 | 1999.59 | 1998.99 | 0.0000 | 0.00 |
| 46 | 2152.58 | 2151.93 | 0.0000 | 0.00 |
| 47 | 2392.47 | 2391.75 | 0.0000 | 0.00 |
| 48 | 2446.29 | 2445.56 | 0.0000 | 0.00 |
| 49 | 2523.79 | 2523.04 | 0.0000 | 0.00 |
| 50 | 2614.71 | 2613.93 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-06
CP5007S06-07

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 7:08:51AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 53.22 | 51 - | 56 | 53.44 | 6.98E+01 | 78.79 | 1.18E+03 | 2.40 |
| 2 | 76.47 | 72 - | 82 | 76.68 | 1.44E+03 | 162.46 | 2.79E+03 | 3.74 |
| m 3 | 92.71 | 83 - | 98 | 92.92 | 3.29E+02 | 87.35 | 1.15E+03 | 2.05 |
| 4 | 99.92 | 98 - | 103 | 100.12 | 6.98E+01 | 71.37 | 9.62E+02 | 2.03 |
| 5 | 142.95 | 141 - | 145 | 143.13 | 5.91E+01 | 56.38 | 6.56E+02 | 1.21 |
| 6 | 186.10 | 183 - | 190 | 186.25 | 1.76E+02 | 81.71 | 1.00E+03 | 1.53 |
| 7 | 209.30 | 206 - | 213 | 209.45 | 7.97E+01 | 74.78 | 8.77E+02 | 2.05 |
| 8 | 227.51 | 225 - | 231 | 227.65 | 6.28E+01 | 58.98 | 5.72E+02 | 3.43 |
| M 9 | 238.89 | 235 - | 248 | 239.02 | 8.17E+02 | 69.96 | 3.99E+02 | 1.68 |
| m 10 | 241.97 | 235 - | 248 | 242.10 | 2.45E+02 | 86.63 | 5.05E+02 | 2.52 |
| 11 | 270.37 | 267 - | 273 | 270.48 | 1.09E+02 | 54.30 | 4.55E+02 | 2.03 |
| 12 | 295.13 | 291 - | 297 | 295.23 | 2.58E+02 | 58.54 | 4.32E+02 | 1.80 |
| 13 | 300.52 | 299 - | 304 | 300.61 | 4.27E+01 | 45.65 | 3.63E+02 | 1.64 |
| 14 | 327.23 | 323 - | 330 | 327.31 | 5.62E+01 | 52.54 | 4.20E+02 | 1.29 |
| 15 | 338.59 | 334 - | 343 | 338.67 | 1.01E+02 | 68.37 | 6.10E+02 | 1.66 |
| 16 | 352.13 | 348 - | 356 | 352.20 | 4.48E+02 | 63.33 | 3.40E+02 | 1.73 |
| 17 | 409.69 | 406 - | 413 | 409.73 | 3.84E+01 | 42.24 | 2.71E+02 | 2.83 |
| 18 | 463.10 | 459 - | 467 | 463.12 | 6.91E+01 | 44.44 | 2.62E+02 | 1.50 |
| 19 | 510.79 | 506 - | 514 | 510.78 | 1.20E+02 | 43.03 | 2.10E+02 | 1.98 |
| 20 | 583.38 | 578 - | 586 | 583.34 | 2.47E+02 | 44.64 | 1.57E+02 | 2.02 |
| M 21 | 606.13 | 605 - | 614 | 606.08 | 1.66E+01 | 6.71 | 2.18E+01 | 2.42 |
| m 22 | 609.45 | 605 - | 614 | 609.40 | 3.39E+02 | 45.09 | 1.25E+02 | 2.18 |
| 23 | 727.95 | 723 - | 734 | 727.84 | 5.33E+01 | 44.68 | 2.25E+02 | 2.23 |
| 24 | 795.30 | 792 - | 798 | 795.16 | 3.23E+01 | 25.03 | 8.95E+01 | 2.06 |
| 25 | 800.97 | 799 - | 803 | 800.82 | 1.55E+01 | 17.59 | 5.50E+01 | 2.68 |
| 26 | 839.21 | 835 - | 843 | 839.05 | 4.30E+01 | 25.30 | 7.20E+01 | 5.60 |
| 27 | 911.46 | 906 - | 915 | 911.27 | 1.30E+02 | 41.30 | 1.67E+02 | 2.02 |
| 28 | 968.59 | 963 - | 972 | 968.37 | 1.02E+02 | 36.76 | 1.35E+02 | 1.76 |
| 29 | 1001.90 | 997 - | 1006 | 1001.67 | 2.83E+01 | 27.84 | 9.33E+01 | 2.03 |
| 30 | 1012.84 | 1008 - | 1017 | 1012.60 | 2.50E+01 | 27.02 | 9.00E+01 | 6.02 |
| 31 | 1079.15 | 1076 - | 1082 | 1078.88 | 1.88E+01 | 20.60 | 6.45E+01 | 1.95 |
| 32 | 1120.89 | 1117 - | 1126 | 1120.61 | 5.87E+01 | 34.41 | 1.25E+02 | 1.36 |
| 33 | 1155.40 | 1152 - | 1158 | 1155.10 | 2.44E+01 | 21.37 | 6.33E+01 | 3.76 |
| 34 | 1186.45 | 1184 - | 1188 | 1186.13 | 2.35E+01 | 17.40 | 4.50E+01 | 2.59 |
| 35 | 1363.29 | 1361 - | 1366 | 1362.91 | 9.98E+00 | 11.96 | 2.00E+01 | 2.78 |
| 36 | 1460.82 | 1443 - | 1467 | 1460.40 | 5.40E+02 | 57.28 | 9.24E+01 | 2.31 |
| 37 | 1510.09 | 1507 - | 1512 | 1509.65 | 8.60E+00 | 9.80 | 1.28E+01 | 2.63 |
| 38 | 1593.46 | 1584 - | 1603 | 1592.99 | 4.26E+01 | 20.10 | 1.67E+01 | 14.61 |
| M 39 | 1625.73 | 1624 - | 1632 | 1625.25 | 5.58E+00 | 4.80 | 3.59E+00 | 2.73 |
| m 40 | 1629.73 | 1624 - | 1632 | 1629.25 | 1.13E+01 | 10.39 | 1.10E+01 | 2.73 |

Analysis Report for 1510085-06

CP5007S06-07

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-------------|---------|---------------|---------------|----------------------|------------------|------------|
| 41 | 1730.08 | 1725 - 1733 | | 1729.56 | 1.60E+01 | 8.00 | 0.00E+00 | 1.20 |
| 42 | 1765.30 | 1761 - 1771 | | 1764.77 | 5.26E+01 | 18.19 | 1.48E+01 | 2.52 |
| 43 | 1848.15 | 1843 - 1851 | | 1847.59 | 1.87E+01 | 11.51 | 8.52E+00 | 2.79 |
| 44 | 1880.34 | 1873 - 1886 | | 1879.77 | 1.88E+01 | 11.70 | 6.45E+00 | 6.81 |
| 45 | 1999.59 | 1995 - 2002 | | 1998.99 | 7.06E+00 | 7.21 | 3.89E+00 | 0.97 |
| 46 | 2152.58 | 2149 - 2154 | | 2151.93 | 7.67E+00 | 6.71 | 2.67E+00 | 1.99 |
| 47 | 2392.47 | 2388 - 2394 | | 2391.75 | 8.00E+00 | 5.66 | 0.00E+00 | 3.24 |
| 48 | 2446.29 | 2442 - 2448 | | 2445.56 | 1.03E+01 | 7.76 | 3.42E+00 | 1.23 |
| 49 | 2523.79 | 2519 - 2525 | | 2523.04 | 5.07E+00 | 6.34 | 3.86E+00 | 1.90 |
| 50 | 2614.71 | 2609 - 2618 | | 2613.93 | 5.56E+01 | 16.03 | 4.88E+00 | 3.30 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 7:08:51AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|-----------|---------------|----------------------|------------------|----------------|
| | 1 | 53.22 | 51 - 56 | 6.98E+01 | 78.79 | 1.18E+03 | 6.33E+01 |
| | 2 | 76.47 | 72 - 82 | 1.44E+03 | 162.46 | 2.79E+03 | 1.64E+02 |
| m | 3 | 92.71 | 83 - 98 | 3.29E+02 | 87.35 | 1.15E+03 | 5.56E+01 |
| | 4 | 99.92 | 98 - 103 | 6.98E+01 | 71.37 | 9.62E+02 | 5.70E+01 |
| | 5 | 142.95 | 141 - 145 | 5.91E+01 | 56.38 | 6.56E+02 | 4.46E+01 |
| | 6 | 186.10 | 183 - 190 | 1.76E+02 | 81.71 | 1.00E+03 | 6.35E+01 |
| | 7 | 209.30 | 206 - 213 | 7.97E+01 | 74.78 | 8.77E+02 | 5.97E+01 |
| | 8 | 227.51 | 225 - 231 | 6.28E+01 | 58.98 | 5.72E+02 | 4.67E+01 |
| M | 9 | 238.89 | 235 - 248 | 8.17E+02 | 69.96 | 3.99E+02 | 3.28E+01 |
| m | 10 | 241.97 | 235 - 248 | 2.45E+02 | 86.63 | 5.05E+02 | 3.69E+01 |
| | 11 | 270.37 | 267 - 273 | 1.09E+02 | 54.30 | 4.55E+02 | 4.12E+01 |
| | 12 | 295.13 | 291 - 297 | 2.58E+02 | 58.54 | 4.32E+02 | 4.02E+01 |
| | 13 | 300.52 | 299 - 304 | 4.27E+01 | 45.65 | 3.63E+02 | 3.60E+01 |
| | 14 | 327.23 | 323 - 330 | 5.62E+01 | 52.54 | 4.20E+02 | 4.14E+01 |
| | 15 | 338.59 | 334 - 343 | 1.01E+02 | 68.37 | 6.10E+02 | 5.37E+01 |
| | 16 | 352.13 | 348 - 356 | 4.48E+02 | 63.33 | 3.40E+02 | 3.87E+01 |
| | 17 | 409.69 | 406 - 413 | 3.84E+01 | 42.24 | 2.71E+02 | 3.32E+01 |

: 00524

Analysis Report for 1510085-06

CP5007S06-07

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| | 18 | 463.10 | 459 - | 467 | 6.91E+01 | 44.44 | 2.62E+02 | 3.39E+01 |
| | 19 | 510.79 | 506 - | 514 | 1.20E+02 | 43.03 | 2.10E+02 | 3.04E+01 |
| | 20 | 583.38 | 578 - | 586 | 2.47E+02 | 44.64 | 1.57E+02 | 2.60E+01 |
| M | 21 | 606.13 | 605 - | 614 | 1.66E+01 | 6.71 | 2.18E+01 | 7.68E+00 |
| m | 22 | 609.45 | 605 - | 614 | 3.39E+02 | 45.09 | 1.25E+02 | 1.84E+01 |
| | 23 | 727.95 | 723 - | 734 | 5.33E+01 | 44.68 | 2.25E+02 | 3.47E+01 |
| | 24 | 795.30 | 792 - | 798 | 3.23E+01 | 25.03 | 8.95E+01 | 1.83E+01 |
| | 25 | 800.97 | 799 - | 803 | 1.55E+01 | 17.59 | 5.50E+01 | 1.29E+01 |
| | 26 | 839.21 | 835 - | 843 | 4.30E+01 | 25.30 | 7.20E+01 | 1.78E+01 |
| | 27 | 911.46 | 906 - | 915 | 1.30E+02 | 41.30 | 1.67E+02 | 2.83E+01 |
| | 28 | 968.59 | 963 - | 972 | 1.02E+02 | 36.76 | 1.35E+02 | 2.53E+01 |
| | 29 | 1001.90 | 997 - | 1006 | 2.83E+01 | 27.84 | 9.33E+01 | 2.11E+01 |
| | 30 | 1012.84 | 1008 - | 1017 | 2.50E+01 | 27.02 | 9.00E+01 | 2.06E+01 |
| | 31 | 1079.15 | 1076 - | 1082 | 1.88E+01 | 20.60 | 6.45E+01 | 1.54E+01 |
| | 32 | 1120.89 | 1117 - | 1126 | 5.87E+01 | 34.41 | 1.25E+02 | 2.53E+01 |
| | 33 | 1155.40 | 1152 - | 1158 | 2.44E+01 | 21.37 | 6.33E+01 | 1.56E+01 |
| | 34 | 1186.45 | 1184 - | 1188 | 2.35E+01 | 17.40 | 4.50E+01 | 1.19E+01 |
| | 35 | 1363.29 | 1361 - | 1366 | 9.98E+00 | 11.96 | 2.00E+01 | 8.35E+00 |
| | 36 | 1460.82 | 1443 - | 1467 | 5.40E+02 | 57.28 | 9.24E+01 | 9.46E+00 |
| | 37 | 1510.09 | 1507 - | 1512 | 8.60E+00 | 9.80 | 1.28E+01 | 6.45E+00 |
| | 38 | 1593.46 | 1584 - | 1603 | 4.26E+01 | 20.10 | 1.67E+01 | 1.26E+01 |
| M | 39 | 1625.73 | 1624 - | 1632 | 5.58E+00 | 4.80 | 3.59E+00 | 3.11E+00 |
| m | 40 | 1629.73 | 1624 - | 1632 | 1.13E+01 | 10.39 | 1.10E+01 | 5.45E+00 |
| | 41 | 1730.08 | 1725 - | 1733 | 1.60E+01 | 8.00 | 0.00E+00 | 0.00E+00 |
| | 42 | 1765.30 | 1761 - | 1771 | 5.26E+01 | 18.19 | 1.48E+01 | 9.02E+00 |
| | 43 | 1848.15 | 1843 - | 1851 | 1.87E+01 | 11.51 | 8.52E+00 | 6.24E+00 |
| | 44 | 1880.34 | 1873 - | 1886 | 1.88E+01 | 11.70 | 6.45E+00 | 6.47E+00 |
| | 45 | 1999.59 | 1995 - | 2002 | 7.06E+00 | 7.21 | 3.89E+00 | 4.01E+00 |
| | 46 | 2152.58 | 2149 - | 2154 | 7.67E+00 | 6.71 | 2.67E+00 | 3.11E+00 |
| | 47 | 2392.47 | 2388 - | 2394 | 8.00E+00 | 5.66 | 0.00E+00 | 0.00E+00 |
| | 48 | 2446.29 | 2442 - | 2448 | 1.03E+01 | 7.76 | 3.42E+00 | 3.59E+00 |
| | 49 | 2523.79 | 2519 - | 2525 | 5.07E+00 | 6.34 | 3.86E+00 | 3.67E+00 |
| | 50 | 2614.71 | 2609 - | 2618 | 5.56E+01 | 16.03 | 4.88E+00 | 4.85E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-06

CP5007S06-07

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 7:08:51AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|-------------|---------------|---------------|----------------------|------------------|-------------------|
| | 1 | 53.22 | 51 - 56 | 53.44 | 6.98E+01 | 78.79 | 1.18E+03 | ..... |
| | 2 | 76.47 | 72 - 82 | 76.68 | 1.44E+03 | 162.46 | 2.79E+03 | ..... |
| m | 3 | 92.71 | 83 - 98 | 92.92 | 3.29E+02 | 87.35 | 1.15E+03 | GA-67 |
| | 4 | 99.92 | 98 - 103 | 100.12 | 6.98E+01 | 71.37 | 9.62E+02 | LU-173 |
| | 5 | 142.95 | 141 - 145 | 143.13 | 5.91E+01 | 56.38 | 6.56E+02 | U-235 |
| | 6 | 186.10 | 183 - 190 | 186.25 | 1.76E+02 | 81.71 | 1.00E+03 | RA-226 |
| | 7 | 209.30 | 206 - 213 | 209.45 | 7.97E+01 | 74.78 | 8.77E+02 | GA-67 |
| | 8 | 227.51 | 225 - 231 | 227.65 | 6.28E+01 | 58.98 | 5.72E+02 | CM-243 |
| | | | | | | | | CM-243 |
| | | | | | | | | TE-132 |
| | | | | | | | | NP-239 |
| M | 9 | 238.89 | 235 - 248 | 239.02 | 8.17E+02 | 69.96 | 3.99E+02 | PB-212 |
| m | 10 | 241.97 | 235 - 248 | 242.10 | 2.45E+02 | 86.63 | 5.05E+02 | RA-224 |
| | 11 | 270.37 | 267 - 273 | 270.48 | 1.09E+02 | 54.30 | 4.55E+02 | ..... |
| | 12 | 295.13 | 291 - 297 | 295.23 | 2.58E+02 | 58.54 | 4.32E+02 | PB-214 |
| | 13 | 300.52 | 299 - 304 | 300.61 | 4.27E+01 | 45.65 | 3.63E+02 | GA-67 |
| | | | | | | | | PB-212 |
| | | | | | | | | BI-210M |
| | 14 | 327.23 | 323 - 330 | 327.31 | 5.62E+01 | 52.54 | 4.20E+02 | ..... |
| | 15 | 338.59 | 334 - 343 | 338.67 | 1.01E+02 | 68.37 | 6.10E+02 | AC-228 |
| | 16 | 352.13 | 348 - 356 | 352.20 | 4.48E+02 | 63.33 | 3.40E+02 | PB-214 |
| | 17 | 409.69 | 406 - 413 | 409.73 | 3.84E+01 | 42.24 | 2.71E+02 | ..... |
| | 18 | 463.10 | 459 - 467 | 463.12 | 6.91E+01 | 44.44 | 2.62E+02 | SB-125 |
| | 19 | 510.79 | 506 - 514 | 510.78 | 1.20E+02 | 43.03 | 2.10E+02 | ..... |
| | 20 | 583.38 | 578 - 586 | 583.34 | 2.47E+02 | 44.64 | 1.57E+02 | TL-208 |
| M | 21 | 606.13 | 605 - 614 | 606.08 | 1.66E+01 | 6.71 | 2.18E+01 | ..... |
| m | 22 | 609.45 | 605 - 614 | 609.40 | 3.39E+02 | 45.09 | 1.25E+02 | BI-214 |
| | 23 | 727.95 | 723 - 734 | 727.84 | 5.33E+01 | 44.68 | 2.25E+02 | BI-212 |
| | 24 | 795.30 | 792 - 798 | 795.16 | 3.23E+01 | 25.03 | 8.95E+01 | CS-134 |
| | 25 | 800.97 | 799 - 803 | 800.82 | 1.55E+01 | 17.59 | 5.50E+01 | CS-134 |
| | 26 | 839.21 | 835 - 843 | 839.05 | 4.30E+01 | 25.30 | 7.20E+01 | ..... |
| | 27 | 911.46 | 906 - 915 | 911.27 | 1.30E+02 | 41.30 | 1.67E+02 | AC-228 |
| | | | | | | | | LU-172 |
| | 28 | 968.59 | 963 - 972 | 968.37 | 1.02E+02 | 36.76 | 1.35E+02 | AC-228 |
| | 29 | 1001.90 | 997 - 1006 | 1001.67 | 2.83E+01 | 27.84 | 9.33E+01 | PA-234M |
| | 30 | 1012.84 | 1008 - 1017 | 1012.60 | 2.50E+01 | 27.02 | 9.00E+01 | ..... |
| | 31 | 1079.15 | 1076 - 1082 | 1078.88 | 1.88E+01 | 20.60 | 6.45E+01 | ..... |
| | 32 | 1120.89 | 1117 - 1126 | 1120.61 | 5.87E+01 | 34.41 | 1.25E+02 | SC-46 |
| | | | | | | | | TA-182 |
| | | | | | | | | BI-214 |
| | 33 | 1155.40 | 1152 - 1158 | 1155.10 | 2.44E+01 | 21.37 | 6.33E+01 | ..... |

Analysis Report for 1510085-06

CP5007S06-07

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide | |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|-------|
| 34 | 1186.45 | 1184 - | 1188 | 1186.13 | 2.35E+01 | 17.40 | 4.50E+01 | ..... |  |
| 35 | 1363.29 | 1361 - | 1366 | 1362.91 | 9.98E+00 | 11.96 | 2.00E+01 | ..... |  |
| 36 | 1460.82 | 1443 - | 1467 | 1460.40 | 5.40E+02 | 57.28 | 9.24E+01 | K-40 | |
| 37 | 1510.09 | 1507 - | 1512 | 1509.65 | 8.60E+00 | 9.80 | 1.28E+01 | ..... |  |
| 38 | 1593.46 | 1584 - | 1603 | 1592.99 | 4.26E+01 | 20.10 | 1.67E+01 | ..... |  |
| M | 39 | 1625.73 | 1624 - | 1632 | 1625.25 | 5.58E+00 | 4.80 | 3.59E+00 | |
| m | 40 | 1629.73 | 1624 - | 1632 | 1629.25 | 1.13E+01 | 10.39 | 1.10E+01 | |
| 41 | 1730.08 | 1725 - | 1733 | 1729.56 | 1.60E+01 | 8.00 | 0.00E+00 | ..... |  |
| 42 | 1765.30 | 1761 - | 1771 | 1764.77 | 5.26E+01 | 18.19 | 1.48E+01 | BI-214 | |
| 43 | 1848.15 | 1843 - | 1851 | 1847.59 | 1.87E+01 | 11.51 | 8.52E+00 | ..... |  |
| 44 | 1880.34 | 1873 - | 1886 | 1879.77 | 1.88E+01 | 11.70 | 6.45E+00 | ..... |  |
| 45 | 1999.59 | 1995 - | 2002 | 1998.99 | 7.06E+00 | 7.21 | 3.89E+00 | ..... |  |
| 46 | 2152.58 | 2149 - | 2154 | 2151.93 | 7.67E+00 | 6.71 | 2.67E+00 | ..... |  |
| 47 | 2392.47 | 2388 - | 2394 | 2391.75 | 8.00E+00 | 5.66 | 0.00E+00 | ..... |  |
| 48 | 2446.29 | 2442 - | 2448 | 2445.56 | 1.03E+01 | 7.76 | 3.42E+00 | ..... |  |
| 49 | 2523.79 | 2519 - | 2525 | 2523.04 | 5.07E+00 | 6.34 | 3.86E+00 | ..... |  |
| 50 | 2614.71 | 2609 - | 2618 | 2613.93 | 5.56E+01 | 16.03 | 4.88E+00 | TL-208 | |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 7:08:51AM

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 1 | 53.22 | 6.98E+01 | 78.79 | 1.82E-02 | 1.58E-03 |
| 2 | 76.47 | 1.44E+03 | 162.46 | 2.38E-02 | 2.14E-03 |
| m | 3 | 3.29E+02 | 87.35 | 2.44E-02 | 2.42E-03 |
| 4 | 99.92 | 6.98E+01 | 71.37 | 2.43E-02 | 2.25E-03 |
| 5 | 142.95 | 5.91E+01 | 56.38 | 2.15E-02 | 1.63E-03 |
| 6 | 186.10 | 1.76E+02 | 81.71 | 1.83E-02 | 1.42E-03 |
| 7 | 209.30 | 7.97E+01 | 74.78 | 1.68E-02 | 1.31E-03 |
| 8 | 227.51 | 6.28E+01 | 58.98 | 1.58E-02 | 1.23E-03 |
| M | 9 | 8.17E+02 | 69.96 | 1.52E-02 | 1.18E-03 |
| m | 10 | 2.45E+02 | 86.63 | 1.51E-02 | 1.17E-03 |
| 11 | 270.37 | 1.09E+02 | 54.30 | 1.38E-02 | 1.04E-03 |
| 12 | 295.13 | 2.58E+02 | 58.54 | 1.28E-02 | 9.74E-04 |
| 13 | 300.52 | 4.27E+01 | 45.65 | 1.26E-02 | 9.67E-04 |

: 00527

Analysis Report for 1510085-06
CP5007S06-07

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|----------|--------------|---------------|----------------------|-----------------|------------------------|
| | 14 | 327.23 | 5.62E+01 | 52.54 | 1.18E-02 | 9.29E-04 |
| | 15 | 338.59 | 1.01E+02 | 68.37 | 1.14E-02 | 9.13E-04 |
| | 16 | 352.13 | 4.48E+02 | 63.33 | 1.11E-02 | 8.93E-04 |
| | 17 | 409.69 | 3.84E+01 | 42.24 | 9.71E-03 | 8.19E-04 |
| | 18 | 463.10 | 6.91E+01 | 44.44 | 8.73E-03 | 7.66E-04 |
| | 19 | 510.79 | 1.20E+02 | 43.03 | 8.01E-03 | 7.18E-04 |
| | 20 | 583.38 | 2.47E+02 | 44.64 | 7.14E-03 | 6.46E-04 |
| M | 21 | 606.13 | 1.66E+01 | 6.71 | 6.90E-03 | 6.23E-04 |
| m | 22 | 609.45 | 3.39E+02 | 45.09 | 6.87E-03 | 6.20E-04 |
| | 23 | 727.95 | 5.33E+01 | 44.68 | 5.89E-03 | 5.14E-04 |
| | 24 | 795.30 | 3.23E+01 | 25.03 | 5.45E-03 | 4.59E-04 |
| | 25 | 800.97 | 1.55E+01 | 17.59 | 5.42E-03 | 4.54E-04 |
| | 26 | 839.21 | 4.30E+01 | 25.30 | 5.21E-03 | 4.23E-04 |
| | 27 | 911.46 | 1.30E+02 | 41.30 | 4.85E-03 | 3.72E-04 |
| | 28 | 968.59 | 1.02E+02 | 36.76 | 4.61E-03 | 3.62E-04 |
| | 29 | 1001.90 | 2.83E+01 | 27.84 | 4.48E-03 | 3.55E-04 |
| | 30 | 1012.84 | 2.50E+01 | 27.02 | 4.44E-03 | 3.53E-04 |
| | 31 | 1079.15 | 1.88E+01 | 20.60 | 4.21E-03 | 3.41E-04 |
| | 32 | 1120.89 | 5.87E+01 | 34.41 | 4.08E-03 | 3.33E-04 |
| | 33 | 1155.40 | 2.44E+01 | 21.37 | 3.97E-03 | 3.27E-04 |
| | 34 | 1186.45 | 2.35E+01 | 17.40 | 3.89E-03 | 3.21E-04 |
| | 35 | 1363.29 | 9.98E+00 | 11.96 | 3.48E-03 | 2.84E-04 |
| | 36 | 1460.82 | 5.40E+02 | 57.28 | 3.29E-03 | 2.69E-04 |
| | 37 | 1510.09 | 8.60E+00 | 9.80 | 3.21E-03 | 2.62E-04 |
| | 38 | 1593.46 | 4.26E+01 | 20.10 | 3.08E-03 | 2.49E-04 |
| M | 39 | 1625.73 | 5.58E+00 | 4.80 | 3.03E-03 | 2.45E-04 |
| m | 40 | 1629.73 | 1.13E+01 | 10.39 | 3.03E-03 | 2.44E-04 |
| | 41 | 1730.08 | 1.60E+01 | 8.00 | 2.90E-03 | 2.29E-04 |
| | 42 | 1765.30 | 5.26E+01 | 18.19 | 2.86E-03 | 2.24E-04 |
| | 43 | 1848.15 | 1.87E+01 | 11.51 | 2.77E-03 | 2.13E-04 |
| | 44 | 1880.34 | 1.88E+01 | 11.70 | 2.73E-03 | 2.13E-04 |
| | 45 | 1999.59 | 7.06E+00 | 7.21 | 2.62E-03 | 2.13E-04 |
| | 46 | 2152.58 | 7.67E+00 | 6.71 | 2.50E-03 | 2.13E-04 |
| | 47 | 2392.47 | 8.00E+00 | 5.66 | 2.35E-03 | 2.13E-04 |
| | 48 | 2446.29 | 1.03E+01 | 7.76 | 2.32E-03 | 2.13E-04 |
| | 49 | 2523.79 | 5.07E+00 | 6.34 | 2.28E-03 | 2.13E-04 |
| | 50 | 2614.71 | 5.56E+01 | 16.03 | 2.24E-03 | 2.13E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 7:08:51AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Analysis Report for 1510085-06

CP5007S06-07

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| | 1 | 53.22 | 6.98E+01 | 78.79 | | | 6.98E+01 | 7.88E+01 |
| | 2 | 76.47 | 1.44E+03 | 162.46 | | | 1.44E+03 | 1.62E+02 |
| m | 3 | 92.71 | 3.29E+02 | 87.35 | 9.04E+01 | 2.62E+01 | 2.39E+02 | 9.12E+01 |
| | 4 | 99.92 | 6.98E+01 | 71.37 | | | 6.98E+01 | 7.14E+01 |
| | 5 | 142.95 | 5.91E+01 | 56.38 | | | 5.91E+01 | 5.64E+01 |
| | 6 | 186.10 | 1.76E+02 | 81.71 | 3.93E+01 | 6.56E+00 | 1.37E+02 | 8.20E+01 |
| | 7 | 209.30 | 7.97E+01 | 74.78 | | | 7.97E+01 | 7.48E+01 |
| | 8 | 227.51 | 6.28E+01 | 58.98 | | | 6.28E+01 | 5.90E+01 |
| M | 9 | 238.89 | 8.17E+02 | 69.96 | 1.34E+01 | 2.14E+00 | 8.03E+02 | 7.00E+01 |
| m | 10 | 241.97 | 2.45E+02 | 86.63 | 2.69E+00 | 1.46E+00 | 2.43E+02 | 8.66E+01 |
| | 11 | 270.37 | 1.09E+02 | 54.30 | | | 1.09E+02 | 5.43E+01 |
| | 12 | 295.13 | 2.58E+02 | 58.54 | | | 2.58E+02 | 5.85E+01 |
| | 13 | 300.52 | 4.27E+01 | 45.65 | | | 4.27E+01 | 4.57E+01 |
| | 14 | 327.23 | 5.62E+01 | 52.54 | | | 5.62E+01 | 5.25E+01 |
| | 15 | 338.59 | 1.01E+02 | 68.37 | | | 1.01E+02 | 6.84E+01 |
| | 16 | 352.13 | 4.48E+02 | 63.33 | 3.99E+00 | 4.73E+00 | 4.44E+02 | 6.35E+01 |
| | 17 | 409.69 | 3.84E+01 | 42.24 | | | 3.84E+01 | 4.22E+01 |
| | 18 | 463.10 | 6.91E+01 | 44.44 | | | 6.91E+01 | 4.44E+01 |
| | 19 | 510.79 | 1.20E+02 | 43.03 | 5.78E+01 | 4.60E+00 | 6.22E+01 | 4.33E+01 |
| | 20 | 583.38 | 2.47E+02 | 44.64 | 5.96E+00 | 3.46E+00 | 2.41E+02 | 4.48E+01 |
| M | 21 | 606.13 | 1.66E+01 | 6.71 | | | 1.66E+01 | 6.71E+00 |
| m | 22 | 609.45 | 3.39E+02 | 45.09 | 6.71E+00 | 3.44E+00 | 3.32E+02 | 4.52E+01 |
| | 23 | 727.95 | 5.33E+01 | 44.68 | | | 5.33E+01 | 4.47E+01 |
| | 24 | 795.30 | 3.23E+01 | 25.03 | | | 3.23E+01 | 2.50E+01 |
| | 25 | 800.97 | 1.55E+01 | 17.59 | | | 1.55E+01 | 1.76E+01 |
| | 26 | 839.21 | 4.30E+01 | 25.30 | | | 4.30E+01 | 2.53E+01 |
| | 27 | 911.46 | 1.30E+02 | 41.30 | 2.32E+00 | 2.73E+00 | 1.28E+02 | 4.14E+01 |
| | 28 | 968.59 | 1.02E+02 | 36.76 | | | 1.02E+02 | 3.68E+01 |
| | 29 | 1001.90 | 2.83E+01 | 27.84 | | | 2.83E+01 | 2.78E+01 |
| | 30 | 1012.84 | 2.50E+01 | 27.02 | | | 2.50E+01 | 2.70E+01 |
| | 31 | 1079.15 | 1.88E+01 | 20.60 | | | 1.88E+01 | 2.06E+01 |
| | 32 | 1120.89 | 5.87E+01 | 34.41 | 2.00E+00 | 2.20E+00 | 5.67E+01 | 3.45E+01 |
| | 33 | 1155.40 | 2.44E+01 | 21.37 | | | 2.44E+01 | 2.14E+01 |
| | 34 | 1186.45 | 2.35E+01 | 17.40 | | | 2.35E+01 | 1.74E+01 |
| | 35 | 1363.29 | 9.98E+00 | 11.96 | | | 9.98E+00 | 1.20E+01 |
| | 36 | 1460.82 | 5.40E+02 | 57.28 | 2.36E+00 | 1.83E+00 | 5.37E+02 | 5.73E+01 |
| | 37 | 1510.09 | 8.60E+00 | 9.80 | | | 8.60E+00 | 9.80E+00 |
| | 38 | 1593.46 | 4.26E+01 | 20.10 | | | 4.26E+01 | 2.01E+01 |
| M | 39 | 1625.73 | 5.58E+00 | 4.80 | | | 5.58E+00 | 4.80E+00 |
| m | 40 | 1629.73 | 1.13E+01 | 10.39 | | | 1.13E+01 | 1.04E+01 |
| | 41 | 1730.08 | 1.60E+01 | 8.00 | | | 1.60E+01 | 8.00E+00 |
| | 42 | 1765.30 | 5.26E+01 | 18.19 | 1.45E+00 | 1.16E+00 | 5.11E+01 | 1.82E+01 |
| | 43 | 1848.15 | 1.87E+01 | 11.51 | | | 1.87E+01 | 1.15E+01 |
| | 44 | 1880.34 | 1.88E+01 | 11.70 | | | 1.88E+01 | 1.17E+01 |
| | 45 | 1999.59 | 7.06E+00 | 7.21 | | | 7.06E+00 | 7.21E+00 |
| | 46 | 2152.58 | 7.67E+00 | 6.71 | | | 7.67E+00 | 6.71E+00 |
| | 47 | 2392.47 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| | 48 | 2446.29 | 1.03E+01 | 7.76 | | | 1.03E+01 | 7.76E+00 |
| | 49 | 2523.79 | 5.07E+00 | 6.34 | | | 5.07E+00 | 6.34E+00 |
| | 50 | 2614.71 | 5.56E+01 | 16.03 | | | 5.56E+01 | 1.60E+01 |

Analysis Report for 1510085-06
CP5007S06-07

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 7:08:51AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area is: Original * Peak Ratio - Background

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 1 | 53.22 | 6.98E+01 | 78.79 | | | 6.98E+01 | 7.88E+01 |
| | 2 | 76.47 | 1.44E+03 | 162.46 | | | 1.44E+03 | 1.62E+02 |
| m | 3 | 92.71 | 3.29E+02 | 87.35 | 9.04E+01 | 2.62E+01 | 2.39E+02 | 9.12E+01 |
| | 4 | 99.92 | 6.98E+01 | 71.37 | | | 6.98E+01 | 7.14E+01 |
| | 5 | 142.95 | 5.91E+01 | 56.38 | | | 5.91E+01 | 5.64E+01 |
| | 6 | 186.10 | 1.76E+02 | 81.71 | 3.93E+01 | 6.56E+00 | 1.37E+02 | 8.20E+01 |
| | 7 | 209.30 | 7.97E+01 | 74.78 | | | 7.97E+01 | 7.48E+01 |
| | 8 | 227.51 | 6.28E+01 | 58.98 | | | 6.28E+01 | 5.90E+01 |
| M | 9 | 238.89 | 8.17E+02 | 69.96 | 1.34E+01 | 2.14E+00 | 8.03E+02 | 7.00E+01 |
| m | 10 | 241.97 | 2.45E+02 | 86.63 | 2.69E+00 | 1.46E+00 | 2.43E+02 | 8.66E+01 |
| | 11 | 270.37 | 1.09E+02 | 54.30 | | | 1.09E+02 | 5.43E+01 |
| | 12 | 295.13 | 2.58E+02 | 58.54 | | | 2.58E+02 | 5.85E+01 |
| | 13 | 300.52 | 4.27E+01 | 45.65 | | | 4.27E+01 | 4.57E+01 |
| | 14 | 327.23 | 5.62E+01 | 52.54 | | | 5.62E+01 | 5.25E+01 |
| | 15 | 338.59 | 1.01E+02 | 68.37 | | | 1.01E+02 | 6.84E+01 |
| | 16 | 352.13 | 4.48E+02 | 63.33 | 3.99E+00 | 4.73E+00 | 4.44E+02 | 6.35E+01 |
| | 17 | 409.69 | 3.84E+01 | 42.24 | | | 3.84E+01 | 4.22E+01 |
| | 18 | 463.10 | 6.91E+01 | 44.44 | | | 6.91E+01 | 4.44E+01 |
| | 19 | 510.79 | 1.20E+02 | 43.03 | 5.78E+01 | 4.60E+00 | 6.22E+01 | 4.33E+01 |
| | 20 | 583.38 | 2.47E+02 | 44.64 | 5.96E+00 | 3.46E+00 | 2.41E+02 | 4.48E+01 |
| M | 21 | 606.13 | 1.66E+01 | 6.71 | | | 1.66E+01 | 6.71E+00 |
| m | 22 | 609.45 | 3.39E+02 | 45.09 | 6.71E+00 | 3.44E+00 | 3.32E+02 | 4.52E+01 |
| | 23 | 727.95 | 5.33E+01 | 44.68 | | | 5.33E+01 | 4.47E+01 |
| | 24 | 795.30 | 3.23E+01 | 25.03 | | | 3.23E+01 | 2.50E+01 |
| | 25 | 800.97 | 1.55E+01 | 17.59 | | | 1.55E+01 | 1.76E+01 |
| | 26 | 839.21 | 4.30E+01 | 25.30 | | | 4.30E+01 | 2.53E+01 |
| | 27 | 911.46 | 1.30E+02 | 41.30 | 2.32E+00 | 2.73E+00 | 1.28E+02 | 4.14E+01 |
| | 28 | 968.59 | 1.02E+02 | 36.76 | | | 1.02E+02 | 3.68E+01 |
| | 29 | 1001.90 | 2.83E+01 | 27.84 | | | 2.83E+01 | 2.78E+01 |
| | 30 | 1012.84 | 2.50E+01 | 27.02 | | | 2.50E+01 | 2.70E+01 |
| | 31 | 1079.15 | 1.88E+01 | 20.60 | | | 1.88E+01 | 2.06E+01 |
| | 32 | 1120.89 | 5.87E+01 | 34.41 | 2.00E+00 | 2.20E+00 | 5.67E+01 | 3.45E+01 |

Analysis Report for 1510085-06
CP5007S06-07

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 33 | 1155.40 | 2.44E+01 | 21.37 | | | 2.44E+01 | 2.14E+01 |
| 34 | 1186.45 | 2.35E+01 | 17.40 | | | 2.35E+01 | 1.74E+01 |
| 35 | 1363.29 | 9.98E+00 | 11.96 | | | 9.98E+00 | 1.20E+01 |
| 36 | 1460.82 | 5.40E+02 | 57.28 | 2.36E+00 | 1.83E+00 | 5.37E+02 | 5.73E+01 |
| 37 | 1510.09 | 8.60E+00 | 9.80 | | | 8.60E+00 | 9.80E+00 |
| 38 | 1593.46 | 4.26E+01 | 20.10 | | | 4.26E+01 | 2.01E+01 |
| M 39 | 1625.73 | 5.58E+00 | 4.80 | | | 5.58E+00 | 4.80E+00 |
| m 40 | 1629.73 | 1.13E+01 | 10.39 | | | 1.13E+01 | 1.04E+01 |
| 41 | 1730.08 | 1.60E+01 | 8.00 | | | 1.60E+01 | 8.00E+00 |
| 42 | 1765.30 | 5.26E+01 | 18.19 | 1.45E+00 | 1.16E+00 | 5.11E+01 | 1.82E+01 |
| 43 | 1848.15 | 1.87E+01 | 11.51 | | | 1.87E+01 | 1.15E+01 |
| 44 | 1880.34 | 1.88E+01 | 11.70 | | | 1.88E+01 | 1.17E+01 |
| 45 | 1999.59 | 7.06E+00 | 7.21 | | | 7.06E+00 | 7.21E+00 |
| 46 | 2152.58 | 7.67E+00 | 6.71 | | | 7.67E+00 | 6.71E+00 |
| 47 | 2392.47 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| 48 | 2446.29 | 1.03E+01 | 7.76 | | | 1.03E+01 | 7.76E+00 |
| 49 | 2523.79 | 5.07E+00 | 6.34 | | | 5.07E+00 | 6.34E+00 |
| 50 | 2614.71 | 5.56E+01 | 16.03 | | | 5.56E+01 | 1.60E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 1.000 | 1460.81 * | 10.67 | 2.01E+01 | 2.74E+00 |
| GA-67 | 0.629 | 93.31 * | 35.70 | 2.10E+02 | 8.56E+02 |
| | | 208.95 * | 2.24 | 1.62E+03 | 6.51E+03 |
| | | 300.22 * | 16.00 | 1.62E+02 | 6.80E+02 |
| TE-132 | 0.479 | 49.72 | 13.10 | | |
| | | 228.16 * | 88.00 | 3.48E+01 | 3.28E+01 |
| TL-208 | 0.884 | 583.14 * | 30.22 | 1.47E+00 | 3.04E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 9.10E-01 | 2.77E-01 |
| BI-212 | 0.694 | 727.17 * | 11.80 | 1.01E+00 | 8.51E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.988 | 238.63 * | 44.60 | 1.56E+00 | 1.82E-01 |
| | | 300.09 * | 3.41 | 1.30E+00 | 1.40E+00 |

Analysis Report for 1510085-06
CP5007S06-07

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| BI-214 | 0.901 | 609.31 * | 46.30 | 1.37E+00 | 2.24E-01 |
| | | 1120.29 * | 15.10 | 1.21E+00 | 7.44E-01 |
| | | 1764.49 * | 15.80 | 1.49E+00 | 5.44E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.995 | 295.21 * | 19.19 | 1.38E+00 | 3.30E-01 |
| | | 351.92 * | 37.19 | 1.42E+00 | 2.33E-01 |
| RA-224 | 0.855 | 240.98 * | 3.95 | 5.37E+00 | 1.96E+00 |
| RA-226 | 0.998 | 186.21 * | 3.28 | 3.00E+00 | 5.77E+00 |
| AC-228 | 0.973 | 338.32 * | 11.40 | 1.02E+00 | 6.95E-01 |
| | | 911.07 * | 27.70 | 1.25E+00 | 4.16E-01 |
| | | 969.11 * | 16.60 | 1.75E+00 | 6.47E-01 |
| PA-234M | 0.886 | 1001.03 * | 0.92 | 9.05E+00 | 8.92E+00 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 7:08:51AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| 1 | 53.22 | 1.93802E-02 | 56.47 | | |
| 2 | 76.47 | 3.99433E-01 | 5.65 | | |
| 4 | 99.92 | 1.93840E-02 | 51.13 | Tol. | LU-173 |
| 5 | 142.95 | 1.64215E-02 | 47.69 | Tol. | U-235 |
| 11 | 270.37 | 3.01736E-02 | 25.00 | | |
| 14 | 327.23 | 1.56005E-02 | 46.77 | | |
| 17 | 409.69 | 1.06769E-02 | 54.94 | | |
| 18 | 463.10 | 1.91889E-02 | 32.16 | Tol. | SB-125 |
| 19 | 510.79 | 1.72648E-02 | 34.81 | Sum | |
| M 21 | 606.13 | 4.60837E-03 | 20.22 | | |
| 24 | 795.30 | 8.96284E-03 | 38.79 | Sum | |
| 25 | 800.97 | 4.30556E-03 | 56.75 | Tol. | CS-134 |
| 26 | 839.21 | 1.19444E-02 | 29.42 | | |
| 30 | 1012.84 | 6.94444E-03 | 54.04 | | |
| 31 | 1079.15 | 5.21514E-03 | 54.87 | Sum | |
| 33 | 1155.40 | 6.76587E-03 | 43.87 | Sum | |
| 34 | 1186.45 | 6.52778E-03 | 37.02 | | |

Analysis Report for 1510085-06
CP5007S06-07

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| | 35 | 1363.29 | 2.77083E-03 | 59.94 | Sum |
| | 37 | 1510.09 | 2.38889E-03 | 56.96 | |
| | 38 | 1593.46 | 1.18464E-02 | 23.57 | D-Esc |
| M | 39 | 1625.73 | 1.54922E-03 | 43.00 | |
| m | 40 | 1629.73 | 3.14638E-03 | 45.87 | |
| | 41 | 1730.08 | 4.44444E-03 | 25.00 | Sum |
| | 43 | 1848.15 | 5.20531E-03 | 30.71 | Sum |
| | 44 | 1880.34 | 5.21465E-03 | 31.17 | Sum |
| | 45 | 1999.59 | 1.95988E-03 | 51.10 | |
| | 46 | 2152.58 | 2.12963E-03 | 43.75 | |
| | 47 | 2392.47 | 2.22222E-03 | 35.36 | |
| | 48 | 2446.29 | 2.85880E-03 | 37.71 | |
| | 49 | 2523.79 | 1.40873E-03 | 62.55 | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 1.00 | 1460.81 * | 10.67 | 2.01E+01 | 2.74E+00 |
| GA-67 | 0.62 | 93.31 * | 35.70 | 2.10E+02 | 8.56E+02 |
| | | 208.95 * | 2.24 | 1.62E+03 | 6.51E+03 |
| | | 300.22 * | 16.00 | 1.62E+02 | 6.80E+02 |
| TE-132 | 0.47 | 49.72 | 13.10 | | |
| | | 228.16 * | 88.00 | 3.48E+01 | 3.28E+01 |
| TL-208 | 0.88 | 583.14 * | 30.22 | 1.47E+00 | 3.04E-01 |
| | | 860.37 | 4.48 | | |
| BI-212 | 0.69 | 2614.66 * | 35.85 | 9.10E-01 | 2.77E-01 |
| | | 727.17 * | 11.80 | 1.01E+00 | 8.51E-01 |
| PB-212 | 0.98 | 1620.62 | 2.75 | | |
| | | 238.63 * | 44.60 | 1.56E+00 | 1.82E-01 |
| BI-214 | 0.90 | 300.09 * | 3.41 | 1.30E+00 | 1.40E+00 |
| | | 609.31 * | 46.30 | 1.37E+00 | 2.24E-01 |
| | | 1120.29 * | 15.10 | 1.21E+00 | 7.44E-01 |

Analysis Report for 1510085-06

CP5007S06-07

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| BI-214 | 0.90 | 1764.49 * | 15.80 | 1.49E+00 | 5.44E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.99 | 295.21 * | 19.19 | 1.38E+00 | 3.30E-01 |
| | | 351.92 * | 37.19 | 1.42E+00 | 2.33E-01 |
| RA-224 | 0.85 | 240.98 * | 3.95 | 5.37E+00 | 1.96E+00 |
| RA-226 | 0.99 | 186.21 * | 3.28 | 3.00E+00 | 5.77E+00 |
| AC-228 | 0.97 | 338.32 * | 11.40 | 1.02E+00 | 6.95E-01 |
| | | 911.07 * | 27.70 | 1.25E+00 | 4.16E-01 |
| | | 969.11 * | 16.60 | 1.75E+00 | 6.47E-01 |
| PA-234M | 0.88 | 1001.03 * | 0.92 | 9.05E+00 | 8.92E+00 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | 1.000 | 2.01E+01 | 2.74E+00 | |
| GA-67 | 0.629 | 1.69E+02 | 6.64E+02 | |
| TE-132 | 0.479 | 3.48E+01 | 3.28E+01 | |
| TL-208 | 0.884 | 1.16E+00 | 2.04E-01 | |
| BI-212 | 0.694 | 1.01E+00 | 8.51E-01 | |
| PB-212 | 0.988 | 1.53E+00 | 1.80E-01 | |
| BI-214 | 0.901 | 1.38E+00 | 2.00E-01 | |
| PB-214 | 0.995 | 1.41E+00 | 1.91E-01 | |
| RA-224 | 0.855 | 5.37E+00 | 1.96E+00 | |
| RA-226 | 0.998 | 3.00E+00 | 5.77E+00 | |
| AC-228 | 0.973 | 1.32E+00 | 3.13E-01 | |
| PA-234M | 0.886 | 9.05E+00 | 8.92E+00 | |

Analysis Report for 1510085-06

CP5007S06-07

- ? = nuclide is part of an undetermined solution
- X = nuclide rejected by the interference analysis
- @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-06
CP5007S06-07

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 7:08:51AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 1 | 53.22 | 1.93802E-02 | 56.47 | | |
| 2 | 76.47 | 3.99433E-01 | 5.65 | | |
| 4 | 99.92 | 1.93840E-02 | 51.13 | Tol. | LU-173 |
| 5 | 142.95 | 1.64215E-02 | 47.69 | Tol. | U-235 |
| 11 | 270.37 | 3.01736E-02 | 25.00 | | |
| 14 | 327.23 | 1.56005E-02 | 46.77 | | |
| 17 | 409.69 | 1.06769E-02 | 54.94 | | |
| 18 | 463.10 | 1.91889E-02 | 32.16 | Tol. | SB-125 |
| 19 | 510.79 | 1.72648E-02 | 34.81 | Sum | |
| M 21 | 606.13 | 4.60837E-03 | 20.22 | | |
| 24 | 795.30 | 8.96284E-03 | 38.79 | Sum | |
| 25 | 800.97 | 4.30556E-03 | 56.75 | Tol. | CS-134 |
| 26 | 839.21 | 1.19444E-02 | 29.42 | | |
| 30 | 1012.84 | 6.94444E-03 | 54.04 | | |
| 31 | 1079.15 | 5.21514E-03 | 54.87 | Sum | |
| 33 | 1155.40 | 6.76587E-03 | 43.87 | Sum | |
| 34 | 1186.45 | 6.52778E-03 | 37.02 | | |
| 35 | 1363.29 | 2.77083E-03 | 59.94 | Sum | |
| 37 | 1510.09 | 2.38889E-03 | 56.96 | | |
| 38 | 1593.46 | 1.18464E-02 | 23.57 | D-Esc | |
| M 39 | 1625.73 | 1.54922E-03 | 43.00 | | |
| m 40 | 1629.73 | 3.14638E-03 | 45.87 | | |
| 41 | 1730.08 | 4.44444E-03 | 25.00 | Sum | |
| 43 | 1848.15 | 5.20531E-03 | 30.71 | Sum | |
| 44 | 1880.34 | 5.21465E-03 | 31.17 | Sum | |
| 45 | 1999.59 | 1.95988E-03 | 51.10 | | |
| 46 | 2152.58 | 2.12963E-03 | 43.75 | | |
| 47 | 2392.47 | 2.22222E-03 | 35.36 | | |
| 48 | 2446.29 | 2.85880E-03 | 37.71 | | |
| 49 | 2523.79 | 1.40873E-03 | 62.55 | | |

Analysis Report for 1510085-06
CP5007S06-07

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|--------------|--------------|----------|----------------------|-------------------------|----------------------|
| + | BE-7 | 477.59 | 10.42 | -2.07E-01 | 1.10E+00 | 1.10E+00 |
| + | NA-22 | 1274.54 | 99.94 | 2.38E-02 | 1.27E-01 | 1.27E-01 |
| + | NA-24 | 1368.53 | 99.99 | -2.98E+12 | 1.19E+13 | 2.45E+13 |
| | | 2754.09 | 99.86 | -8.10E+12 | | 1.19E+13 |
| + | AL-26 | 1808.65 | 99.76 | -2.19E-02 | 6.62E-02 | 6.62E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.01E+01 | 2.18E+00 | 2.18E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -3.07E-02 | 7.65E-02 | 7.65E-02 |
| | | 78.34 | 96.00 | 3.56E-01 | | 1.03E-01 |
| + | SC-46 | 889.25 | 99.98 | -7.42E-02 | 1.07E-01 | 1.07E-01 |
| | | 1120.51 | 99.99 | 2.27E-01 | | 2.09E-01 |
| + | V-48 | 983.52 | 99.98 | 9.83E-02 | 3.64E-01 | 3.64E-01 |
| | | 1312.10 | 97.50 | -8.88E-03 | | 3.78E-01 |
| + | CR-51 | 320.08 | 9.83 | -5.98E-01 | 1.55E+00 | 1.55E+00 |
| + | MN-54 | 834.83 | 99.97 | -2.90E-03 | 9.75E-02 | 9.75E-02 |
| + | CO-56 | 846.75 | 99.96 | 6.63E-03 | 1.19E-01 | 1.19E-01 |
| | | 1037.75 | 14.03 | -3.94E-01 | | 8.26E-01 |
| | | 1238.25 | 67.00 | 4.05E-02 | | 2.85E-01 |
| | | 1771.40 | 15.51 | -3.87E-02 | | 7.03E-01 |
| | | 2598.48 | 16.90 | -1.80E-01 | | 3.32E-01 |
| + | CO-57 | 122.06 | 85.51 | -1.58E-02 | 6.44E-02 | 6.44E-02 |
| | | 136.48 | 10.60 | 2.76E-01 | | 5.85E-01 |
| + | CO-58 | 810.76 | 99.40 | -5.97E-02 | 1.13E-01 | 1.13E-01 |
| + | FE-59 | 1099.22 | 56.50 | -7.41E-02 | 2.91E-01 | 2.91E-01 |
| | | 1291.56 | 43.20 | -9.13E-02 | | 4.09E-01 |
| + | CO-60 | 1173.22 | 100.00 | -2.16E-02 | 1.18E-01 | 1.18E-01 |
| | | 1332.49 | 100.00 | -2.90E-02 | | 1.23E-01 |
| + | ZN-65 | 1115.52 | 50.75 | 1.90E-02 | 2.52E-01 | 2.52E-01 |
| + | GA-67 | 93.31 | * 35.70 | 2.10E+02 | 2.45E+02 | 2.45E+02 |
| | | 208.95 | * 2.24 | 1.62E+03 | | 2.49E+03 |
| | | 300.22 | * 16.00 | 1.62E+02 | | 2.83E+02 |
| + | SE-75 | 121.11 | 16.70 | -6.10E-02 | 1.16E-01 | 3.66E-01 |

Analysis Report for 1510085-06
CP5007S06-07

| Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | SE-75 | 136.00 | 59.20 | 6.76E-02 | 1.16E-01 |
| | | 264.65 | 59.80 | -7.50E-03 | 1.40E-01 |
| | | 279.53 | 25.20 | 1.86E-01 | 3.40E-01 |
| | | 400.65 | 11.40 | -8.49E-02 | 7.87E-01 |
| + | RB-82 | 776.52 | 13.00 | 1.02E-01 | 1.69E+00 |
| + | RB-83 | 520.41 | 46.00 | 1.77E-01 | 2.52E-01 |
| | | 529.64 | 30.30 | -4.02E-02 | 3.33E-01 |
| | | 552.65 | 16.40 | 2.07E-01 | 5.75E-01 |
| + | KR-85 | 513.99 | 0.43 | 7.64E-01 | 2.44E+01 |
| + | SR-85 | 513.99 | 99.27 | 4.58E-03 | 1.46E-01 |
| + | Y-88 | 898.02 | 93.40 | -6.70E-02 | 1.20E-01 |
| | | 1836.01 | 99.38 | 3.47E-02 | 1.20E-01 |
| + | NB-93M | 16.57 | 9.43 | 3.24E+01 | 8.46E+01 |
| + | NB-94 | 702.63 | 100.00 | 3.75E-02 | 9.62E-02 |
| | | 871.10 | 100.00 | 4.17E-02 | 9.62E-02 |
| + | NB-95 | 765.79 | 99.81 | 9.73E-02 | 2.01E-01 |
| + | NB-95M | 235.69 | 25.00 | 6.52E+00 | 1.56E+02 |
| + | ZR-95 | 724.18 | 43.70 | -4.58E-03 | 2.22E-01 |
| | | 756.72 | 55.30 | -2.02E-02 | 2.22E-01 |
| + | MO-99 | 181.06 | 6.20 | -2.00E+02 | 1.34E+03 |
| | | 739.58 | 12.80 | -5.10E+02 | 1.34E+03 |
| | | 778.00 | 4.50 | 1.05E+03 | 4.13E+03 |
| + | RU-103 | 497.08 | 89.00 | -6.66E-02 | 1.44E-01 |
| + | RU-106 | 621.84 | 9.80 | 2.84E-01 | 9.32E-01 |
| + | AG-108M | 433.93 | 89.90 | 2.08E-02 | 8.96E-02 |
| | | 614.37 | 90.40 | -1.41E-03 | 9.73E-02 |
| | | 722.95 | 90.50 | 1.05E-02 | 1.08E-01 |
| + | CD-109 | 88.03 | 3.72 | 2.14E+00 | 2.11E+00 |
| + | AG-110M | 657.75 | 93.14 | -1.66E-02 | 9.94E-02 |
| | | 677.61 | 10.53 | -3.97E-01 | 8.13E-01 |
| | | 706.67 | 16.46 | -1.73E-01 | 6.26E-01 |
| | | 763.93 | 21.98 | -2.26E-01 | 4.98E-01 |
| | | 884.67 | 71.63 | -5.81E-03 | 1.41E-01 |
| | | 1384.27 | 23.94 | -3.48E-02 | 5.19E-01 |
| + | CD-113M | 263.70 | 0.02 | 1.93E+00 | 3.05E+02 |
| + | SN-113 | 255.12 | 1.93 | 2.32E-01 | 1.38E-01 |
| | | 391.69 | 64.90 | -7.90E-02 | 1.38E-01 |
| + | TE123M | 159.00 | 84.10 | -1.02E-02 | 8.43E-02 |
| + | SB-124 | 602.71 | 97.87 | 1.82E-03 | 1.27E-01 |
| | | 645.85 | 7.26 | 5.43E-01 | 1.76E+00 |
| | | 722.78 | 11.10 | 1.21E-01 | 1.24E+00 |
| | | 1691.02 | 49.00 | 6.43E-02 | 2.33E-01 |
| + | I-125 | 35.49 | 6.49 | 2.73E-01 | 3.41E+00 |
| + | SB-125 | 176.33 | 6.89 | 2.06E-01 | 2.63E-01 |
| | | 427.89 | 29.33 | -8.75E-03 | 2.63E-01 |
| | | 463.38 | 10.35 | 1.03E+00 | 9.45E-01 |
| | | 600.56 | 17.80 | -1.62E-01 | 4.75E-01 |
| | | 635.90 | 11.32 | 7.50E-02 | 7.61E-01 |

Analysis Report for 1510085-06
CP5007S06-07

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SB-126 | 414.70 | 83.30 | 1.29E-01 | 4.49E-01 | 4.98E-01 |
| | | 666.33 | 99.60 | -4.95E-02 | | 4.86E-01 |
| | | 695.00 | 99.60 | -1.78E-01 | | 4.49E-01 |
| | | 720.50 | 53.80 | -2.42E-01 | | 8.58E-01 |
| + | SN-126 | 87.57 | 37.00 | 2.06E-01 | 2.03E-01 | 2.03E-01 |
| + | SB-127 | 473.00 | 25.00 | -1.81E+01 | 5.55E+01 | 6.62E+01 |
| | | 685.20 | 35.70 | -9.42E+00 | | 5.55E+01 |
| | | 783.80 | 14.70 | -5.65E+00 | | 1.37E+02 |
| + | I-129 | 29.78 | 57.00 | -8.43E-02 | 4.84E-01 | 4.84E-01 |
| | | 33.60 | 13.20 | 1.70E-01 | | 1.41E+00 |
| | | 39.58 | 7.52 | -4.28E-01 | | 1.60E+00 |
| + | I-131 | 284.30 | 6.05 | 3.60E+00 | 1.13E+00 | 1.55E+01 |
| | | 364.48 | 81.20 | -5.51E-01 | | 1.13E+00 |
| | | 636.97 | 7.26 | -1.82E+00 | | 1.54E+01 |
| | | 722.89 | 1.80 | 7.02E+00 | | 7.15E+01 |
| + | TE-132 | 49.72 | 13.10 | -3.38E+02 | 5.33E+01 | 3.84E+02 |
| | | 228.16 | * 88.00 | 3.48E+01 | | 5.33E+01 |
| + | BA-133 | 81.00 | 33.00 | -1.23E+00 | 1.58E-01 | 1.98E-01 |
| | | 302.84 | 17.80 | 1.02E-02 | | 4.40E-01 |
| | | 356.01 | 60.00 | -2.25E-02 | | 1.58E-01 |
| + | I-133 | 529.87 | 86.30 | -2.83E+08 | 2.34E+09 | 2.34E+09 |
| + | XE-133 | 81.00 | 38.00 | -5.57E+01 | 8.96E+00 | 8.96E+00 |
| + | CS-134 | 563.23 | 8.38 | 4.49E-02 | 1.05E-01 | 1.05E+00 |
| | | 569.32 | 15.43 | -2.77E-01 | | 5.36E-01 |
| | | 604.70 | 97.60 | -1.84E-03 | | 1.05E-01 |
| | | 795.84 | 85.40 | 2.79E-02 | | 1.29E-01 |
| | | 801.93 | 8.73 | -3.43E-02 | | 1.09E+00 |
| + | CS-135 | 268.24 | 16.00 | 1.19E-02 | 5.25E-01 | 5.25E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 1.85E-01 | 4.36E-01 | 3.85E+00 |
| | | 163.89 | 4.61 | 5.85E-01 | | 6.22E+00 |
| | | 176.55 | 13.56 | -1.09E+00 | | 2.03E+00 |
| | | 273.65 | 12.66 | -5.60E-01 | | 2.95E+00 |
| | | 340.57 | 48.50 | 2.13E+00 | | 1.02E+00 |
| | | 818.50 | 99.70 | -1.32E-01 | | 4.36E-01 |
| | | 1048.07 | 79.60 | -2.14E-01 | | 5.54E-01 |
| | | 1235.34 | 19.70 | 1.88E-02 | | 3.60E+00 |
| + | CS-137 | 661.65 | 85.12 | 3.17E-02 | 1.12E-01 | 1.12E-01 |
| + | LA-138 | 788.74 | 34.00 | 4.43E-02 | 1.27E-01 | 2.48E-01 |
| | | 1435.80 | 66.00 | 4.91E-02 | | 1.27E-01 |
| + | CE-139 | 165.85 | 80.35 | 2.32E-02 | 8.50E-02 | 8.50E-02 |
| + | BA-140 | 162.64 | 6.70 | 9.89E-01 | 1.64E+00 | 4.52E+00 |
| | | 304.84 | 4.50 | 8.31E-01 | | 8.02E+00 |
| | | 423.70 | 3.20 | 3.42E+00 | | 1.20E+01 |
| | | 437.55 | 2.00 | 2.00E+01 | | 2.14E+01 |
| | | 537.32 | 25.00 | 2.64E-02 | | 1.64E+00 |
| + | LA-140 | 328.77 | 20.50 | -3.79E-01 | 5.34E-01 | 2.00E+00 |

Analysis Report for 1510085-06

CP5007S06-07

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | LA-140 | 487.03 | 45.50 | 2.31E-02 | 5.34E-01 | 8.76E-01 |
| | | 815.85 | 23.50 | 3.50E-01 | | 1.88E+00 |
| | | 1596.49 | 95.49 | -2.19E-01 | | 5.34E-01 |
| + | CE-141 | 145.44 | 48.40 | -4.93E-02 | 2.24E-01 | 2.24E-01 |
| + | CE-143 | 57.36 | 11.80 | 7.64E+05 | 9.05E+05 | 2.39E+06 |
| | | 293.26 | 42.00 | 2.06E+06 | | 9.05E+05 |
| | | 664.55 | 5.20 | 3.37E+06 | | 6.73E+06 |
| + | CE-144 | 133.54 | 10.80 | 5.62E-02 | 5.80E-01 | 5.80E-01 |
| + | PM-144 | 476.78 | 42.00 | 5.74E-03 | 8.84E-02 | 1.98E-01 |
| | | 618.01 | 98.60 | 2.93E-02 | | 8.84E-02 |
| | | 696.49 | 99.49 | -2.99E-02 | | 9.00E-02 |
| + | PM-145 | 36.85 | 21.70 | 1.11E-01 | 3.46E-01 | 6.56E-01 |
| | | 37.36 | 39.70 | -7.25E-02 | | 3.46E-01 |
| | | 42.30 | 15.10 | -3.27E-01 | | 7.25E-01 |
| | | 72.40 | 2.31 | -7.27E+00 | | 3.86E+00 |
| + | PM-146 | 453.90 | 39.94 | 1.19E-01 | 2.03E-01 | 2.03E-01 |
| | | 735.90 | 14.01 | -2.20E-02 | | 6.25E-01 |
| | | 747.13 | 13.10 | -1.56E-01 | | 6.78E-01 |
| + | ND-147 | 91.11 | 28.90 | -1.11E+00 | 1.72E+00 | 1.72E+00 |
| | | 531.02 | 13.10 | -4.97E-01 | | 4.11E+00 |
| + | PM-149 | 285.90 | 3.10 | 1.20E+04 | 2.77E+04 | 2.77E+04 |
| + | EU-152 | 121.78 | 20.50 | -6.14E-02 | 2.50E-01 | 2.50E-01 |
| | | 244.69 | 5.40 | -1.41E+00 | | 1.51E+00 |
| | | 344.27 | 19.13 | -4.43E-03 | | 3.99E-01 |
| | | 778.89 | 9.20 | -1.30E-01 | | 1.05E+00 |
| | | 964.01 | 10.40 | -2.37E-01 | | 1.10E+00 |
| | | 1085.78 | 7.22 | 1.73E-01 | | 1.47E+00 |
| | | 1112.02 | 9.60 | -6.42E-01 | | 1.14E+00 |
| | | 1407.95 | 14.94 | 0.00E+00 | | 7.24E-01 |
| + | GD-153 | 97.43 | 31.30 | -2.80E-01 | 1.92E-01 | 1.92E-01 |
| | | 103.18 | 22.20 | -2.17E-02 | | 2.68E-01 |
| + | EU-154 | 123.07 | 40.50 | 3.34E-02 | 1.31E-01 | 1.31E-01 |
| | | 723.30 | 19.70 | 4.88E-02 | | 4.97E-01 |
| | | 873.19 | 11.50 | 4.27E-02 | | 8.37E-01 |
| | | 996.32 | 10.30 | 1.51E-01 | | 9.69E-01 |
| | | 1004.76 | 17.90 | -1.46E-01 | | 5.56E-01 |
| | | 1274.45 | 35.50 | 6.61E-02 | | 3.52E-01 |
| + | EU-155 | 86.50 | 30.90 | 2.11E-01 | 2.42E-01 | 2.42E-01 |
| | | 105.30 | 20.70 | 8.67E-02 | | 2.71E-01 |
| + | EU-156 | 811.77 | 10.40 | -1.70E+00 | 3.11E+00 | 3.11E+00 |
| | | 1153.47 | 7.20 | -2.25E-01 | | 6.92E+00 |
| | | 1230.71 | 8.90 | -8.18E-01 | | 5.77E+00 |
| + | HO-166M | 184.41 | 72.60 | 1.68E-01 | 1.03E-01 | 1.03E-01 |
| | | 280.45 | 29.60 | -6.10E-02 | | 2.37E-01 |
| | | 410.94 | 11.10 | 3.09E-01 | | 7.47E-01 |
| | | 711.69 | 54.10 | 1.71E-02 | | 1.74E-01 |
| + | TM-171 | 66.72 | 0.14 | -5.98E+01 | 5.32E+01 | 5.32E+01 |
| + | HF-172 | 81.75 | 4.52 | -4.27E+00 | 4.91E-01 | 1.47E+00 |
| | | 125.81 | 11.30 | -2.68E-01 | | 4.91E-01 |

Analysis Report for 1510085-06

CP5007S06-07

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| + | LU-172 | 181.53 | 20.60 | 1.05E+00 | 3.81E+00 | 6.42E+00 |
| | | 810.06 | 16.63 | 3.20E+00 | | 1.20E+01 |
| | | 912.12 | 15.25 | 6.12E+01 | | 2.64E+01 |
| | | 1093.66 | 62.50 | 4.49E-01 | | 3.81E+00 |
| + | LU-173 | 100.72 | 5.24 | 4.33E-01 | 4.11E-01 | 1.12E+00 |
| | | 272.11 | 21.20 | -1.78E-02 | | 4.11E-01 |
| + | HF-175 | 343.40 | 84.00 | 1.25E-03 | 1.26E-01 | 1.26E-01 |
| + | LU-176 | 88.34 | 13.30 | 3.15E-01 | 7.49E-02 | 5.84E-01 |
| | | 201.83 | 86.00 | 2.21E-02 | | 8.40E-02 |
| | | 306.78 | 94.00 | 1.78E-02 | | 7.49E-02 |
| + | TA-182 | 67.75 | 41.20 | -8.43E-02 | 2.10E-01 | 2.10E-01 |
| | | 1121.30 | 34.90 | 5.84E-01 | | 5.56E-01 |
| | | 1189.05 | 16.23 | -1.38E-01 | | 9.31E-01 |
| | | 1221.41 | 26.98 | -1.95E-01 | | 4.83E-01 |
| | | 1231.02 | 11.44 | 2.82E-01 | | 1.43E+00 |
| + | IR-192 | 308.46 | 29.68 | 1.08E-02 | 2.16E-01 | 3.16E-01 |
| | | 468.07 | 48.10 | -7.12E-03 | | 2.16E-01 |
| + | HG-203 | 279.19 | 77.30 | 6.28E-02 | 1.45E-01 | 1.45E-01 |
| + | BI-207 | 569.67 | 97.72 | 3.30E-02 | 8.62E-02 | 8.62E-02 |
| | | 1063.62 | 74.90 | 4.67E-02 | | 1.36E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.47E+00 | 2.03E-01 | 3.40E-01 |
| | | 860.37 | 4.48 | 1.63E+00 | | 2.28E+00 |
| | | 2614.66 | * 35.85 | 9.10E-01 | | 2.03E-01 |
| + | BI-210M | 262.00 | 45.00 | -1.34E-02 | 1.55E-01 | 1.55E-01 |
| | | 300.00 | 23.00 | -1.12E+00 | | 3.63E-01 |
| + | PB-210 | 46.50 | 4.25 | 2.79E+00 | 2.45E+00 | 2.45E+00 |
| + | PB-211 | 404.84 | 2.90 | 5.62E-01 | 2.66E+00 | 2.66E+00 |
| | | 831.96 | 2.90 | 6.14E-01 | | 3.08E+00 |
| + | BI-212 | 727.17 | * 11.80 | 1.01E+00 | 1.37E+00 | 1.37E+00 |
| | | 1620.62 | 2.75 | -2.30E-01 | | 3.26E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.56E+00 | 2.90E-01 | 2.90E-01 |
| | | 300.09 | * 3.41 | 1.30E+00 | | 2.28E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.37E+00 | 2.46E-01 | 2.46E-01 |
| | | 1120.29 | * 15.10 | 1.21E+00 | | 1.15E+00 |
| | | 1764.49 | * 15.80 | 1.49E+00 | | 6.20E-01 |
| | | 2204.22 | 4.98 | 2.01E+00 | | 2.52E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.38E+00 | 2.59E-01 | 4.45E-01 |
| | | 351.92 | * 37.19 | 1.42E+00 | | 2.59E-01 |
| + | RN-219 | 401.80 | 6.50 | 7.82E-04 | 1.15E+00 | 1.15E+00 |
| + | RA-223 | 323.87 | 3.88 | 1.66E-01 | 2.05E+00 | 2.05E+00 |
| + | RA-224 | 240.98 | * 3.95 | 5.37E+00 | 3.34E+00 | 3.34E+00 |
| + | RA-225 | 40.00 | 31.00 | -4.13E-01 | 1.54E+00 | 1.54E+00 |
| + | RA-226 | 186.21 | * 3.28 | 3.00E+00 | 2.89E+00 | 2.89E+00 |
| + | TH-227 | 50.10 | 8.40 | -8.91E-01 | 1.01E+00 | 1.01E+00 |
| | | 236.00 | 11.50 | 4.50E-02 | | 1.08E+00 |
| | | 256.20 | 6.30 | 3.64E-03 | | 1.11E+00 |
| + | AC-228 | 338.32 | * 11.40 | 1.02E+00 | 5.84E-01 | 1.11E+00 |
| | | 911.07 | * 27.70 | 1.25E+00 | | 5.84E-01 |

Analysis Report for 1510085-06
CP5007S06-07

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | AC-228 | 969.11 | * | 16.60 | 1.75E+00 | 5.84E-01 | 9.16E-01 |
| + | TH-230 | 48.44 | | 16.90 | 2.92E-01 | 5.70E-01 | 5.70E-01 |
| | | 62.85 | | 4.60 | 1.19E+00 | | 1.78E+00 |
| | | 67.67 | | 0.37 | -7.83E+00 | | 1.95E+01 |
| + | PA-231 | 283.67 | | 1.60 | 1.03E+00 | 3.38E+00 | 4.42E+00 |
| | | 302.67 | | 2.30 | 7.85E-02 | | 3.38E+00 |
| + | TH-231 | 25.64 | | 14.70 | 4.49E-01 | 9.64E-01 | 3.58E+00 |
| | | 84.21 | | 6.40 | -3.25E+00 | | 9.64E-01 |
| + | PA-233 | 311.98 | | 38.60 | -8.11E-02 | 3.97E-01 | 3.97E-01 |
| + | PA-234 | 131.20 | | 20.40 | 8.02E-02 | 2.91E-01 | 2.91E-01 |
| | | 733.99 | | 8.80 | 5.66E-02 | | 1.06E+00 |
| | | 946.00 | | 12.00 | -1.72E-01 | | 7.66E-01 |
| + | PA-234M | 1001.03 | * | 0.92 | 9.05E+00 | 1.44E+01 | 1.44E+01 |
| + | TH-234 | 63.29 | | 3.80 | 1.86E+00 | 2.16E+00 | 2.16E+00 |
| + | U-235 | 143.76 | | 10.50 | 2.58E-01 | 5.49E-01 | 5.49E-01 |
| | | 163.35 | | 4.70 | 1.18E-01 | | 1.26E+00 |
| | | 205.31 | | 4.70 | -1.56E-01 | | 1.57E+00 |
| + | NP-237 | 86.50 | | 12.60 | 5.13E-01 | 5.88E-01 | 5.88E-01 |
| + | NP-239 | 106.10 | | 22.70 | 7.09E+02 | 1.67E+03 | 1.67E+03 |
| | | 228.18 | | 10.70 | 1.02E+03 | | 4.72E+03 |
| | | 277.60 | | 14.10 | 2.11E+03 | | 3.44E+03 |
| + | AM-241 | 59.54 | | 35.90 | -1.73E-01 | 2.23E-01 | 2.23E-01 |
| + | AM-243 | 74.67 | | 66.00 | 4.61E-01 | 1.64E-01 | 1.64E-01 |
| + | CM-243 | 209.75 | | 3.29 | 1.32E+00 | 5.15E-01 | 2.45E+00 |
| | | 228.14 | | 10.60 | 1.53E-01 | | 7.07E-01 |
| | | 277.60 | | 14.00 | 3.16E-01 | | 5.15E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510085-06
CP5007S06-07

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 1.10E+00 | 1.10E+00 | -2.07E-01 | 5.20E-01 |
| NA-22 | 1274.54 | 99.94 | 1.27E-01 | 1.27E-01 | 2.38E-02 | 5.85E-02 |
| NA-24 | 1368.53 | 99.99 | 2.45E+13 | 1.19E+13 | -2.98E+12 | 1.09E+13 |
| | 2754.09 | 99.86 | 1.19E+13 | | -8.10E+12 | 3.77E+12 |
| AL-26 | 1808.65 | 99.76 | 6.62E-02 | 6.62E-02 | -2.19E-02 | 2.68E-02 |
| + K-40 | 1460.81 | * 10.67 | 2.18E+00 | 2.18E+00 | 2.01E+01 | 1.04E+00 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 7.65E-02 | 7.65E-02 | -3.07E-02 | 3.74E-02 |
| | 78.34 | 96.00 | 1.03E-01 | | 3.56E-01 | 5.09E-02 |
| SC-46 | 889.25 | 99.98 | 1.07E-01 | 1.07E-01 | -7.42E-02 | 4.88E-02 |
| | 1120.51 | 99.99 | 2.09E-01 | | 2.27E-01 | 9.90E-02 |
| V-48 | 983.52 | 99.98 | 3.64E-01 | 3.64E-01 | 9.83E-02 | 1.68E-01 |
| | 1312.10 | 97.50 | 3.78E-01 | | -8.88E-03 | 1.70E-01 |
| CR-51 | 320.08 | 9.83 | 1.55E+00 | 1.55E+00 | -5.98E-01 | 7.41E-01 |
| MN-54 | 834.83 | 99.97 | 9.75E-02 | 9.75E-02 | -2.90E-03 | 4.51E-02 |
| CO-56 | 846.75 | 99.96 | 1.19E-01 | 1.19E-01 | 6.63E-03 | 5.51E-02 |
| | 1037.75 | 14.03 | 8.26E-01 | | -3.94E-01 | 3.75E-01 |
| | 1238.25 | 67.00 | 2.85E-01 | | 4.05E-02 | 1.33E-01 |
| | 1771.40 | 15.51 | 7.03E-01 | | -3.87E-02 | 2.99E-01 |
| | 2598.48 | 16.90 | 3.32E-01 | | -1.80E-01 | 1.05E-01 |
| CO-57 | 122.06 | 85.51 | 6.44E-02 | 6.44E-02 | -1.58E-02 | 3.12E-02 |
| | 136.48 | 10.60 | 5.85E-01 | | 2.76E-01 | 2.84E-01 |
| CO-58 | 810.76 | 99.40 | 1.13E-01 | 1.13E-01 | -5.97E-02 | 5.22E-02 |
| FE-59 | 1099.22 | 56.50 | 2.91E-01 | 2.91E-01 | -7.41E-02 | 1.33E-01 |
| | 1291.56 | 43.20 | 4.09E-01 | | -9.13E-02 | 1.86E-01 |
| CO-60 | 1173.22 | 100.00 | 1.18E-01 | 1.18E-01 | -2.16E-02 | 5.46E-02 |
| | 1332.49 | 100.00 | 1.23E-01 | | -2.90E-02 | 5.66E-02 |
| ZN-65 | 1115.52 | 50.75 | 2.52E-01 | 2.52E-01 | 1.90E-02 | 1.17E-01 |
| + GA-67 | 93.31 | * 35.70 | 2.45E+02 | 2.45E+02 | 2.10E+02 | 1.21E+02 |
| | 208.95 | * 2.24 | 2.49E+03 | | 1.62E+03 | 1.22E+03 |
| | 300.22 | * 16.00 | 2.83E+02 | | 1.62E+02 | 1.36E+02 |
| SE-75 | 121.11 | 16.70 | 3.66E-01 | 1.16E-01 | -6.10E-02 | 1.78E-01 |
| | 136.00 | 59.20 | 1.16E-01 | | 6.76E-02 | 5.66E-02 |
| | 264.65 | 59.80 | 1.40E-01 | | -7.50E-03 | 6.75E-02 |
| | 279.53 | 25.20 | 3.40E-01 | | 1.86E-01 | 1.64E-01 |
| | 400.65 | 11.40 | 7.87E-01 | | -8.49E-02 | 3.75E-01 |
| RB-82 | 776.52 | 13.00 | 1.69E+00 | 1.69E+00 | 1.02E-01 | 7.92E-01 |
| RB-83 | 520.41 | 46.00 | 2.52E-01 | 2.52E-01 | 1.77E-01 | 1.20E-01 |
| | 529.64 | 30.30 | 3.33E-01 | | -4.02E-02 | 1.57E-01 |
| | 552.65 | 16.40 | 5.75E-01 | | 2.07E-01 | 2.69E-01 |
| KR-85 | 513.99 | 0.43 | 2.44E+01 | 2.44E+01 | 7.64E-01 | 1.17E+01 |
| SR-85 | 513.99 | 99.27 | 1.46E-01 | 1.46E-01 | 4.58E-03 | 6.99E-02 |
| Y-88 | 898.02 | 93.40 | 1.22E-01 | 1.20E-01 | -6.70E-02 | 5.61E-02 |
| | 1836.01 | 99.38 | 1.20E-01 | | 3.47E-02 | 5.21E-02 |
| NB-93M | 16.57 | 9.43 | 8.46E+01 | 8.46E+01 | 3.24E+01 | 4.12E+01 |
| NB-94 | 702.63 | 100.00 | 9.94E-02 | 9.62E-02 | 3.75E-02 | 4.67E-02 |
| | 871.10 | 100.00 | 9.62E-02 | | 4.17E-02 | 4.46E-02 |
| NB-95 | 765.79 | 99.81 | 2.01E-01 | 2.01E-01 | 9.73E-02 | 9.49E-02 |
| NB-95M | 235.69 | 25.00 | 1.56E+02 | 1.56E+02 | 6.52E+00 | 7.68E+01 |
| ZR-95 | 724.18 | 43.70 | 3.35E-01 | 2.22E-01 | -4.58E-03 | 1.58E-01 |
| | 756.72 | 55.30 | 2.22E-01 | | -2.02E-02 | 1.03E-01 |

Analysis Report for 1510085-06
CP5007S06-07

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|----------|
| MO-99 | 181.06 | 6.20 | 1.78E+03 | 1.34E+03 | -2.00E+02 | 8.63E+02 | |
| | 739.58 | 12.80 | 1.34E+03 | | -5.10E+02 | 6.25E+02 | |
| | 778.00 | 4.50 | 4.13E+03 | | 1.05E+03 | 1.93E+03 | |
| RU-103 | 497.08 | 89.00 | 1.44E-01 | 1.44E-01 | -6.66E-02 | 6.81E-02 | |
| RU-106 | 621.84 | 9.80 | 9.32E-01 | 9.32E-01 | 2.84E-01 | 4.38E-01 | |
| AG-108M | 433.93 | 89.90 | 8.96E-02 | 8.96E-02 | 2.08E-02 | 4.27E-02 | |
| | 614.37 | 90.40 | 9.73E-02 | | -1.41E-03 | 4.58E-02 | |
| | 722.95 | 90.50 | 1.08E-01 | | 1.05E-02 | 5.04E-02 | |
| CD-109 | 88.03 | 3.72 | 2.11E+00 | 2.11E+00 | 2.14E+00 | 1.03E+00 | |
| AG-110M | 657.75 | 93.14 | 9.94E-02 | 9.94E-02 | -1.66E-02 | 4.65E-02 | |
| | 677.61 | 10.53 | 8.13E-01 | | -3.97E-01 | 3.77E-01 | |
| | 706.67 | 16.46 | 6.26E-01 | | -1.73E-01 | 2.93E-01 | |
| | 763.93 | 21.98 | 4.98E-01 | | -2.26E-01 | 2.34E-01 | |
| | 884.67 | 71.63 | 1.41E-01 | | -5.81E-03 | 6.53E-02 | |
| | 1384.27 | 23.94 | 5.19E-01 | | -3.48E-02 | 2.36E-01 | |
| CD-113M | 263.70 | 0.02 | 3.05E+02 | 3.05E+02 | 1.93E+00 | 1.47E+02 | |
| SN-113 | 255.12 | 1.93 | 4.39E+00 | 1.38E-01 | 2.32E-01 | 2.12E+00 | |
| TE123M | 391.69 | 64.90 | 1.38E-01 | 8.43E-02 | -7.90E-02 | 6.60E-02 | |
| | 159.00 | 84.10 | 8.43E-02 | | -1.02E-02 | 4.09E-02 | |
| | 602.71 | 97.87 | 1.27E-01 | | 1.27E-01 | 1.82E-03 | 5.97E-02 |
| | 645.85 | 7.26 | 1.76E+00 | | 5.43E-01 | 8.25E-01 | |
| SB-124 | 722.78 | 11.10 | 1.24E+00 | 1.27E-01 | 1.21E-01 | 5.80E-01 | |
| | 1691.02 | 49.00 | 2.33E-01 | | 6.43E-02 | 9.92E-02 | |
| | 35.49 | 6.49 | 3.41E+00 | | 3.41E+00 | 2.73E-01 | 1.66E+00 |
| | 176.33 | 6.89 | 8.77E-01 | | 2.63E-01 | 2.06E-01 | 4.24E-01 |
| | 427.89 | 29.33 | 2.63E-01 | | -8.75E-03 | 1.25E-01 | |
| | 463.38 | 10.35 | 9.45E-01 | | 1.03E+00 | 4.52E-01 | |
| I-125 | 600.56 | 17.80 | 4.75E-01 | 4.49E-01 | -1.62E-01 | 2.23E-01 | |
| | 635.90 | 11.32 | 7.61E-01 | | 7.50E-02 | 3.56E-01 | |
| | 414.70 | 83.30 | 4.98E-01 | | 1.29E-01 | 2.37E-01 | |
| | 666.33 | 99.60 | 4.86E-01 | | -4.95E-02 | 2.28E-01 | |
| | 695.00 | 99.60 | 4.49E-01 | | -1.78E-01 | 2.09E-01 | |
| | 720.50 | 53.80 | 8.58E-01 | | -2.42E-01 | 3.99E-01 | |
| SN-126 | 87.57 | 37.00 | 2.03E-01 | 2.03E-01 | 2.06E-01 | 9.95E-02 | |
| SB-127 | 473.00 | 25.00 | 6.62E+01 | 5.55E+01 | -1.81E+01 | 3.13E+01 | |
| | 685.20 | 35.70 | 5.55E+01 | | -9.42E+00 | 2.60E+01 | |
| | 783.80 | 14.70 | 1.37E+02 | | -5.65E+00 | 6.37E+01 | |
| I-129 | 29.78 | 57.00 | 4.84E-01 | 4.84E-01 | -8.43E-02 | 2.35E-01 | |
| | 33.60 | 13.20 | 1.41E+00 | | 1.70E-01 | 6.86E-01 | |
| | 39.58 | 7.52 | 1.60E+00 | | -4.28E-01 | 7.77E-01 | |
| I-131 | 284.30 | 6.05 | 1.55E+01 | 1.13E+00 | 3.60E+00 | 7.45E+00 | |
| | 364.48 | 81.20 | 1.13E+00 | | -5.51E-01 | 5.40E-01 | |
| | 636.97 | 7.26 | 1.54E+01 | | -1.82E+00 | 7.21E+00 | |
| | 722.89 | 1.80 | 7.15E+01 | | 7.02E+00 | 3.35E+01 | |
| + TE-132 | 49.72 | 13.10 | 3.84E+02 | 5.33E+01 | -3.38E+02 | 1.87E+02 | |
| | 228.16 | * 88.00 | 5.33E+01 | | 3.48E+01 | 2.59E+01 | |
| BA-133 | 81.00 | 33.00 | 1.98E-01 | 1.58E-01 | -1.23E+00 | 9.66E-02 | |
| | 302.84 | 17.80 | 4.40E-01 | | 1.02E-02 | 2.12E-01 | |
| | 356.01 | 60.00 | 1.58E-01 | | -2.25E-02 | 7.63E-02 | |
| I-133 | 529.87 | 86.30 | 2.34E+09 | 2.34E+09 | -2.83E+08 | 1.10E+09 | |
| XE-133 | 81.00 | 38.00 | 8.96E+00 | 8.96E+00 | -5.57E+01 | 4.38E+00 | |
| CS-134 | 563.23 | 8.38 | 1.05E+00 | 1.05E-01 | 4.49E-02 | 4.94E-01 | |
| | 569.32 | 15.43 | 5.36E-01 | | -2.77E-01 | 2.52E-01 | |

Analysis Report for 1510085-06
CP5007S06-07

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| CS-134 | 604.70 | 97.60 | 1.05E-01 | 1.05E-01 | -1.84E-03 | 5.00E-02 |
| | 795.84 | 85.40 | 1.29E-01 | | 2.79E-02 | 6.04E-02 |
| | 801.93 | 8.73 | 1.09E+00 | | -3.43E-02 | 5.07E-01 |
| CS-135 | 268.24 | 16.00 | 5.25E-01 | 5.25E-01 | 1.19E-02 | 2.55E-01 |
| | 1131.51 | 22.50 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.85E+00 | 4.36E-01 | 1.85E-01 | 1.87E+00 |
| | 163.89 | 4.61 | 6.22E+00 | | 5.85E-01 | 3.02E+00 |
| | 176.55 | 13.56 | 2.03E+00 | | -1.09E+00 | 9.80E-01 |
| LA-138 | 273.65 | 12.66 | 2.95E+00 | 1.12E-01 | -5.60E-01 | 1.43E+00 |
| | 340.57 | 48.50 | 1.02E+00 | | 2.13E+00 | 4.93E-01 |
| | 818.50 | 99.70 | 4.36E-01 | | -1.32E-01 | 2.02E-01 |
| CE-139 | 1048.07 | 79.60 | 5.54E-01 | 1.27E-01 | -2.14E-01 | 2.52E-01 |
| | 1235.34 | 19.70 | 3.60E+00 | | 1.88E-02 | 1.69E+00 |
| | 661.65 | 85.12 | 1.12E-01 | | 3.17E-02 | 5.25E-02 |
| BA-140 | 788.74 | 34.00 | 2.48E-01 | 8.50E-02 | 4.43E-02 | 1.15E-01 |
| | 1435.80 | 66.00 | 1.27E-01 | | 4.91E-02 | 5.56E-02 |
| | 165.85 | 80.35 | 8.50E-02 | | 2.32E-02 | 4.12E-02 |
| LA-140 | 162.64 | 6.70 | 4.52E+00 | 5.34E-01 | 9.89E-01 | 2.19E+00 |
| | 304.84 | 4.50 | 8.02E+00 | | 8.31E-01 | 3.85E+00 |
| | 423.70 | 3.20 | 1.20E+01 | | 3.42E+00 | 5.70E+00 |
| CE-141 | 437.55 | 2.00 | 2.14E+01 | 2.24E-01 | 2.00E+01 | 1.02E+01 |
| | 537.32 | 25.00 | 1.64E+00 | | 2.64E-02 | 7.72E-01 |
| | 328.77 | 20.50 | 2.00E+00 | | -3.79E-01 | 9.60E-01 |
| CE-143 | 487.03 | 45.50 | 8.76E-01 | 9.05E+05 | 2.31E-02 | 4.14E-01 |
| | 815.85 | 23.50 | 1.88E+00 | | 3.50E-01 | 8.66E-01 |
| | 1596.49 | 95.49 | 5.34E-01 | | -2.19E-01 | 2.36E-01 |
| PM-144 | 145.44 | 48.40 | 2.24E-01 | 5.80E-01 | -4.93E-02 | 1.09E-01 |
| | 57.36 | 11.80 | 2.39E+06 | | 7.64E+05 | 1.17E+06 |
| | 293.26 | 42.00 | 9.05E+05 | | 2.06E+06 | 4.41E+05 |
| PM-145 | 664.55 | 5.20 | 6.73E+06 | 8.84E-02 | 3.37E+06 | 3.17E+06 |
| | 133.54 | 10.80 | 5.80E-01 | | 5.62E-02 | 2.82E-01 |
| | 476.78 | 42.00 | 1.98E-01 | | 5.74E-03 | 9.38E-02 |
| PM-146 | 618.01 | 98.60 | 8.84E-02 | 3.46E-01 | 2.93E-02 | 4.14E-02 |
| | 696.49 | 99.49 | 9.00E-02 | | -2.99E-02 | 4.19E-02 |
| | 36.85 | 21.70 | 6.56E-01 | | 1.11E-01 | 3.19E-01 |
| ND-147 | 37.36 | 39.70 | 3.46E-01 | 2.03E-01 | -7.25E-02 | 1.68E-01 |
| | 42.30 | 15.10 | 7.25E-01 | | -3.27E-01 | 3.53E-01 |
| | 72.40 | 2.31 | 3.86E+00 | | -7.27E+00 | 1.90E+00 |
| EU-152 | 453.90 | 39.94 | 2.03E-01 | 1.72E+00 | 1.19E-01 | 9.62E-02 |
| | 735.90 | 14.01 | 6.25E-01 | | -2.20E-02 | 2.91E-01 |
| | 747.13 | 13.10 | 6.78E-01 | | -1.56E-01 | 3.15E-01 |
| PM-149 | 91.11 | 28.90 | 1.72E+00 | 2.77E+04 | -1.11E+00 | 8.45E-01 |
| | 531.02 | 13.10 | 4.11E+00 | | -4.97E-01 | 1.94E+00 |
| | 285.90 | 3.10 | 2.77E+04 | | 1.20E+04 | 1.33E+04 |
| EU-152 | 121.78 | 20.50 | 2.50E-01 | 2.50E-01 | -6.14E-02 | 1.21E-01 |
| | 244.69 | 5.40 | 1.51E+00 | | -1.41E+00 | 7.34E-01 |
| | 344.27 | 19.13 | 3.99E-01 | | -4.43E-03 | 1.91E-01 |
| | 778.89 | 9.20 | 1.05E+00 | | -1.30E-01 | 4.92E-01 |
| | 964.01 | 10.40 | 1.10E+00 | | -2.37E-01 | 5.11E-01 |
| EU-152 | 1085.78 | 7.22 | 1.47E+00 | 1.73E-01 | 1.73E-01 | 6.75E-01 |
| | 1112.02 | 9.60 | 1.14E+00 | | -6.42E-01 | 5.23E-01 |

Analysis Report for 1510085-06

CP5007S06-07

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| EU-152 | 1407.95 | 14.94 | 7.24E-01 | 2.50E-01 | 0.00E+00 | 3.27E-01 |
| GD-153 | 97.43 | 31.30 | 1.92E-01 | 1.92E-01 | -2.80E-01 | 9.35E-02 |
| | 103.18 | 22.20 | 2.68E-01 | | -2.17E-02 | 1.30E-01 |
| EU-154 | 123.07 | 40.50 | 1.31E-01 | 1.31E-01 | 3.34E-02 | 6.37E-02 |
| | 723.30 | 19.70 | 4.97E-01 | | 4.88E-02 | 2.33E-01 |
| | 873.19 | 11.50 | 8.37E-01 | | 4.27E-02 | 3.87E-01 |
| | 996.32 | 10.30 | 9.69E-01 | | 1.51E-01 | 4.46E-01 |
| | 1004.76 | 17.90 | 5.56E-01 | | -1.46E-01 | 2.56E-01 |
| | 1274.45 | 35.50 | 3.52E-01 | | 6.61E-02 | 1.62E-01 |
| EU-155 | 86.50 | 30.90 | 2.42E-01 | 2.42E-01 | 2.11E-01 | 1.19E-01 |
| | 105.30 | 20.70 | 2.71E-01 | | 8.67E-02 | 1.32E-01 |
| EU-156 | 811.77 | 10.40 | 3.11E+00 | 3.11E+00 | -1.70E+00 | 1.43E+00 |
| | 1153.47 | 7.20 | 6.92E+00 | | -2.25E-01 | 3.22E+00 |
| | 1230.71 | 8.90 | 5.77E+00 | | -8.18E-01 | 2.67E+00 |
| HO-166M | 184.41 | 72.60 | 1.03E-01 | 1.03E-01 | 1.68E-01 | 5.00E-02 |
| | 280.45 | 29.60 | 2.37E-01 | | -6.10E-02 | 1.14E-01 |
| | 410.94 | 11.10 | 7.47E-01 | | 3.09E-01 | 3.57E-01 |
| | 711.69 | 54.10 | 1.74E-01 | | 1.71E-02 | 8.16E-02 |
| TM-171 | 66.72 | 0.14 | 5.32E+01 | 5.32E+01 | -5.98E+01 | 2.60E+01 |
| HF-172 | 81.75 | 4.52 | 1.47E+00 | 4.91E-01 | -4.27E+00 | 7.16E-01 |
| | 125.81 | 11.30 | 4.91E-01 | | -2.68E-01 | 2.38E-01 |
| LU-172 | 181.53 | 20.60 | 6.42E+00 | 3.81E+00 | 1.05E+00 | 3.11E+00 |
| | 810.06 | 16.63 | 1.20E+01 | | 3.20E+00 | 5.54E+00 |
| | 912.12 | 15.25 | 2.64E+01 | | 6.12E+01 | 1.27E+01 |
| | 1093.66 | 62.50 | 3.81E+00 | | 4.49E-01 | 1.75E+00 |
| LU-173 | 100.72 | 5.24 | 1.12E+00 | 4.11E-01 | 4.33E-01 | 5.45E-01 |
| | 272.11 | 21.20 | 4.11E-01 | | -1.78E-02 | 1.99E-01 |
| HF-175 | 343.40 | 84.00 | 1.26E-01 | 1.26E-01 | 1.25E-03 | 6.03E-02 |
| LU-176 | 88.34 | 13.30 | 5.84E-01 | 7.49E-02 | 3.15E-01 | 2.86E-01 |
| | 201.83 | 86.00 | 8.40E-02 | | 2.21E-02 | 4.08E-02 |
| | 306.78 | 94.00 | 7.49E-02 | | 1.78E-02 | 3.59E-02 |
| TA-182 | 67.75 | 41.20 | 2.10E-01 | 2.10E-01 | -8.43E-02 | 1.03E-01 |
| | 1121.30 | 34.90 | 5.56E-01 | | 5.84E-01 | 2.63E-01 |
| | 1189.05 | 16.23 | 9.31E-01 | | -1.38E-01 | 4.32E-01 |
| | 1221.41 | 26.98 | 4.83E-01 | | -1.95E-01 | 2.21E-01 |
| | 1231.02 | 11.44 | 1.43E+00 | | 2.82E-01 | 6.64E-01 |
| IR-192 | 308.46 | 29.68 | 3.16E-01 | 2.16E-01 | 1.08E-02 | 1.51E-01 |
| | 468.07 | 48.10 | 2.16E-01 | | -7.12E-03 | 1.02E-01 |
| HG-203 | 279.19 | 77.30 | 1.45E-01 | 1.45E-01 | 6.28E-02 | 6.98E-02 |
| BI-207 | 569.67 | 97.72 | 8.62E-02 | 8.62E-02 | 3.30E-02 | 4.06E-02 |
| | 1063.62 | 74.90 | 1.36E-01 | | 4.67E-02 | 6.23E-02 |
| + TL-208 | 583.14 | * 30.22 | 3.40E-01 | 2.03E-01 | 1.47E+00 | 1.62E-01 |
| | 860.37 | 4.48 | 2.28E+00 | | 1.63E+00 | 1.06E+00 |
| | 2614.66 | * 35.85 | 2.03E-01 | | 9.10E-01 | 7.94E-02 |
| BI-210M | 262.00 | 45.00 | 1.55E-01 | 1.55E-01 | -1.34E-02 | 7.45E-02 |
| | 300.00 | 23.00 | 3.63E-01 | | -1.12E+00 | 1.75E-01 |
| PB-210 | 46.50 | 4.25 | 2.45E+00 | 2.45E+00 | 2.79E+00 | 1.20E+00 |
| PB-211 | 404.84 | 2.90 | 2.66E+00 | 2.66E+00 | 5.62E-01 | 1.27E+00 |
| | 831.96 | 2.90 | 3.08E+00 | | 6.14E-01 | 1.42E+00 |
| + BI-212 | 727.17 | * 11.80 | 1.37E+00 | 1.37E+00 | 1.01E+00 | 6.58E-01 |
| | 1620.62 | 2.75 | 3.26E+00 | | -2.30E-01 | 1.42E+00 |
| + PB-212 | 238.63 | * 44.60 | 2.90E-01 | 2.90E-01 | 1.56E+00 | 1.42E-01 |
| | 300.09 | * 3.41 | 2.28E+00 | | 1.30E+00 | 1.10E+00 |

Analysis Report for 1510085-06
CP5007S06-07

| | Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---|---------------------|---------------------|--|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| + | BI-214 | 609.31 * | | 46.30 | 2.46E-01 | 2.46E-01 | 1.37E+00 | 1.17E-01 |
| | | 1120.29 * | | 15.10 | 1.15E+00 | | 1.21E+00 | 5.45E-01 |
| | | 1764.49 * | | 15.80 | 6.20E-01 | | 1.49E+00 | 2.71E-01 |
| | | 2204.22 | | 4.98 | 2.52E+00 | | 2.01E+00 | 1.12E+00 |
| + | PB-214 | 295.21 * | | 19.19 | 4.45E-01 | 2.59E-01 | 1.38E+00 | 2.15E-01 |
| | | 351.92 * | | 37.19 | 2.59E-01 | | 1.42E+00 | 1.25E-01 |
| | RN-219 | 401.80 | | 6.50 | 1.15E+00 | 1.15E+00 | 7.82E-04 | 5.46E-01 |
| | RA-223 | 323.87 | | 3.88 | 2.05E+00 | 2.05E+00 | 1.66E-01 | 9.86E-01 |
| + | RA-224 | 240.98 * | | 3.95 | 3.34E+00 | 3.34E+00 | 5.37E+00 | 1.64E+00 |
| | RA-225 | 40.00 | | 31.00 | 1.54E+00 | 1.54E+00 | -4.13E-01 | 7.49E-01 |
| + | RA-226 | 186.21 * | | 3.28 | 2.89E+00 | 2.89E+00 | 3.00E+00 | 1.42E+00 |
| | TH-227 | 50.10 | | 8.40 | 1.01E+00 | 1.01E+00 | -8.91E-01 | 4.93E-01 |
| | | 236.00 | | 11.50 | 1.08E+00 | | 4.50E-02 | 5.30E-01 |
| | | 256.20 | | 6.30 | 1.11E+00 | | 3.64E-03 | 5.37E-01 |
| + | AC-228 | 338.32 * | | 11.40 | 1.11E+00 | 5.84E-01 | 1.02E+00 | 5.42E-01 |
| | | 911.07 * | | 27.70 | 5.84E-01 | | 1.25E+00 | 2.79E-01 |
| | | 969.11 * | | 16.60 | 9.16E-01 | | 1.75E+00 | 4.35E-01 |
| | TH-230 | 48.44 | | 16.90 | 5.70E-01 | 5.70E-01 | 2.92E-01 | 2.78E-01 |
| | | 62.85 | | 4.60 | 1.78E+00 | | 1.19E+00 | 8.73E-01 |
| | | 67.67 | | 0.37 | 1.95E+01 | | -7.83E+00 | 9.55E+00 |
| | PA-231 | 283.67 | | 1.60 | 4.42E+00 | 3.38E+00 | 1.03E+00 | 2.13E+00 |
| | | 302.67 | | 2.30 | 3.38E+00 | | 7.85E-02 | 1.63E+00 |
| | TH-231 | 25.64 | | 14.70 | 3.58E+00 | 9.64E-01 | 4.49E-01 | 1.74E+00 |
| | | 84.21 | | 6.40 | 9.64E-01 | | -3.25E+00 | 4.70E-01 |
| | PA-233 | 311.98 | | 38.60 | 3.97E-01 | 3.97E-01 | -8.11E-02 | 1.90E-01 |
| | PA-234 | 131.20 | | 20.40 | 2.91E-01 | 2.91E-01 | 8.02E-02 | 1.42E-01 |
| | | 733.99 | | 8.80 | 1.06E+00 | | 5.66E-02 | 4.94E-01 |
| | | 946.00 | | 12.00 | 7.66E-01 | | -1.72E-01 | 3.52E-01 |
| + | PA-234M | 1001.03 * | | 0.92 | 1.44E+01 | 1.44E+01 | 9.05E+00 | 6.76E+00 |
| | TH-234 | 63.29 | | 3.80 | 2.16E+00 | 2.16E+00 | 1.86E+00 | 1.06E+00 |
| | U-235 | 143.76 | | 10.50 | 5.49E-01 | 5.49E-01 | 2.58E-01 | 2.67E-01 |
| | | 163.35 | | 4.70 | 1.26E+00 | | 1.18E-01 | 6.09E-01 |
| | | 205.31 | | 4.70 | 1.57E+00 | | -1.56E-01 | 7.63E-01 |
| | NP-237 | 86.50 | | 12.60 | 5.88E-01 | 5.88E-01 | 5.13E-01 | 2.88E-01 |
| | NP-239 | 106.10 | | 22.70 | 1.67E+03 | 1.67E+03 | 7.09E+02 | 8.12E+02 |
| | | 228.18 | | 10.70 | 4.72E+03 | | 1.02E+03 | 2.29E+03 |
| | | 277.60 | | 14.10 | 3.44E+03 | | 2.11E+03 | 1.66E+03 |
| | AM-241 | 59.54 | | 35.90 | 2.23E-01 | 2.23E-01 | -1.73E-01 | 1.09E-01 |
| | AM-243 | 74.67 | | 66.00 | 1.64E-01 | 1.64E-01 | 4.61E-01 | 8.08E-02 |
| | CM-243 | 209.75 | | 3.29 | 2.45E+00 | 5.15E-01 | 1.32E+00 | 1.19E+00 |
| | | 228.14 | | 10.60 | 7.07E-01 | | 1.53E-01 | 3.43E-01 |
| | | 277.60 | | 14.00 | 5.15E-01 | | 3.16E-01 | 2.48E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

Analysis Report for 1510085-06
CP5007S06-07

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5007S06-07

Elapsed Live time: 3600
 Elapsed Real Time: 3616

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 17 | 172 | 165 | 127 | 141 | 97 | 96 | 117 |
| 17: | 97 | 84 | 70 | 78 | 93 | 88 | 97 | 94 |
| 25: | 86 | 97 | 90 | 82 | 81 | 78 | 96 | 87 |
| 33: | 87 | 79 | 83 | 100 | 77 | 86 | 81 | 84 |
| 41: | 94 | 90 | 103 | 97 | 96 | 120 | 194 | 108 |
| 49: | 102 | 97 | 106 | 107 | 123 | 126 | 109 | 90 |
| 57: | 103 | 133 | 145 | 134 | 139 | 137 | 193 | 200 |
| 65: | 126 | 146 | 136 | 140 | 120 | 136 | 158 | 142 |
| 73: | 180 | 179 | 451 | 324 | 561 | 471 | 153 | 144 |
| 81: | 131 | 96 | 102 | 143 | 140 | 91 | 218 | 239 |
| 89: | 148 | 166 | 153 | 139 | 259 | 198 | 124 | 85 |
| 97: | 81 | 80 | 108 | 103 | 89 | 94 | 77 | 83 |
| 105: | 96 | 107 | 86 | 87 | 82 | 81 | 77 | 73 |
| 113: | 67 | 73 | 79 | 86 | 78 | 67 | 80 | 55 |
| 121: | 82 | 67 | 71 | 72 | 78 | 70 | 71 | 87 |
| 129: | 99 | 96 | 85 | 78 | 88 | 80 | 93 | 83 |
| 137: | 81 | 73 | 71 | 55 | 72 | 74 | 76 | 99 |
| 145: | 66 | 68 | 76 | 65 | 66 | 81 | 79 | 74 |
| 153: | 82 | 60 | 83 | 83 | 68 | 79 | 73 | 71 |
| 161: | 74 | 60 | 80 | 68 | 74 | 65 | 63 | 66 |
| 169: | 56 | 59 | 55 | 49 | 58 | 73 | 58 | 58 |
| 177: | 63 | 63 | 46 | 79 | 55 | 54 | 60 | 59 |
| 185: | 77 | 167 | 113 | 76 | 59 | 66 | 68 | 60 |
| 193: | 59 | 51 | 64 | 54 | 54 | 36 | 50 | 65 |
| 201: | 53 | 59 | 55 | 54 | 56 | 57 | 59 | 59 |
| 209: | 92 | 85 | 64 | 49 | 53 | 54 | 64 | 54 |
| 217: | 47 | 43 | 46 | 37 | 49 | 45 | 53 | 58 |
| 225: | 43 | 64 | 58 | 58 | 49 | 38 | 39 | 30 |
| 233: | 53 | 43 | 50 | 46 | 43 | 187 | 515 | 206 |
| 241: | 95 | 126 | 92 | 40 | 35 | 26 | 28 | 24 |
| 249: | 28 | 44 | 33 | 34 | 30 | 25 | 55 | 45 |
| 257: | 42 | 29 | 27 | 43 | 33 | 36 | 34 | 34 |
| 265: | 33 | 37 | 33 | 35 | 43 | 77 | 83 | 38 |
| 273: | 27 | 34 | 28 | 21 | 45 | 54 | 22 | 31 |
| 281: | 32 | 25 | 23 | 30 | 28 | 40 | 39 | 28 |
| 289: | 33 | 25 | 27 | 40 | 38 | 40 | 129 | 165 |
| 297: | 35 | 38 | 45 | 58 | 42 | 25 | 35 | 19 |
| 305: | 30 | 28 | 28 | 29 | 24 | 30 | 20 | 29 |
| 313: | 31 | 25 | 27 | 33 | 24 | 25 | 18 | 25 |
| 321: | 32 | 29 | 29 | 30 | 32 | 35 | 33 | 51 |
| 329: | 29 | 27 | 21 | 25 | 36 | 25 | 26 | 26 |
| 337: | 23 | 78 | 106 | 34 | 28 | 29 | 31 | 30 |
| 345: | 16 | 25 | 21 | 20 | 19 | 19 | 76 | 271 |
| 353: | 158 | 22 | 17 | 16 | 19 | 20 | 14 | 31 |
| 361: | 16 | 19 | 7 | 21 | 25 | 22 | 23 | 18 |

369: 23 23 18 18 21 23 23 21

Sample Title: CP5007S06-07

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 14 | 21 | 15 | 24 | 23 | 16 | 21 | 19 |
| 385: | 26 | 27 | 28 | 24 | 24 | 17 | 19 | 22 |
| 393: | 15 | 24 | 18 | 25 | 22 | 22 | 11 | 19 |
| 401: | 20 | 20 | 28 | 15 | 18 | 17 | 15 | 26 |
| 409: | 27 | 30 | 20 | 21 | 18 | 15 | 24 | 17 |
| 417: | 21 | 19 | 10 | 18 | 17 | 15 | 11 | 22 |
| 425: | 19 | 20 | 19 | 13 | 20 | 14 | 15 | 21 |
| 433: | 15 | 16 | 22 | 26 | 19 | 16 | 19 | 23 |
| 441: | 20 | 10 | 12 | 11 | 11 | 13 | 16 | 15 |
| 449: | 10 | 13 | 14 | 17 | 10 | 25 | 24 | 17 |
| 457: | 15 | 14 | 14 | 15 | 17 | 26 | 49 | 26 |
| 465: | 23 | 15 | 15 | 15 | 16 | 14 | 12 | 11 |
| 473: | 18 | 15 | 14 | 15 | 23 | 10 | 15 | 15 |
| 481: | 12 | 19 | 13 | 19 | 12 | 17 | 14 | 11 |
| 489: | 16 | 14 | 14 | 13 | 15 | 11 | 17 | 6 |
| 497: | 19 | 13 | 14 | 12 | 16 | 20 | 7 | 11 |
| 505: | 17 | 10 | 20 | 19 | 11 | 40 | 64 | 35 |
| 513: | 21 | 5 | 15 | 17 | 15 | 16 | 16 | 20 |
| 521: | 16 | 16 | 25 | 9 | 9 | 14 | 14 | 11 |
| 529: | 9 | 11 | 13 | 17 | 15 | 18 | 13 | 16 |
| 537: | 12 | 11 | 10 | 11 | 13 | 9 | 12 | 10 |
| 545: | 13 | 12 | 11 | 6 | 8 | 9 | 13 | 5 |
| 553: | 9 | 17 | 10 | 9 | 8 | 10 | 18 | 14 |
| 561: | 11 | 16 | 10 | 20 | 12 | 11 | 8 | 17 |
| 569: | 13 | 8 | 11 | 13 | 19 | 9 | 9 | 15 |
| 577: | 10 | 12 | 9 | 14 | 6 | 34 | 125 | 97 |
| 585: | 24 | 5 | 7 | 18 | 13 | 10 | 16 | 8 |
| 593: | 11 | 12 | 16 | 12 | 13 | 5 | 13 | 9 |
| 601: | 13 | 12 | 13 | 13 | 9 | 19 | 14 | 35 |
| 609: | 149 | 137 | 30 | 14 | 9 | 4 | 10 | 9 |
| 617: | 9 | 10 | 12 | 12 | 11 | 7 | 13 | 15 |
| 625: | 10 | 10 | 9 | 10 | 5 | 7 | 7 | 11 |
| 633: | 9 | 9 | 11 | 12 | 9 | 13 | 10 | 9 |
| 641: | 12 | 12 | 14 | 10 | 11 | 10 | 11 | 13 |
| 649: | 13 | 10 | 6 | 9 | 8 | 12 | 10 | 5 |
| 657: | 8 | 8 | 10 | 12 | 17 | 12 | 12 | 11 |
| 665: | 13 | 16 | 9 | 7 | 10 | 7 | 13 | 17 |
| 673: | 13 | 11 | 7 | 8 | 11 | 5 | 6 | 8 |
| 681: | 11 | 9 | 10 | 12 | 9 | 11 | 12 | 10 |
| 689: | 12 | 14 | 14 | 5 | 11 | 10 | 9 | 9 |
| 697: | 8 | 9 | 6 | 11 | 12 | 11 | 18 | 12 |
| 705: | 14 | 8 | 15 | 8 | 8 | 12 | 12 | 11 |
| 713: | 7 | 14 | 11 | 10 | 8 | 5 | 7 | 12 |
| 721: | 13 | 7 | 9 | 12 | 10 | 15 | 27 | 23 |
| 729: | 14 | 13 | 12 | 12 | 5 | 14 | 7 | 9 |
| 737: | 10 | 8 | 6 | 9 | 6 | 16 | 11 | 13 |
| 745: | 9 | 8 | 11 | 5 | 5 | 8 | 9 | 6 |
| 753: | 9 | 5 | 10 | 10 | 12 | 6 | 9 | 7 |
| 761: | 12 | 8 | 7 | 12 | 12 | 11 | 14 | 18 |
| 769: | 19 | 12 | 8 | 11 | 9 | 10 | 10 | 10 |
| 777: | 9 | 9 | 12 | 11 | 8 | 8 | 7 | 14 |
| 785: | 5 | 8 | 9 | 7 | 6 | 4 | 12 | 3 |
| 793: | 6 | 14 | 25 | 19 | 5 | 5 | 6 | 12 |

801: 11 10 4 7 8 8 9 10

Sample Title: CP5007S06-07

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---------|----|----|----|----|----|----|----|----|---|----|
| 809: | 7 | 8 | 6 | 5 | 8 | 2 | 8 | 11 | | |
| 817: | 6 | 8 | 6 | 9 | 4 | 13 | 10 | 7 | | |
| 825: | 10 | 5 | 3 | 7 | 9 | 9 | 6 | 9 | | |
| 833: | 9 | 1 | 7 | 6 | 9 | 11 | 12 | 12 | | |
| 841: | 8 | 11 | 3 | 5 | 9 | 3 | 4 | 12 | | |
| 849: | 11 | 7 | 4 | 10 | 10 | 8 | 5 | 6 | | |
| 857: | 6 | 5 | 10 | 15 | 12 | 7 | 8 | 5 | | |
| 865: | 4 | 5 | 3 | 6 | 8 | 6 | 11 | 10 | | |
| 873: | 9 | 4 | 7 | 6 | 7 | 8 | 12 | 6 | | |
| 881: | 5 | 8 | 11 | 6 | 10 | 4 | 5 | 5 | | |
| 889: | 7 | 5 | 7 | 5 | 8 | 10 | 10 | 7 | | |
| 897: | 3 | 9 | 6 | 10 | 3 | 9 | 11 | 8 | | |
| 905: | 12 | 12 | 5 | 7 | 10 | 30 | 76 | 55 | | |
| 913: | 11 | 3 | 5 | 5 | 4 | 5 | 4 | 10 | | |
| 921: | 7 | 4 | 13 | 4 | 8 | 7 | 6 | 5 | | |
| 929: | 3 | 4 | 5 | 9 | 9 | 11 | 13 | 5 | | |
| 937: | 8 | 5 | 7 | 7 | 8 | 9 | 5 | 5 | | |
| 945: | 3 | 5 | 5 | 8 | 11 | 7 | 4 | 12 | | |
| 953: | 4 | 10 | 6 | 9 | 3 | 6 | 4 | 5 | | |
| 961: | 7 | 4 | 10 | 12 | 15 | 9 | 7 | 18 | | |
| 969: | 52 | 32 | 6 | 8 | 5 | 6 | 7 | 7 | | |
| 977: | 12 | 1 | 5 | 7 | 3 | 8 | 10 | 4 | | |
| 985: | 8 | 6 | 7 | 7 | 5 | 6 | 4 | 8 | | |
| 993: | 7 | 8 | 6 | 7 | 4 | 7 | 6 | 8 | | |
| 1001: | 15 | 14 | 3 | 6 | 8 | 4 | 4 | 5 | | |
| 1009: | 3 | 8 | 10 | 11 | 5 | 9 | 6 | 8 | | |
| 1017: | 5 | 4 | 7 | 7 | 4 | 3 | 5 | 6 | | |
| 1025: | 6 | 5 | 5 | 4 | 3 | 5 | 5 | 7 | | |
| 1033: | 10 | 5 | 5 | 2 | 5 | 5 | 3 | 6 | | |
| 1041: | 7 | 6 | 6 | 7 | 4 | 2 | 3 | 5 | | |
| 1049: | 5 | 8 | 7 | 6 | 7 | 6 | 7 | 5 | | |
| 1057: | 2 | 9 | 1 | 7 | 8 | 8 | 3 | 6 | | |
| 1065: | 4 | 6 | 5 | 3 | 8 | 8 | 3 | 4 | | |
| 1073: | 7 | 7 | 3 | 4 | 5 | 9 | 13 | 8 | | |
| 1081: | 6 | 6 | 5 | 8 | 6 | 7 | 4 | 6 | | |
| 1089: | 8 | 6 | 5 | 5 | 11 | 6 | 9 | 3 | | |
| 1097: | 5 | 5 | 1 | 10 | 5 | 12 | 7 | 6 | | |
| 1105: | 5 | 6 | 10 | 6 | 6 | 7 | 8 | 8 | | |
| 1113: | 3 | 5 | 8 | 15 | 5 | 9 | 16 | 43 | | |
| 1121: | 17 | 9 | 7 | 3 | 5 | 7 | 1 | 14 | | |
| 1129: | 9 | 4 | 5 | 4 | 4 | 3 | 6 | 9 | | |
| 1137: | 5 | 7 | 5 | 6 | 3 | 4 | 7 | 5 | | |
| 1145: | 10 | 3 | 4 | 7 | 15 | 7 | 7 | 5 | | |
| 1153: | 8 | 11 | 12 | 9 | 8 | 3 | 4 | 6 | | |
| 1161: | 9 | 4 | 4 | 7 | 6 | 8 | 4 | 8 | | |
| 1169: | 10 | 13 | 6 | 5 | 5 | 4 | 8 | 7 | | |
| 1177: | 8 | 6 | 6 | 6 | 7 | 8 | 8 | 4 | | |
| 1185: | 12 | 13 | 14 | 3 | 4 | 7 | 7 | 7 | | |
| 1193: | 6 | 8 | 10 | 8 | 6 | 9 | 6 | 6 | | |
| 1201: | 4 | 5 | 1 | 12 | 4 | 11 | 9 | 5 | | |
| 1209: | 7 | 5 | 7 | 6 | 5 | 12 | 8 | 3 | | |
| 1217: | 8 | 5 | 9 | 4 | 3 | 4 | 8 | 5 | | |
| 1225: | 8 | 9 | 4 | 9 | 7 | 7 | 10 | 10 | | |

1233: 9 9 9 8 12 14 13 10

Sample Title: CP5007S06-07

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|-----|-----|----|---|---|
| 1241: | 5 | 8 | 11 | 9 | 2 | 6 | 7 | 7 |
| 1249: | 11 | 8 | 8 | 11 | 8 | 2 | 3 | 5 |
| 1257: | 4 | 4 | 5 | 8 | 3 | 4 | 4 | 5 |
| 1265: | 4 | 8 | 7 | 4 | 5 | 5 | 6 | 4 |
| 1273: | 4 | 7 | 1 | 4 | 12 | 4 | 2 | 7 |
| 1281: | 2 | 5 | 4 | 7 | 3 | 10 | 6 | 3 |
| 1289: | 4 | 7 | 1 | 3 | 4 | 3 | 5 | 6 |
| 1297: | 1 | 2 | 4 | 6 | 5 | 3 | 0 | 7 |
| 1305: | 2 | 3 | 4 | 5 | 4 | 4 | 3 | 2 |
| 1313: | 4 | 2 | 1 | 3 | 4 | 2 | 3 | 4 |
| 1321: | 6 | 3 | 2 | 0 | 5 | 4 | 6 | 2 |
| 1329: | 7 | 2 | 5 | 6 | 3 | 8 | 5 | 4 |
| 1337: | 5 | 7 | 3 | 2 | 2 | 4 | 2 | 3 |
| 1345: | 2 | 2 | 3 | 4 | 3 | 1 | 0 | 5 |
| 1353: | 1 | 5 | 1 | 3 | 2 | 9 | 4 | 2 |
| 1361: | 2 | 7 | 3 | 5 | 2 | 1 | 2 | 1 |
| 1369: | 4 | 3 | 0 | 3 | 3 | 4 | 4 | 2 |
| 1377: | 5 | 7 | 6 | 5 | 5 | 3 | 1 | 4 |
| 1385: | 4 | 3 | 4 | 5 | 4 | 0 | 1 | 2 |
| 1393: | 2 | 4 | 1 | 1 | 0 | 2 | 2 | 4 |
| 1401: | 2 | 5 | 2 | 4 | 4 | 1 | 1 | 6 |
| 1409: | 5 | 2 | 2 | 4 | 3 | 3 | 2 | 2 |
| 1417: | 0 | 5 | 1 | 4 | 1 | 0 | 2 | 1 |
| 1425: | 3 | 1 | 2 | 0 | 0 | 0 | 1 | 2 |
| 1433: | 4 | 0 | 3 | 1 | 2 | 2 | 1 | 3 |
| 1441: | 0 | 4 | 1 | 3 | 2 | 2 | 2 | 6 |
| 1449: | 6 | 3 | 3 | 1 | 3 | 3 | 1 | 6 |
| 1457: | 5 | 12 | 52 | 170 | 209 | 81 | 8 | 2 |
| 1465: | 3 | 2 | 0 | 1 | 2 | 1 | 0 | 1 |
| 1473: | 0 | 2 | 1 | 0 | 2 | 1 | 3 | 0 |
| 1481: | 3 | 0 | 2 | 0 | 3 | 3 | 0 | 1 |
| 1489: | 1 | 2 | 0 | 2 | 0 | 1 | 2 | 4 |
| 1497: | 0 | 1 | 2 | 1 | 4 | 1 | 6 | 0 |
| 1505: | 2 | 0 | 1 | 1 | 5 | 4 | 4 | 0 |
| 1513: | 3 | 1 | 2 | 3 | 1 | 0 | 2 | 2 |
| 1521: | 3 | 0 | 1 | 3 | 0 | 1 | 1 | 0 |
| 1529: | 6 | 4 | 0 | 4 | 2 | 3 | 2 | 1 |
| 1537: | 1 | 3 | 4 | 1 | 4 | 1 | 1 | 1 |
| 1545: | 2 | 1 | 1 | 1 | 3 | 1 | 2 | 4 |
| 1553: | 2 | 1 | 1 | 3 | 1 | 1 | 0 | 1 |
| 1561: | 2 | 2 | 1 | 2 | 5 | 2 | 2 | 2 |
| 1569: | 1 | 3 | 2 | 3 | 2 | 1 | 1 | 0 |
| 1577: | 1 | 0 | 1 | 1 | 3 | 1 | 0 | 2 |
| 1585: | 1 | 1 | 4 | 4 | 5 | 2 | 6 | 6 |
| 1593: | 4 | 2 | 1 | 1 | 1 | 3 | 1 | 1 |
| 1601: | 5 | 1 | 0 | 0 | 1 | 3 | 2 | 2 |
| 1609: | 3 | 1 | 0 | 2 | 0 | 1 | 1 | 1 |
| 1617: | 0 | 1 | 4 | 3 | 2 | 2 | 0 | 2 |
| 1625: | 3 | 0 | 2 | 0 | 5 | 3 | 2 | 0 |
| 1633: | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 |
| 1641: | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 |
| 1649: | 1 | 1 | 1 | 2 | 2 | 1 | 0 | 1 |
| 1657: | 0 | 2 | 3 | 3 | 2 | 1 | 2 | 1 |

1665: 2 1 0 2 1 1 0 1

Sample Title: CP5007S06-07

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|----|----|---|---|---|---|
| 1673: | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | |
| 1681: | 0 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | |
| 1689: | 1 | 2 | 1 | 1 | 2 | 0 | 2 | 1 | |
| 1697: | 1 | 0 | 3 | 1 | 2 | 0 | 1 | 2 | |
| 1705: | 1 | 0 | 1 | 1 | 3 | 2 | 2 | 0 | |
| 1713: | 0 | 1 | 0 | 4 | 0 | 1 | 1 | 1 | |
| 1721: | 2 | 2 | 1 | 0 | 0 | 1 | 0 | 2 | |
| 1729: | 2 | 9 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 1737: | 1 | 0 | 1 | 1 | 2 | 2 | 2 | 2 | |
| 1745: | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 1 | |
| 1753: | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | |
| 1761: | 0 | 2 | 9 | 19 | 15 | 7 | 3 | 2 | |
| 1769: | 1 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | |
| 1777: | 0 | 3 | 1 | 0 | 3 | 1 | 2 | 0 | |
| 1785: | 2 | 1 | 0 | 2 | 1 | 0 | 0 | 2 | |
| 1793: | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | |
| 1801: | 1 | 2 | 2 | 0 | 2 | 0 | 1 | 0 | |
| 1809: | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | |
| 1817: | 0 | 1 | 1 | 2 | 2 | 0 | 3 | 0 | |
| 1825: | 1 | 2 | 1 | 0 | 0 | 3 | 2 | 0 | |
| 1833: | 3 | 0 | 1 | 1 | 2 | 2 | 4 | 2 | |
| 1841: | 1 | 0 | 2 | 0 | 1 | 3 | 8 | 2 | |
| 1849: | 4 | 3 | 0 | 0 | 3 | 1 | 2 | 0 | |
| 1857: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 1865: | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | |
| 1873: | 0 | 2 | 1 | 3 | 1 | 1 | 0 | 4 | |
| 1881: | 4 | 3 | 1 | 1 | 1 | 0 | 0 | 4 | |
| 1889: | 0 | 1 | 1 | 0 | 3 | 1 | 0 | 1 | |
| 1897: | 1 | 3 | 0 | 2 | 2 | 0 | 1 | 0 | |
| 1905: | 2 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | |
| 1913: | 0 | 1 | 0 | 3 | 0 | 2 | 0 | 0 | |
| 1921: | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 0 | |
| 1929: | 0 | 0 | 2 | 1 | 1 | 0 | 2 | 2 | |
| 1937: | 0 | 1 | 1 | 1 | 0 | 3 | 2 | 1 | |
| 1945: | 2 | 1 | 1 | 1 | 2 | 0 | 1 | 2 | |
| 1953: | 1 | 0 | 3 | 2 | 0 | 0 | 1 | 2 | |
| 1961: | 1 | 0 | 0 | 3 | 2 | 1 | 0 | 3 | |
| 1969: | 1 | 3 | 1 | 1 | 0 | 2 | 1 | 3 | |
| 1977: | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | |
| 1985: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | |
| 1993: | 2 | 0 | 0 | 0 | 0 | 5 | 0 | 2 | |
| 2001: | 2 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | |
| 2009: | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | |
| 2017: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 2025: | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | |
| 2033: | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | |
| 2041: | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 3 | |
| 2049: | 2 | 0 | 2 | 1 | 0 | 3 | 1 | 0 | |
| 2057: | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | |
| 2065: | 0 | 1 | 1 | 3 | 1 | 1 | 2 | 1 | |
| 2073: | 2 | 1 | 1 | 1 | 0 | 1 | 2 | 1 | |
| 2081: | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | |
| 2089: | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | |

2097: 1 2 0 0 3 3 3 3

Sample Title: CP5007S06-07

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2105: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2113: | 1 | 0 | 3 | 1 | 2 | 2 | 2 | 2 |
| 2121: | 1 | 1 | 1 | 0 | 0 | 2 | 0 | 1 |
| 2129: | 0 | 1 | 0 | 0 | 2 | 2 | 0 | 2 |
| 2137: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2145: | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 3 |
| 2153: | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2161: | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| 2169: | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 1 |
| 2177: | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 2185: | 0 | 0 | 2 | 0 | 1 | 1 | 1 | 0 |
| 2193: | 2 | 0 | 2 | 1 | 0 | 1 | 0 | 0 |
| 2201: | 5 | 0 | 1 | 6 | 5 | 1 | 1 | 1 |
| 2209: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 2217: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 2225: | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 1 |
| 2233: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2241: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 2249: | 1 | 1 | 1 | 2 | 0 | 1 | 3 | 3 |
| 2257: | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 1 |
| 2265: | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 2273: | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |
| 2281: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2289: | 0 | 0 | 1 | 2 | 0 | 2 | 0 | 2 |
| 2297: | 2 | 1 | 1 | 0 | 3 | 2 | 1 | 2 |
| 2305: | 1 | 2 | 3 | 1 | 1 | 0 | 1 | 0 |
| 2313: | 2 | 1 | 4 | 2 | 1 | 0 | 1 | 0 |
| 2321: | 1 | 3 | 1 | 0 | 2 | 1 | 0 | 1 |
| 2329: | 1 | 1 | 1 | 2 | 1 | 3 | 2 | 0 |
| 2337: | 0 | 1 | 1 | 1 | 2 | 4 | 1 | 2 |
| 2345: | 2 | 1 | 1 | 1 | 1 | 0 | 1 | 2 |
| 2353: | 3 | 2 | 1 | 0 | 2 | 1 | 0 | 1 |
| 2361: | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |
| 2369: | 2 | 2 | 0 | 3 | 1 | 1 | 1 | 2 |
| 2377: | 0 | 0 | 1 | 2 | 1 | 1 | 1 | 3 |
| 2385: | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 1 |
| 2393: | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 2401: | 2 | 1 | 2 | 1 | 0 | 1 | 1 | 1 |
| 2409: | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 2417: | 1 | 1 | 2 | 1 | 0 | 2 | 1 | 1 |
| 2425: | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 2433: | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 3 |
| 2441: | 0 | 0 | 2 | 1 | 2 | 2 | 5 | 0 |
| 2449: | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 0 |
| 2457: | 1 | 2 | 1 | 1 | 0 | 1 | 0 | 0 |
| 2465: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2473: | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 1 |
| 2481: | 0 | 3 | 1 | 2 | 1 | 1 | 0 | 0 |
| 2489: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2497: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2505: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2513: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2521: | 1 | 1 | 3 | 2 | 0 | 0 | 0 | 2 |

2529: 0 0 0 1 2 0 0 1

Sample Title: CP5007S06-07

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|----|----|----|---|
| 2537: | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| 2545: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2553: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2561: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2569: | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 |
| 2577: | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2585: | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 2593: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2601: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2609: | 0 | 1 | 0 | 7 | 14 | 17 | 14 | 4 |
| 2617: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2625: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2633: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 2641: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 2649: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2657: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2673: | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2681: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2689: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2697: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2705: | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 |
| 2713: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2721: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2729: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2737: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2745: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2753: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2761: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2769: | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2777: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2785: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2793: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2809: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2817: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2825: | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2833: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2841: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2849: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2865: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2873: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2889: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2897: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2913: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2921: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2945: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

2961: 0 0 0 0 0 0 1 0

Sample Title: CP5007S06-07

| | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|
| 2969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2977: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2985: | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| 2993: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3001: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3033: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3049: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3057: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3065: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3081: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3089: | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3097: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 |
| 3113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3153: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3161: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3185: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 |
| 3201: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3233: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3281: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3297: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3313: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3321: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3329: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 3345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

3393: 0 0 0 0 0 0 0 0

Sample Title: CP5007S06-07

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3401: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3409: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3425: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3457: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3465: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3497: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 |
| 3513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3553: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3609: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3625: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3633: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3673: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3713: | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |

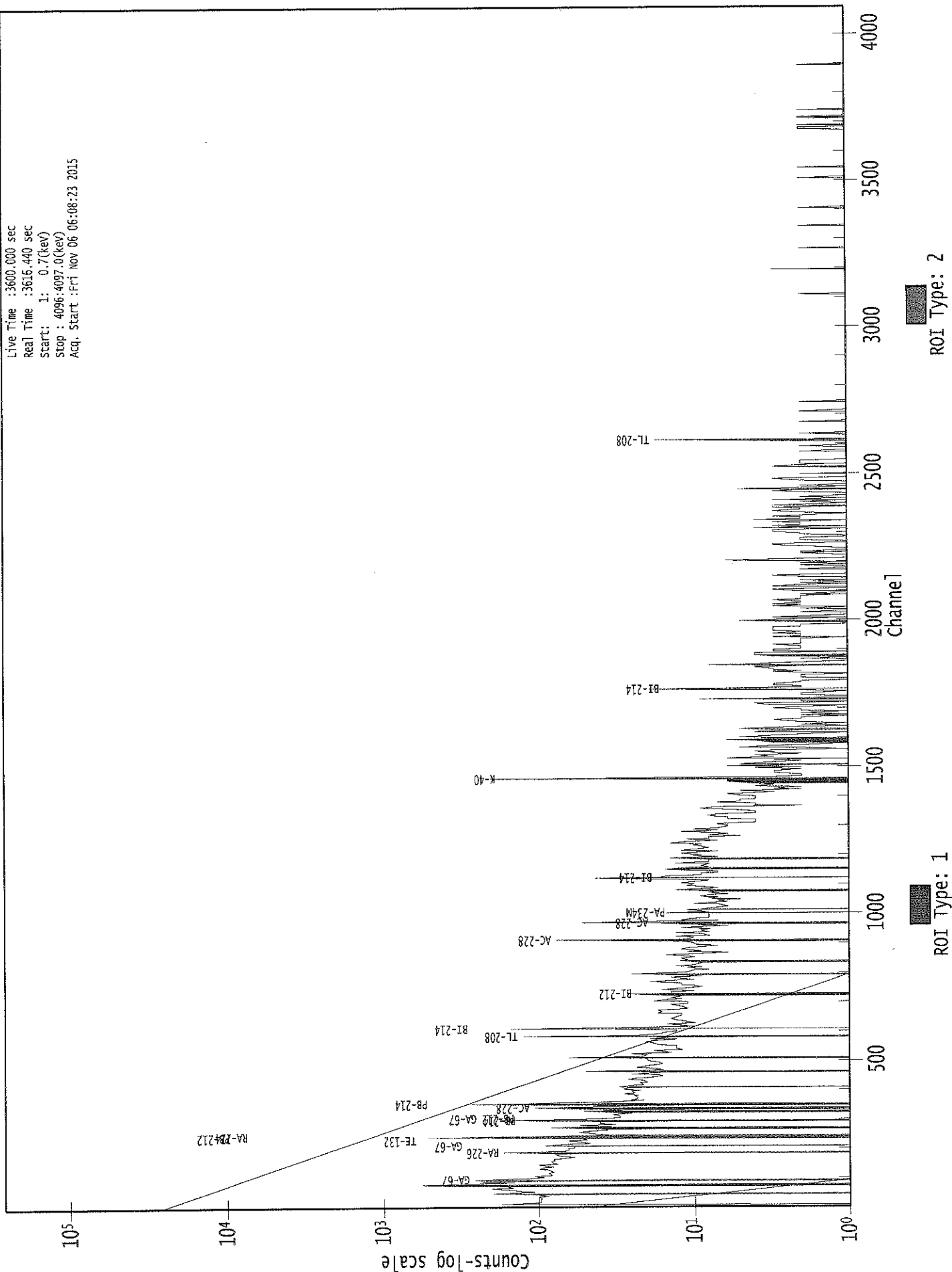
3825: 1 0 0 0 0 0 0 0 0

Sample Title: CP5007S06-07

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3889: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4025: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029235.CNF

Live Time :3600.000 sec
Real Time :3616.440 sec
Start: 1: 0.7(kev)
Stop : 4096.4097.0(kev)
Acq. Start :Fri Nov 06 06:08:23 2015



Analysis Report for 1510085-07
CP5007S08-09

✓
1114

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-07
Sample Description : CP5007S08-09
Sample Type : SOIL

Sample Size : 5.828E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:38:32AM
Acquisition Started : 11/6/2015 6:08:29AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3639.5 seconds

Dead Time : 1.09 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 14 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 29236

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-07
CP5007S08-09

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 7:09:09AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 64.41 | 63.68 | 0.0000 | 0.00 |
| 2 | 75.97 | 75.24 | 0.0000 | 0.00 |
| 3 | 92.95 | 92.22 | 0.0000 | 0.00 |
| 4 | 185.98 | 185.30 | 0.0000 | 0.00 |
| 5 | 226.52 | 225.85 | 0.0000 | 0.00 |
| 6 | 239.51 | 238.85 | 0.0000 | 0.00 |
| 7 | 270.18 | 269.53 | 0.0000 | 0.00 |
| 8 | 295.75 | 295.11 | 0.0000 | 0.00 |
| 9 | 329.21 | 328.59 | 0.0000 | 0.00 |
| 10 | 339.38 | 338.76 | 0.0000 | 0.00 |
| 11 | 352.11 | 351.50 | 0.0000 | 0.00 |
| 12 | 511.23 | 510.69 | 0.0000 | 0.00 |
| 13 | 582.88 | 582.37 | 0.0000 | 0.00 |
| 14 | 609.38 | 608.89 | 0.0000 | 0.00 |
| 15 | 632.59 | 632.11 | 0.0000 | 0.00 |
| 16 | 726.78 | 726.35 | 0.0000 | 0.00 |
| 17 | 859.30 | 858.94 | 0.0000 | 0.00 |
| 18 | 911.13 | 910.79 | 0.0000 | 0.00 |
| 19 | 968.75 | 968.44 | 0.0000 | 0.00 |
| 20 | 1120.15 | 1119.93 | 0.0000 | 0.00 |
| 21 | 1155.06 | 1154.85 | 0.0000 | 0.00 |
| 22 | 1208.45 | 1208.27 | 0.0000 | 0.00 |
| 23 | 1383.58 | 1383.50 | 0.0000 | 0.00 |
| 24 | 1426.44 | 1426.39 | 0.0000 | 0.00 |
| 25 | 1461.08 | 1461.05 | 0.0000 | 0.00 |
| 26 | 1472.31 | 1472.29 | 0.0000 | 0.00 |
| 27 | 1486.65 | 1486.64 | 0.0000 | 0.00 |
| 28 | 1588.59 | 1588.64 | 0.0000 | 0.00 |
| 29 | 1622.36 | 1622.44 | 0.0000 | 0.00 |
| 30 | 1630.31 | 1630.39 | 0.0000 | 0.00 |
| 31 | 1659.78 | 1659.88 | 0.0000 | 0.00 |
| 32 | 1695.70 | 1695.82 | 0.0000 | 0.00 |
| 33 | 1764.77 | 1764.94 | 0.0000 | 0.00 |
| 34 | 1892.55 | 1892.80 | 0.0000 | 0.00 |
| 35 | 1938.92 | 1939.20 | 0.0000 | 0.00 |
| 36 | 2204.11 | 2204.58 | 0.0000 | 0.00 |
| 37 | 2430.81 | 2431.44 | 0.0000 | 0.00 |
| 38 | 2614.81 | 2615.58 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-07

CP5007S08-09

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 7:09:09AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| M | 1 | 64.41 | 57 - | 81 | 63.68 | 2.98E+02 | 146.82 | 2.14E+03 | 4.55 |
| m | 2 | 75.97 | 57 - | 81 | 75.24 | 9.64E+02 | 155.63 | 2.27E+03 | 4.56 |
| | 3 | 92.95 | 90 - | 97 | 92.22 | 1.56E+02 | 97.63 | 1.41E+03 | 2.86 |
| | 4 | 185.98 | 180 - | 191 | 185.30 | 2.27E+02 | 89.02 | 8.81E+02 | 2.35 |
| | 5 | 226.52 | 223 - | 228 | 225.85 | 3.66E+01 | 43.10 | 3.43E+02 | 2.18 |
| | 6 | 239.51 | 234 - | 245 | 238.85 | 5.86E+02 | 92.39 | 7.56E+02 | 2.47 |
| | 7 | 270.18 | 267 - | 273 | 269.53 | 4.44E+01 | 44.03 | 3.23E+02 | 3.85 |
| | 8 | 295.75 | 289 - | 301 | 295.11 | 2.30E+02 | 73.10 | 5.22E+02 | 2.44 |
| | 9 | 329.21 | 325 - | 333 | 328.59 | 4.90E+01 | 46.48 | 3.04E+02 | 1.78 |
| | 10 | 339.38 | 333 - | 344 | 338.76 | 1.29E+02 | 59.30 | 3.66E+02 | 3.00 |
| | 11 | 352.11 | 347 - | 357 | 351.50 | 2.54E+02 | 57.67 | 3.08E+02 | 2.99 |
| | 12 | 511.23 | 505 - | 518 | 510.69 | 1.17E+02 | 52.19 | 2.46E+02 | 2.82 |
| | 13 | 582.88 | 577 - | 587 | 582.37 | 1.54E+02 | 43.56 | 1.71E+02 | 2.08 |
| | 14 | 609.38 | 602 - | 614 | 608.89 | 1.71E+02 | 47.80 | 1.88E+02 | 2.42 |
| | 15 | 632.59 | 621 - | 643 | 632.11 | 6.71E+01 | 59.41 | 2.42E+02 | 14.96 |
| | 16 | 726.78 | 721 - | 731 | 726.35 | 5.91E+01 | 29.93 | 8.78E+01 | 2.21 |
| | 17 | 859.30 | 852 - | 867 | 858.94 | 3.14E+01 | 38.52 | 1.35E+02 | 11.47 |
| | 18 | 911.13 | 905 - | 919 | 910.79 | 9.19E+01 | 38.88 | 1.22E+02 | 3.11 |
| | 19 | 968.75 | 961 - | 975 | 968.44 | 6.10E+01 | 37.20 | 1.20E+02 | 3.02 |
| | 20 | 1120.15 | 1113 - | 1127 | 1119.93 | 4.61E+01 | 35.32 | 1.10E+02 | 3.95 |
| | 21 | 1155.06 | 1151 - | 1159 | 1154.85 | 2.01E+01 | 21.43 | 5.78E+01 | 2.89 |
| | 22 | 1208.45 | 1202 - | 1216 | 1208.27 | 3.42E+01 | 30.31 | 8.16E+01 | 6.96 |
| | 23 | 1383.58 | 1380 - | 1387 | 1383.50 | 9.84E+00 | 10.58 | 1.23E+01 | 3.69 |
| | 24 | 1426.44 | 1423 - | 1429 | 1426.39 | 8.50E+00 | 8.51 | 7.00E+00 | 3.18 |
| | 25 | 1461.08 | 1456 - | 1468 | 1461.05 | 2.57E+02 | 34.51 | 1.80E+01 | 3.20 |
| | 26 | 1472.31 | 1469 - | 1475 | 1472.29 | 7.50E+00 | 8.28 | 7.00E+00 | 3.11 |
| | 27 | 1486.65 | 1481 - | 1492 | 1486.64 | 1.50E+01 | 12.49 | 1.19E+01 | 5.80 |
| | 28 | 1588.59 | 1582 - | 1596 | 1588.64 | 2.48E+01 | 15.38 | 1.25E+01 | 9.45 |
| | 29 | 1622.36 | 1619 - | 1626 | 1622.44 | 9.79E+00 | 8.00 | 4.42E+00 | 4.55 |
| | 30 | 1630.31 | 1627 - | 1633 | 1630.39 | 1.05E+01 | 8.97 | 7.00E+00 | 3.37 |
| | 31 | 1659.78 | 1656 - | 1663 | 1659.88 | 1.41E+01 | 8.94 | 3.75E+00 | 4.95 |
| | 32 | 1695.70 | 1691 - | 1699 | 1695.82 | 8.73E+00 | 8.02 | 4.55E+00 | 2.64 |
| | 33 | 1764.77 | 1761 - | 1769 | 1764.94 | 3.11E+01 | 12.34 | 3.85E+00 | 2.93 |
| | 34 | 1892.55 | 1890 - | 1896 | 1892.80 | 5.00E+00 | 6.34 | 4.00E+00 | 0.96 |
| | 35 | 1938.92 | 1936 - | 1941 | 1939.20 | 5.00E+00 | 4.47 | 0.00E+00 | 2.75 |
| | 36 | 2204.11 | 2200 - | 2207 | 2204.58 | 7.75E+00 | 7.48 | 4.50E+00 | 1.38 |
| | 37 | 2430.81 | 2428 - | 2434 | 2431.44 | 9.00E+00 | 6.00 | 0.00E+00 | 2.11 |
| | 38 | 2614.81 | 2611 - | 2619 | 2615.58 | 5.00E+01 | 14.14 | 0.00E+00 | 2.89 |

Analysis Report for 1510085-07
CP5007S08-09

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 7:09:09AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| M | 1 | 64.41 | 57 - | 81 | 2.98E+02 | 146.82 | 2.14E+03 | 7.60E+01 |
| m | 2 | 75.97 | 57 - | 81 | 9.64E+02 | 155.63 | 2.27E+03 | 7.83E+01 |
| | 3 | 92.95 | 90 - | 97 | 1.56E+02 | 97.63 | 1.41E+03 | 7.76E+01 |
| | 4 | 185.98 | 180 - | 191 | 2.27E+02 | 89.02 | 8.81E+02 | 6.89E+01 |
| | 5 | 226.52 | 223 - | 228 | 3.66E+01 | 43.10 | 3.43E+02 | 3.40E+01 |
| | 6 | 239.51 | 234 - | 245 | 5.86E+02 | 92.39 | 7.56E+02 | 6.47E+01 |
| | 7 | 270.18 | 267 - | 273 | 4.44E+01 | 44.03 | 3.23E+02 | 3.45E+01 |
| | 8 | 295.75 | 289 - | 301 | 2.30E+02 | 73.10 | 5.22E+02 | 5.47E+01 |
| | 9 | 329.21 | 325 - | 333 | 4.90E+01 | 46.48 | 3.04E+02 | 3.64E+01 |
| | 10 | 339.38 | 333 - | 344 | 1.29E+02 | 59.30 | 3.66E+02 | 4.50E+01 |
| | 11 | 352.11 | 347 - | 357 | 2.54E+02 | 57.67 | 3.08E+02 | 3.95E+01 |
| | 12 | 511.23 | 505 - | 518 | 1.17E+02 | 52.19 | 2.46E+02 | 3.90E+01 |
| | 13 | 582.88 | 577 - | 587 | 1.54E+02 | 43.56 | 1.71E+02 | 2.94E+01 |
| | 14 | 609.38 | 602 - | 614 | 1.71E+02 | 47.80 | 1.88E+02 | 3.29E+01 |
| | 15 | 632.59 | 621 - | 643 | 6.71E+01 | 59.41 | 2.42E+02 | 4.69E+01 |
| | 16 | 726.78 | 721 - | 731 | 5.91E+01 | 29.93 | 8.78E+01 | 2.11E+01 |
| | 17 | 859.30 | 852 - | 867 | 3.14E+01 | 38.52 | 1.35E+02 | 3.03E+01 |
| | 18 | 911.13 | 905 - | 919 | 9.19E+01 | 38.88 | 1.22E+02 | 2.78E+01 |
| | 19 | 968.75 | 961 - | 975 | 6.10E+01 | 37.20 | 1.20E+02 | 2.78E+01 |
| | 20 | 1120.15 | 1113 - | 1127 | 4.61E+01 | 35.32 | 1.10E+02 | 2.68E+01 |
| | 21 | 1155.06 | 1151 - | 1159 | 2.01E+01 | 21.43 | 5.78E+01 | 1.60E+01 |
| | 22 | 1208.45 | 1202 - | 1216 | 3.42E+01 | 30.31 | 8.16E+01 | 2.30E+01 |
| | 23 | 1383.58 | 1380 - | 1387 | 9.84E+00 | 10.58 | 1.23E+01 | 7.01E+00 |
| | 24 | 1426.44 | 1423 - | 1429 | 8.50E+00 | 8.51 | 7.00E+00 | 5.10E+00 |
| | 25 | 1461.08 | 1456 - | 1468 | 2.57E+02 | 34.51 | 1.80E+01 | 1.05E+01 |
| | 26 | 1472.31 | 1469 - | 1475 | 7.50E+00 | 8.28 | 7.00E+00 | 5.10E+00 |
| | 27 | 1486.65 | 1481 - | 1492 | 1.50E+01 | 12.49 | 1.19E+01 | 8.05E+00 |
| | 28 | 1588.59 | 1582 - | 1596 | 2.48E+01 | 15.38 | 1.25E+01 | 9.64E+00 |
| | 29 | 1622.36 | 1619 - | 1626 | 9.79E+00 | 8.00 | 4.42E+00 | 4.10E+00 |
| | 30 | 1630.31 | 1627 - | 1633 | 1.05E+01 | 8.97 | 7.00E+00 | 5.10E+00 |
| | 31 | 1659.78 | 1656 - | 1663 | 1.41E+01 | 8.94 | 3.75E+00 | 3.98E+00 |

Analysis Report for 1510085-07

CP5007S08-09

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 32 | 1695.70 | 1691 - | 1699 | 8.73E+00 | 8.02 | 4.55E+00 | 4.45E+00 |
| 33 | 1764.77 | 1761 - | 1769 | 3.11E+01 | 12.34 | 3.85E+00 | 4.35E+00 |
| 34 | 1892.55 | 1890 - | 1896 | 5.00E+00 | 6.34 | 4.00E+00 | 3.70E+00 |
| 35 | 1938.92 | 1936 - | 1941 | 5.00E+00 | 4.47 | 0.00E+00 | 0.00E+00 |
| 36 | 2204.11 | 2200 - | 2207 | 7.75E+00 | 7.48 | 4.50E+00 | 4.11E+00 |
| 37 | 2430.81 | 2428 - | 2434 | 9.00E+00 | 6.00 | 0.00E+00 | 0.00E+00 |
| 38 | 2614.81 | 2611 - | 2619 | 5.00E+01 | 14.14 | 0.00E+00 | 0.00E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 7:09:09AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| M 1 | 64.41 | 57 - | 81 | 63.68 | 2.98E+02 | 146.82 | 2.14E+03 | ..... |
| m 2 | 75.97 | 57 - | 81 | 75.24 | 9.64E+02 | 155.63 | 2.27E+03 | ..... |
| 3 | 92.95 | 90 - | 97 | 92.22 | 1.56E+02 | 97.63 | 1.41E+03 | GA-67 |
| 4 | 185.98 | 180 - | 191 | 185.30 | 2.27E+02 | 89.02 | 8.81E+02 | RA-226 |
| 5 | 226.52 | 223 - | 228 | 225.85 | 3.66E+01 | 43.10 | 3.43E+02 | ..... |
| 6 | 239.51 | 234 - | 245 | 238.85 | 5.86E+02 | 92.39 | 7.56E+02 | PB-212 |
| 7 | 270.18 | 267 - | 273 | 269.53 | 4.44E+01 | 44.03 | 3.23E+02 | ..... |
| 8 | 295.75 | 289 - | 301 | 295.11 | 2.30E+02 | 73.10 | 5.22E+02 | PB-214 |
| 9 | 329.21 | 325 - | 333 | 328.59 | 4.90E+01 | 46.48 | 3.04E+02 | LA-140 |
| 10 | 339.38 | 333 - | 344 | 338.76 | 1.29E+02 | 59.30 | 3.66E+02 | ..... |
| 11 | 352.11 | 347 - | 357 | 351.50 | 2.54E+02 | 57.67 | 3.08E+02 | PB-214 |
| 12 | 511.23 | 505 - | 518 | 510.69 | 1.17E+02 | 52.19 | 2.46E+02 | ..... |
| 13 | 582.88 | 577 - | 587 | 582.37 | 1.54E+02 | 43.56 | 1.71E+02 | TL-208 |
| 14 | 609.38 | 602 - | 614 | 608.89 | 1.71E+02 | 47.80 | 1.88E+02 | BI-214 |
| 15 | 632.59 | 621 - | 643 | 632.11 | 6.71E+01 | 59.41 | 2.42E+02 | ..... |
| 16 | 726.78 | 721 - | 731 | 726.35 | 5.91E+01 | 29.93 | 8.78E+01 | BI-212 |
| 17 | 859.30 | 852 - | 867 | 858.94 | 3.14E+01 | 38.52 | 1.35E+02 | ..... |
| 18 | 911.13 | 905 - | 919 | 910.79 | 9.19E+01 | 38.88 | 1.22E+02 | AC-228 LU-172 |

Analysis Report for 1510085-07

CP5007S08-09

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 19 | 968.75 | 961 - | 975 | 968.44 | 6.10E+01 | 37.20 | 1.20E+02 | AC-228 |
| 20 | 1120.15 | 1113 - | 1127 | 1119.93 | 4.61E+01 | 35.32 | 1.10E+02 | BI-214 SC-46 |
| 21 | 1155.06 | 1151 - | 1159 | 1154.85 | 2.01E+01 | 21.43 | 5.78E+01 | ..... |
| 22 | 1208.45 | 1202 - | 1216 | 1208.27 | 3.42E+01 | 30.31 | 8.16E+01 | ..... |
| 23 | 1383.58 | 1380 - | 1387 | 1383.50 | 9.84E+00 | 10.58 | 1.23E+01 | AG-110M |
| 24 | 1426.44 | 1423 - | 1429 | 1426.39 | 8.50E+00 | 8.51 | 7.00E+00 | ..... |
| 25 | 1461.08 | 1456 - | 1468 | 1461.05 | 2.57E+02 | 34.51 | 1.80E+01 | K-40 |
| 26 | 1472.31 | 1469 - | 1475 | 1472.29 | 7.50E+00 | 8.28 | 7.00E+00 | ..... |
| 27 | 1486.65 | 1481 - | 1492 | 1486.64 | 1.50E+01 | 12.49 | 1.19E+01 | ..... |
| 28 | 1588.59 | 1582 - | 1596 | 1588.64 | 2.48E+01 | 15.38 | 1.25E+01 | ..... |
| 29 | 1622.36 | 1619 - | 1626 | 1622.44 | 9.79E+00 | 8.00 | 4.42E+00 | ..... |
| 30 | 1630.31 | 1627 - | 1633 | 1630.39 | 1.05E+01 | 8.97 | 7.00E+00 | ..... |
| 31 | 1659.78 | 1656 - | 1663 | 1659.88 | 1.41E+01 | 8.94 | 3.75E+00 | ..... |
| 32 | 1695.70 | 1691 - | 1699 | 1695.82 | 8.73E+00 | 8.02 | 4.55E+00 | ..... |
| 33 | 1764.77 | 1761 - | 1769 | 1764.94 | 3.11E+01 | 12.34 | 3.85E+00 | BI-214 |
| 34 | 1892.55 | 1890 - | 1896 | 1892.80 | 5.00E+00 | 6.34 | 4.00E+00 | ..... |
| 35 | 1938.92 | 1936 - | 1941 | 1939.20 | 5.00E+00 | 4.47 | 0.00E+00 | ..... |
| 36 | 2204.11 | 2200 - | 2207 | 2204.58 | 7.75E+00 | 7.48 | 4.50E+00 | BI-214 |
| 37 | 2430.81 | 2428 - | 2434 | 2431.44 | 9.00E+00 | 6.00 | 0.00E+00 | ..... |
| 38 | 2614.81 | 2611 - | 2619 | 2615.58 | 5.00E+01 | 14.14 | 0.00E+00 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 7:09:09AM

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|----------|--------------|---------------|----------------------|-----------------|------------------------|
| M | 1 | 64.41 | 2.98E+02 | 146.82 | 2.31E-02 | 1.75E-03 |
| m | 2 | 75.97 | 9.64E+02 | 155.63 | 2.13E-02 | 1.69E-03 |
| | 3 | 92.95 | 1.56E+02 | 97.63 | 1.90E-02 | 1.62E-03 |
| | 4 | 185.98 | 2.27E+02 | 89.02 | 1.16E-02 | 1.15E-03 |
| | 5 | 226.52 | 3.66E+01 | 43.10 | 9.85E-03 | 1.02E-03 |
| | 6 | 239.51 | 5.86E+02 | 92.39 | 9.39E-03 | 9.84E-04 |
| | 7 | 270.18 | 4.44E+01 | 44.03 | 8.44E-03 | 8.89E-04 |
| | 8 | 295.75 | 2.30E+02 | 73.10 | 7.77E-03 | 8.43E-04 |
| | 9 | 329.21 | 4.90E+01 | 46.48 | 7.04E-03 | 8.05E-04 |

Analysis Report for 1510085-07
CP5007S08-09

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 10 | 339.38 | 1.29E+02 | 59.30 | 6.84E-03 | 7.94E-04 |
| 11 | 352.11 | 2.54E+02 | 57.67 | 6.61E-03 | 7.80E-04 |
| 12 | 511.23 | 1.17E+02 | 52.19 | 4.61E-03 | 5.61E-04 |
| 13 | 582.88 | 1.54E+02 | 43.56 | 4.05E-03 | 4.56E-04 |
| 14 | 609.38 | 1.71E+02 | 47.80 | 3.87E-03 | 4.17E-04 |
| 15 | 632.59 | 6.71E+01 | 59.41 | 3.73E-03 | 3.83E-04 |
| 16 | 726.78 | 5.91E+01 | 29.93 | 3.26E-03 | 3.04E-04 |
| 17 | 859.30 | 3.14E+01 | 38.52 | 2.76E-03 | 2.30E-04 |
| 18 | 911.13 | 9.19E+01 | 38.88 | 2.61E-03 | 2.06E-04 |
| 19 | 968.75 | 6.10E+01 | 37.20 | 2.46E-03 | 1.99E-04 |
| 20 | 1120.15 | 4.61E+01 | 35.32 | 2.14E-03 | 1.79E-04 |
| 21 | 1155.06 | 2.01E+01 | 21.43 | 2.08E-03 | 1.75E-04 |
| 22 | 1208.45 | 3.42E+01 | 30.31 | 2.00E-03 | 1.82E-04 |
| 23 | 1383.58 | 9.84E+00 | 10.58 | 1.77E-03 | 2.05E-04 |
| 24 | 1426.44 | 8.50E+00 | 8.51 | 1.72E-03 | 1.96E-04 |
| 25 | 1461.08 | 2.57E+02 | 34.51 | 1.68E-03 | 1.89E-04 |
| 26 | 1472.31 | 7.50E+00 | 8.28 | 1.67E-03 | 1.87E-04 |
| 27 | 1486.65 | 1.50E+01 | 12.49 | 1.66E-03 | 1.84E-04 |
| 28 | 1588.59 | 2.48E+01 | 15.38 | 1.57E-03 | 1.62E-04 |
| 29 | 1622.36 | 9.79E+00 | 8.00 | 1.54E-03 | 1.55E-04 |
| 30 | 1630.31 | 1.05E+01 | 8.97 | 1.53E-03 | 1.54E-04 |
| 31 | 1659.78 | 1.41E+01 | 8.94 | 1.51E-03 | 1.48E-04 |
| 32 | 1695.70 | 8.73E+00 | 8.02 | 1.48E-03 | 1.40E-04 |
| 33 | 1764.77 | 3.11E+01 | 12.34 | 1.43E-03 | 1.26E-04 |
| 34 | 1892.55 | 5.00E+00 | 6.34 | 1.36E-03 | 1.11E-04 |
| 35 | 1938.92 | 5.00E+00 | 4.47 | 1.33E-03 | 1.11E-04 |
| 36 | 2204.11 | 7.75E+00 | 7.48 | 1.21E-03 | 1.11E-04 |
| 37 | 2430.81 | 9.00E+00 | 6.00 | 1.13E-03 | 1.11E-04 |
| 38 | 2614.81 | 5.00E+01 | 14.14 | 1.07E-03 | 1.11E-04 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 7:09:09AM
 Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| M 1 | 64.41 | 2.98E+02 | 146.82 | | | 2.98E+02 | 1.47E+02 |

Analysis Report for 1510085-07

CP5007S08-09

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| m | 2 | 75.97 | 9.64E+02 | 155.63 | | | 9.64E+02 | 1.56E+02 |
| | 3 | 92.95 | 1.56E+02 | 97.63 | 5.44E+01 | 8.36E+00 | 1.02E+02 | 9.80E+01 |
| | 4 | 185.98 | 2.27E+02 | 89.02 | 1.43E+01 | 7.33E+00 | 2.12E+02 | 8.93E+01 |
| | 5 | 226.52 | 3.66E+01 | 43.10 | | | 3.66E+01 | 4.31E+01 |
| | 6 | 239.51 | 5.86E+02 | 92.39 | 1.09E+01 | 6.39E+00 | 5.75E+02 | 9.26E+01 |
| | 7 | 270.18 | 4.44E+01 | 44.03 | | | 4.44E+01 | 4.40E+01 |
| | 8 | 295.75 | 2.30E+02 | 73.10 | | | 2.30E+02 | 7.31E+01 |
| | 9 | 329.21 | 4.90E+01 | 46.48 | | | 4.90E+01 | 4.65E+01 |
| | 10 | 339.38 | 1.29E+02 | 59.30 | | | 1.29E+02 | 5.93E+01 |
| | 11 | 352.11 | 2.54E+02 | 57.67 | 8.07E+00 | 5.01E+00 | 2.46E+02 | 5.79E+01 |
| | 12 | 511.23 | 1.17E+02 | 52.19 | 4.21E+01 | 4.92E+00 | 7.50E+01 | 5.24E+01 |
| | 13 | 582.88 | 1.54E+02 | 43.56 | | | 1.54E+02 | 4.36E+01 |
| | 14 | 609.38 | 1.71E+02 | 47.80 | 5.16E+00 | 1.63E+00 | 1.66E+02 | 4.78E+01 |
| | 15 | 632.59 | 6.71E+01 | 59.41 | | | 6.71E+01 | 5.94E+01 |
| | 16 | 726.78 | 5.91E+01 | 29.93 | | | 5.91E+01 | 2.99E+01 |
| | 17 | 859.30 | 3.14E+01 | 38.52 | | | 3.14E+01 | 3.85E+01 |
| | 18 | 911.13 | 9.19E+01 | 38.88 | 1.01E+00 | 2.85E+00 | 9.09E+01 | 3.90E+01 |
| | 19 | 968.75 | 6.10E+01 | 37.20 | | | 6.10E+01 | 3.72E+01 |
| | 20 | 1120.15 | 4.61E+01 | 35.32 | | | 4.61E+01 | 3.53E+01 |
| | 21 | 1155.06 | 2.01E+01 | 21.43 | | | 2.01E+01 | 2.14E+01 |
| | 22 | 1208.45 | 3.42E+01 | 30.31 | | | 3.42E+01 | 3.03E+01 |
| | 23 | 1383.58 | 9.84E+00 | 10.58 | | | 9.84E+00 | 1.06E+01 |
| | 24 | 1426.44 | 8.50E+00 | 8.51 | | | 8.50E+00 | 8.51E+00 |
| | 25 | 1461.08 | 2.57E+02 | 34.51 | | | 2.57E+02 | 3.45E+01 |
| | 26 | 1472.31 | 7.50E+00 | 8.28 | | | 7.50E+00 | 8.28E+00 |
| | 27 | 1486.65 | 1.50E+01 | 12.49 | | | 1.50E+01 | 1.25E+01 |
| | 28 | 1588.59 | 2.48E+01 | 15.38 | | | 2.48E+01 | 1.54E+01 |
| | 29 | 1622.36 | 9.79E+00 | 8.00 | | | 9.79E+00 | 8.00E+00 |
| | 30 | 1630.31 | 1.05E+01 | 8.97 | | | 1.05E+01 | 8.97E+00 |
| | 31 | 1659.78 | 1.41E+01 | 8.94 | | | 1.41E+01 | 8.94E+00 |
| | 32 | 1695.70 | 8.73E+00 | 8.02 | | | 8.73E+00 | 8.02E+00 |
| | 33 | 1764.77 | 3.11E+01 | 12.34 | 1.11E-01 | 9.77E-01 | 3.10E+01 | 1.24E+01 |
| | 34 | 1892.55 | 5.00E+00 | 6.34 | | | 5.00E+00 | 6.34E+00 |
| | 35 | 1938.92 | 5.00E+00 | 4.47 | | | 5.00E+00 | 4.47E+00 |
| | 36 | 2204.11 | 7.75E+00 | 7.48 | | | 7.75E+00 | 7.48E+00 |
| | 37 | 2430.81 | 9.00E+00 | 6.00 | | | 9.00E+00 | 6.00E+00 |
| | 38 | 2614.81 | 5.00E+01 | 14.14 | 1.20E+00 | 1.02E+00 | 4.88E+01 | 1.42E+01 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510085-07

CP5007S08-09

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 7:09:09AM

Ref. Peak Energy : 0.00 Reference Date :

Peak Ratio : 0.00 Uncertainty : 0.00

Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| M | 1 | 64.41 | 2.98E+02 | 146.82 | | | 2.98E+02 | 1.47E+02 |
| m | 2 | 75.97 | 9.64E+02 | 155.63 | | | 9.64E+02 | 1.56E+02 |
| | 3 | 92.95 | 1.56E+02 | 97.63 | 5.44E+01 | 8.36E+00 | 1.02E+02 | 9.80E+01 |
| | 4 | 185.98 | 2.27E+02 | 89.02 | 1.43E+01 | 7.33E+00 | 2.12E+02 | 8.93E+01 |
| | 5 | 226.52 | 3.66E+01 | 43.10 | | | 3.66E+01 | 4.31E+01 |
| | 6 | 239.51 | 5.86E+02 | 92.39 | 1.09E+01 | 6.39E+00 | 5.75E+02 | 9.26E+01 |
| | 7 | 270.18 | 4.44E+01 | 44.03 | | | 4.44E+01 | 4.40E+01 |
| | 8 | 295.75 | 2.30E+02 | 73.10 | | | 2.30E+02 | 7.31E+01 |
| | 9 | 329.21 | 4.90E+01 | 46.48 | | | 4.90E+01 | 4.65E+01 |
| | 10 | 339.38 | 1.29E+02 | 59.30 | | | 1.29E+02 | 5.93E+01 |
| | 11 | 352.11 | 2.54E+02 | 57.67 | 8.07E+00 | 5.01E+00 | 2.46E+02 | 5.79E+01 |
| | 12 | 511.23 | 1.17E+02 | 52.19 | 4.21E+01 | 4.92E+00 | 7.50E+01 | 5.24E+01 |
| | 13 | 582.88 | 1.54E+02 | 43.56 | | | 1.54E+02 | 4.36E+01 |
| | 14 | 609.38 | 1.71E+02 | 47.80 | 5.16E+00 | 1.63E+00 | 1.66E+02 | 4.78E+01 |
| | 15 | 632.59 | 6.71E+01 | 59.41 | | | 6.71E+01 | 5.94E+01 |
| | 16 | 726.78 | 5.91E+01 | 29.93 | | | 5.91E+01 | 2.99E+01 |
| | 17 | 859.30 | 3.14E+01 | 38.52 | | | 3.14E+01 | 3.85E+01 |
| | 18 | 911.13 | 9.19E+01 | 38.88 | 1.01E+00 | 2.85E+00 | 9.09E+01 | 3.90E+01 |
| | 19 | 968.75 | 6.10E+01 | 37.20 | | | 6.10E+01 | 3.72E+01 |
| | 20 | 1120.15 | 4.61E+01 | 35.32 | | | 4.61E+01 | 3.53E+01 |
| | 21 | 1155.06 | 2.01E+01 | 21.43 | | | 2.01E+01 | 2.14E+01 |
| | 22 | 1208.45 | 3.42E+01 | 30.31 | | | 3.42E+01 | 3.03E+01 |
| | 23 | 1383.58 | 9.84E+00 | 10.58 | | | 9.84E+00 | 1.06E+01 |
| | 24 | 1426.44 | 8.50E+00 | 8.51 | | | 8.50E+00 | 8.51E+00 |
| | 25 | 1461.08 | 2.57E+02 | 34.51 | | | 2.57E+02 | 3.45E+01 |
| | 26 | 1472.31 | 7.50E+00 | 8.28 | | | 7.50E+00 | 8.28E+00 |
| | 27 | 1486.65 | 1.50E+01 | 12.49 | | | 1.50E+01 | 1.25E+01 |
| | 28 | 1588.59 | 2.48E+01 | 15.38 | | | 2.48E+01 | 1.54E+01 |
| | 29 | 1622.36 | 9.79E+00 | 8.00 | | | 9.79E+00 | 8.00E+00 |
| | 30 | 1630.31 | 1.05E+01 | 8.97 | | | 1.05E+01 | 8.97E+00 |
| | 31 | 1659.78 | 1.41E+01 | 8.94 | | | 1.41E+01 | 8.94E+00 |
| | 32 | 1695.70 | 8.73E+00 | 8.02 | | | 8.73E+00 | 8.02E+00 |
| | 33 | 1764.77 | 3.11E+01 | 12.34 | 1.11E-01 | 9.77E-01 | 3.10E+01 | 1.24E+01 |
| | 34 | 1892.55 | 5.00E+00 | 6.34 | | | 5.00E+00 | 6.34E+00 |
| | 35 | 1938.92 | 5.00E+00 | 4.47 | | | 5.00E+00 | 4.47E+00 |
| | 36 | 2204.11 | 7.75E+00 | 7.48 | | | 7.75E+00 | 7.48E+00 |
| | 37 | 2430.81 | 9.00E+00 | 6.00 | | | 9.00E+00 | 6.00E+00 |
| | 38 | 2614.81 | 5.00E+01 | 14.14 | 1.20E+00 | 1.02E+00 | 4.88E+01 | 1.42E+01 |

Analysis Report for 1510085-07
CP5007S08-09

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|---|----------|-------------------------|-------------------------|
| K-40 | 0.989 | 1460.81 | * | 10.67 | 1.84E+01 | 3.25E+00 |
| GA-67 | 0.385 | 93.31 | * | 35.70 | 1.13E+02 | 4.70E+02 |
| | | 208.95 | | 2.24 | | |
| | | 300.22 | | 16.00 | | |
| TL-208 | 0.881 | 583.14 | * | 30.22 | 1.63E+00 | 4.94E-01 |
| | | 860.37 | | 4.48 | | |
| | | 2614.66 | * | 35.85 | 1.64E+00 | 5.05E-01 |
| BI-212 | 0.760 | 727.17 | * | 11.80 | 1.98E+00 | 1.02E+00 |
| | | 1620.62 | | 2.75 | | |
| PB-212 | 0.788 | 238.63 | * | 44.60 | 1.77E+00 | 3.40E-01 |
| | | 300.09 | | 3.41 | | |
| BI-214 | 0.997 | 609.31 | * | 46.30 | 1.19E+00 | 3.67E-01 |
| | | 1120.29 | * | 15.10 | 1.83E+00 | 1.41E+00 |
| | | 1764.49 | * | 15.80 | 1.76E+00 | 7.20E-01 |
| | | 2204.22 | * | 4.98 | 1.66E+00 | 1.61E+00 |
| PB-214 | 0.981 | 295.21 | * | 19.19 | 1.99E+00 | 6.67E-01 |
| | | 351.92 | * | 37.19 | 1.29E+00 | 3.40E-01 |
| RA-226 | 0.992 | 186.21 | * | 3.28 | 7.18E+00 | 1.35E+01 |
| AC-228 | 0.519 | 338.32 | | 11.40 | | |
| | | 911.07 | * | 27.70 | 1.62E+00 | 7.06E-01 |
| | | 969.11 | * | 16.60 | 1.92E+00 | 1.18E+00 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-07
CP5007S08-09

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 7:09:09AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| M 1 | 64.41 | 8.27442E-02 | 24.64 | | |
| m 2 | 75.97 | 2.67776E-01 | 8.07 | | |
| 5 | 226.52 | 1.01589E-02 | 58.93 | | |
| 7 | 270.18 | 1.23443E-02 | 49.54 | | |
| 9 | 329.21 | 1.36111E-02 | 47.43 | Tol. | LA-140 |
| 10 | 339.38 | 3.58770E-02 | 22.95 | | |
| 12 | 511.23 | 2.08398E-02 | 34.94 | | |
| 15 | 632.59 | 1.86370E-02 | 44.27 | | |
| 17 | 859.30 | 8.71914E-03 | 61.36 | | |
| 21 | 1155.06 | 5.58673E-03 | 53.28 | Sum | |
| 22 | 1208.45 | 9.50185E-03 | 44.31 | Sum | |
| 23 | 1383.58 | 2.73437E-03 | 53.75 | Tol. | AG-110M |
| 24 | 1426.44 | 2.36111E-03 | 50.09 | | |
| 26 | 1472.31 | 2.08333E-03 | 55.18 | Sum | |
| 27 | 1486.65 | 4.17989E-03 | 41.50 | | |
| 28 | 1588.59 | 6.88172E-03 | 31.04 | | |
| 29 | 1622.36 | 2.71991E-03 | 40.85 | | |
| 30 | 1630.31 | 2.91667E-03 | 42.72 | | |
| 31 | 1659.78 | 3.92361E-03 | 31.66 | | |
| 32 | 1695.70 | 2.42424E-03 | 45.92 | Sum | |
| 34 | 1892.55 | 1.38889E-03 | 63.44 | | |
| 35 | 1938.92 | 1.38889E-03 | 44.72 | | |
| 37 | 2430.81 | 2.50000E-03 | 33.33 | Sum | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Analysis Report for 1510085-07

CP5007S08-09

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| K-40 | 0.98 | 1460.81 * | 10.67 | 1.84E+01 | 3.25E+00 |
| GA-67 | 0.38 | 93.31 * | 35.70 | 1.13E+02 | 4.70E+02 |
| | | 208.95 | 2.24 | | |
| | | 300.22 | 16.00 | | |
| TL-208 | 0.88 | 583.14 * | 30.22 | 1.63E+00 | 4.94E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 1.64E+00 | 5.05E-01 |
| BI-212 | 0.76 | 727.17 * | 11.80 | 1.98E+00 | 1.02E+00 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.78 | 238.63 * | 44.60 | 1.77E+00 | 3.40E-01 |
| | | 300.09 | 3.41 | | |
| BI-214 | 0.99 | 609.31 * | 46.30 | 1.19E+00 | 3.67E-01 |
| | | 1120.29 * | 15.10 | 1.83E+00 | 1.41E+00 |
| | | 1764.49 * | 15.80 | 1.76E+00 | 7.20E-01 |
| | | 2204.22 * | 4.98 | 1.66E+00 | 1.61E+00 |
| PB-214 | 0.98 | 295.21 * | 19.19 | 1.99E+00 | 6.67E-01 |
| | | 351.92 * | 37.19 | 1.29E+00 | 3.40E-01 |
| RA-226 | 0.99 | 186.21 * | 3.28 | 7.18E+00 | 1.35E+01 |
| AC-228 | 0.51 | 338.32 | 11.40 | | |
| | | 911.07 * | 27.70 | 1.62E+00 | 7.06E-01 |
| | | 969.11 * | 16.60 | 1.92E+00 | 1.18E+00 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | 0.989 | 1.84E+01 | 3.25E+00 | |
| GA-67 | 0.385 | 1.13E+02 | 4.70E+02 | |
| TL-208 | 0.881 | 1.63E+00 | 3.53E-01 | |
| BI-212 | 0.760 | 1.98E+00 | 1.02E+00 | |
| PB-212 | 0.788 | 1.77E+00 | 3.40E-01 | |
| BI-214 | 0.997 | 1.35E+00 | 3.12E-01 | |

Analysis Report for 1510085-07
CP5007S08-09

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-------------------------|--------------------------------------|---|---|-----------------|
| PB-214 | 0.981 | 1.43E+00 | 3.03E-01 | |
| RA-226 | 0.992 | 7.18E+00 | 1.35E+01 | |
| AC-228 | 0.519 | 1.70E+00 | 6.06E-01 | |

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-07
CP5007S08-09

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 7:09:09AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| M 1 | 64.41 | 8.27442E-02 | 24.64 | | |
| m 2 | 75.97 | 2.67776E-01 | 8.07 | | |
| 5 | 226.52 | 1.01589E-02 | 58.93 | | |
| 7 | 270.18 | 1.23443E-02 | 49.54 | | |
| 9 | 329.21 | 1.36111E-02 | 47.43 | Tol. | LA-140 |
| 10 | 339.38 | 3.58770E-02 | 22.95 | | |
| 12 | 511.23 | 2.08398E-02 | 34.94 | | |
| 15 | 632.59 | 1.86370E-02 | 44.27 | | |
| 17 | 859.30 | 8.71914E-03 | 61.36 | | |
| 21 | 1155.06 | 5.58673E-03 | 53.28 | Sum | |
| 22 | 1208.45 | 9.50185E-03 | 44.31 | Sum | |
| 23 | 1383.58 | 2.73437E-03 | 53.75 | Tol. | AG-110M |
| 24 | 1426.44 | 2.36111E-03 | 50.09 | | |
| 26 | 1472.31 | 2.08333E-03 | 55.18 | Sum | |
| 27 | 1486.65 | 4.17989E-03 | 41.50 | | |
| 28 | 1588.59 | 6.88172E-03 | 31.04 | | |
| 29 | 1622.36 | 2.71991E-03 | 40.85 | | |
| 30 | 1630.31 | 2.91667E-03 | 42.72 | | |
| 31 | 1659.78 | 3.92361E-03 | 31.66 | | |
| 32 | 1695.70 | 2.42424E-03 | 45.92 | Sum | |
| 34 | 1892.55 | 1.38889E-03 | 63.44 | | |
| 35 | 1938.92 | 1.38889E-03 | 44.72 | | |
| 37 | 2430.81 | 2.50000E-03 | 33.33 | Sum | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-07
CP5007S08-09

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | BE-7 | 477.59 | 10.42 | 4.37E-01 | 1.90E+00 | 1.90E+00 |
| + | NA-22 | 1274.54 | 99.94 | -2.14E-02 | 2.04E-01 | 2.04E-01 |
| + | NA-24 | 1368.53 | 99.99 | 9.92E+12 | 3.11E+13 | 4.66E+13 |
| | | 2754.09 | 99.86 | 0.00E+00 | | 3.11E+13 |
| + | AL-26 | 1808.65 | 99.76 | 2.48E-02 | 1.53E-01 | 1.53E-01 |
| + | K-40 | 1460.81 | * 10.67 | 1.84E+01 | 1.70E+00 | 1.70E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -1.75E-01 | 9.23E-02 | 9.23E-02 |
| | | 78.34 | 96.00 | 3.93E-01 | | 1.20E-01 |
| + | SC-46 | 889.25 | 99.98 | -4.64E-02 | 1.96E-01 | 1.96E-01 |
| | | 1120.51 | 99.99 | 3.04E-01 | | 3.33E-01 |
| + | V-48 | 983.52 | 99.98 | 7.80E-02 | 6.15E-01 | 6.26E-01 |
| | | 1312.10 | 97.50 | -5.76E-02 | | 6.15E-01 |
| + | CR-51 | 320.08 | 9.83 | 4.72E-01 | 2.46E+00 | 2.46E+00 |
| + | MN-54 | 834.83 | 99.97 | -2.31E-02 | 1.79E-01 | 1.79E-01 |
| + | CO-56 | 846.75 | 99.96 | 9.72E-03 | 2.09E-01 | 2.09E-01 |
| | | 1037.75 | 14.03 | 5.79E-01 | | 1.69E+00 |
| | | 1238.25 | 67.00 | 1.94E-01 | | 4.92E-01 |
| | | 1771.40 | 15.51 | -1.91E-01 | | 1.32E+00 |
| | | 2598.48 | 16.90 | 3.84E-01 | | 1.30E+00 |
| + | CO-57 | 122.06 | 85.51 | -3.54E-02 | 1.15E-01 | 1.15E-01 |
| | | 136.48 | 10.60 | -2.36E-01 | | 9.83E-01 |
| + | CO-58 | 810.76 | 99.40 | 5.80E-02 | 2.17E-01 | 2.17E-01 |
| + | FE-59 | 1099.22 | 56.50 | -1.37E-01 | 5.58E-01 | 5.58E-01 |
| | | 1291.56 | 43.20 | -1.74E-01 | | 6.32E-01 |
| + | CO-60 | 1173.22 | 100.00 | -1.59E-02 | 1.71E-01 | 2.22E-01 |
| | | 1332.49 | 100.00 | -6.99E-02 | | 1.71E-01 |
| + | ZN-65 | 1115.52 | 50.75 | -1.50E-02 | 4.78E-01 | 4.78E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.13E+02 | 1.78E+02 | 1.78E+02 |
| | | 208.95 | 2.24 | 2.15E+03 | | 3.02E+03 |
| | | 300.22 | 16.00 | -1.03E+02 | | 4.69E+02 |
| + | SE-75 | 121.11 | 16.70 | -7.75E-02 | 1.94E-01 | 6.46E-01 |
| | | 136.00 | 59.20 | -5.81E-02 | | 1.94E-01 |
| | | 264.65 | 59.80 | -7.94E-02 | | 2.27E-01 |
| | | 279.53 | 25.20 | 1.33E-01 | | 5.32E-01 |
| | | 400.65 | 11.40 | -1.00E-01 | | 1.29E+00 |
| + | RB-82 | 776.52 | 13.00 | -1.34E+00 | 2.58E+00 | 2.58E+00 |
| + | RB-83 | 520.41 | 46.00 | -7.08E-02 | 3.34E-01 | 3.34E-01 |
| | | 529.64 | 30.30 | -1.81E-01 | | 4.99E-01 |
| | | 552.65 | 16.40 | -1.15E-01 | | 1.05E+00 |
| + | KR-85 | 513.99 | 0.43 | 6.50E+01 | 4.27E+01 | 4.27E+01 |
| + | SR-85 | 513.99 | 99.27 | 3.90E-01 | 2.56E-01 | 2.56E-01 |

Analysis Report for 1510085-07
CP5007S08-09

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | Y-88 | 898.02 | 93.40 | 5.68E-02 | 1.80E-01 | 2.15E-01 |
| | | 1836.01 | 99.38 | 3.21E-02 | | 1.80E-01 |
| + | NB-93M | 16.57 | 9.43 | 1.09E+00 | 4.54E-01 | 4.54E-01 |
| + | NB-94 | 702.63 | 100.00 | 3.22E-02 | 1.48E-01 | 1.48E-01 |
| | | 871.10 | 100.00 | -2.30E-02 | | 1.65E-01 |
| + | NB-95 | 765.79 | 99.81 | -2.93E-03 | 3.18E-01 | 3.18E-01 |
| + | NB-95M | 235.69 | 25.00 | 2.00E+01 | 2.25E+02 | 2.25E+02 |
| + | ZR-95 | 724.18 | 43.70 | 1.29E-01 | 4.51E-01 | 5.53E-01 |
| | | 756.72 | 55.30 | 3.57E-02 | | 4.51E-01 |
| + | MO-99 | 181.06 | 6.20 | -6.64E+02 | 2.31E+03 | 3.18E+03 |
| | | 739.58 | 12.80 | 4.22E+02 | | 2.31E+03 |
| | | 778.00 | 4.50 | -4.24E+03 | | 6.35E+03 |
| + | RU-103 | 497.08 | 89.00 | 3.52E-02 | 2.59E-01 | 2.59E-01 |
| + | RU-106 | 621.84 | 9.80 | 3.12E-01 | 1.57E+00 | 1.57E+00 |
| + | AG-108M | 433.93 | 89.90 | 6.63E-02 | 1.49E-01 | 1.49E-01 |
| | | 614.37 | 90.40 | 2.47E-02 | | 1.90E-01 |
| | | 722.95 | 90.50 | -2.07E-02 | | 1.85E-01 |
| + | CD-109 | 88.03 | 3.72 | -2.82E-01 | 2.84E+00 | 2.84E+00 |
| + | AG-110M | 657.75 | 93.14 | -1.08E-01 | 1.61E-01 | 1.61E-01 |
| | | 677.61 | 10.53 | -3.01E-01 | | 1.36E+00 |
| | | 706.67 | 16.46 | -2.67E-01 | | 9.53E-01 |
| | | 763.93 | 21.98 | 1.72E-01 | | 8.89E-01 |
| | | 884.67 | 71.63 | 1.29E-02 | | 2.44E-01 |
| | | 1384.27 | 23.94 | -2.30E-01 | | 7.43E-01 |
| + | CD-113M | 263.70 | 0.02 | -1.60E+02 | 4.92E+02 | 4.92E+02 |
| + | SN-113 | 255.12 | 1.93 | -1.49E-01 | 2.43E-01 | 7.00E+00 |
| | | 391.69 | 64.90 | 1.16E-01 | | 2.43E-01 |
| + | TE123M | 159.00 | 84.10 | 2.37E-02 | 1.47E-01 | 1.47E-01 |
| + | SB-124 | 602.71 | 97.87 | -1.88E-02 | 1.95E-01 | 1.95E-01 |
| | | 645.85 | 7.26 | -7.84E-02 | | 2.79E+00 |
| | | 722.78 | 11.10 | -3.22E-01 | | 1.91E+00 |
| | | 1691.02 | 49.00 | 1.25E-02 | | 3.52E-01 |
| + | I-125 | 35.49 | 6.49 | -1.19E-02 | 1.10E+00 | 1.10E+00 |
| + | SB-125 | 176.33 | 6.89 | -6.03E-01 | 4.42E-01 | 1.45E+00 |
| | | 427.89 | 29.33 | 1.81E-02 | | 4.42E-01 |
| | | 463.38 | 10.35 | 8.76E-01 | | 1.43E+00 |
| | | 600.56 | 17.80 | 3.32E-01 | | 8.13E-01 |
| | | 635.90 | 11.32 | 2.02E-01 | | 1.38E+00 |
| + | SB-126 | 414.70 | 83.30 | -2.00E-01 | 8.38E-01 | 8.38E-01 |
| | | 666.33 | 99.60 | 3.62E-01 | | 8.52E-01 |
| | | 695.00 | 99.60 | 2.81E-01 | | 8.94E-01 |
| | | 720.50 | 53.80 | -2.98E-01 | | 1.42E+00 |
| + | SN-126 | 87.57 | 37.00 | -2.70E-02 | 2.72E-01 | 2.72E-01 |
| + | SB-127 | 473.00 | 25.00 | -5.33E+01 | 8.70E+01 | 1.10E+02 |
| | | 685.20 | 35.70 | -4.26E+01 | | 8.70E+01 |
| | | 783.80 | 14.70 | 6.69E+01 | | 2.58E+02 |
| + | I-129 | 29.78 | 57.00 | -5.17E-02 | 8.32E-02 | 8.32E-02 |
| | | 33.60 | 13.20 | -2.22E-01 | | 3.69E-01 |

Analysis Report for 1510085-07

CP5007S08-09

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|--------------|--------------|----------|----------------------|-------------------------|----------------------|
| | I-129 | 39.58 | 7.52 | -6.44E-01 | 8.32E-02 | 7.10E-01 |
| + | I-131 | 284.30 | 6.05 | -5.19E+00 | 2.02E+00 | 2.37E+01 |
| | | 364.48 | 81.20 | 7.36E-01 | | 2.02E+00 |
| | | 636.97 | 7.26 | 5.51E-01 | | 2.76E+01 |
| | | 722.89 | 1.80 | -1.86E+01 | | 1.10E+02 |
| + | TE-132 | 49.72 | 13.10 | 1.61E+02 | 7.34E+01 | 2.89E+02 |
| | | 228.16 | 88.00 | -1.31E+01 | | 7.34E+01 |
| + | BA-133 | 81.00 | 33.00 | -9.98E-02 | 2.96E-01 | 3.20E-01 |
| | | 302.84 | 17.80 | -2.99E-01 | | 6.74E-01 |
| | | 356.01 | 60.00 | 3.44E-02 | | 2.96E-01 |
| + | I-133 | 529.87 | 86.30 | -1.27E+09 | 3.51E+09 | 3.51E+09 |
| + | XE-133 | 81.00 | 38.00 | -4.52E+00 | 1.45E+01 | 1.45E+01 |
| + | CS-134 | 563.23 | 8.38 | -4.77E-01 | 1.94E-01 | 1.63E+00 |
| | | 569.32 | 15.43 | 9.74E-02 | | 9.23E-01 |
| | | 604.70 | 97.60 | 1.16E-02 | | 1.94E-01 |
| | | 795.84 | 85.40 | 7.48E-02 | | 2.25E-01 |
| | | 801.93 | 8.73 | -1.13E+00 | | 1.96E+00 |
| + | CS-135 | 268.24 | 16.00 | -1.17E-01 | 7.41E-01 | 7.41E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 6.86E-01 | 7.62E-01 | 6.63E+00 |
| | | 163.89 | 4.61 | -1.67E+00 | | 1.09E+01 |
| | | 176.55 | 13.56 | -1.46E+00 | | 3.50E+00 |
| | | 273.65 | 12.66 | 2.48E-01 | | 4.56E+00 |
| | | 340.57 | 48.50 | 2.33E+00 | | 1.46E+00 |
| | | 818.50 | 99.70 | -2.47E-02 | | 7.62E-01 |
| | | 1048.07 | 79.60 | 5.19E-02 | | 1.02E+00 |
| | | 1235.34 | 19.70 | -1.52E+00 | | 5.81E+00 |
| + | CS-137 | 661.65 | 85.12 | 4.02E-02 | 1.81E-01 | 1.81E-01 |
| + | LA-138 | 788.74 | 34.00 | -2.72E-01 | 2.07E-01 | 5.07E-01 |
| | | 1435.80 | 66.00 | -1.45E-02 | | 2.07E-01 |
| + | CE-139 | 165.85 | 80.35 | -4.11E-02 | 1.49E-01 | 1.49E-01 |
| + | BA-140 | 162.64 | 6.70 | -4.46E-01 | 2.76E+00 | 7.83E+00 |
| | | 304.84 | 4.50 | -9.22E+00 | | 1.27E+01 |
| | | 423.70 | 3.20 | -4.94E-01 | | 2.02E+01 |
| | | 437.55 | 2.00 | 3.71E+00 | | 3.26E+01 |
| | | 537.32 | 25.00 | 1.49E+00 | | 2.76E+00 |
| + | LA-140 | 328.77 | 20.50 | 8.98E-01 | 7.64E-01 | 3.08E+00 |
| | | 487.03 | 45.50 | -7.02E-01 | | 1.38E+00 |
| | | 815.85 | 23.50 | 2.12E-01 | | 3.40E+00 |
| | | 1596.49 | 95.49 | 1.04E-02 | | 7.64E-01 |
| + | CE-141 | 145.44 | 48.40 | -1.65E-01 | 3.74E-01 | 3.74E-01 |
| + | CE-143 | 57.36 | 11.80 | -8.54E+04 | 1.31E+06 | 2.20E+06 |
| | | 293.26 | 42.00 | 2.17E+06 | | 1.31E+06 |
| | | 664.55 | 5.20 | 1.45E+06 | | 1.07E+07 |
| + | CE-144 | 133.54 | 10.80 | -1.46E-01 | 9.72E-01 | 9.72E-01 |
| + | PM-144 | 476.78 | 42.00 | 1.99E-02 | 1.46E-01 | 3.36E-01 |
| | | 618.01 | 98.60 | 2.47E-02 | | 1.46E-01 |

Analysis Report for 1510085-07

CP5007S08-09

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | PM-144 | 696.49 | 99.49 | -1.87E-02 | 1.46E-01 | 1.71E-01 |
| + | PM-145 | 36.85 | 21.70 | 4.71E-02 | 1.32E-01 | 2.40E-01 |
| | | 37.36 | 39.70 | 1.67E-02 | | 1.32E-01 |
| | | 42.30 | 15.10 | 2.08E-01 | | 3.88E-01 |
| | | 72.40 | 2.31 | 6.38E+00 | | 4.70E+00 |
| + | PM-146 | 453.90 | 39.94 | 4.09E-02 | 3.17E-01 | 3.17E-01 |
| | | 735.90 | 14.01 | -1.19E-01 | | 1.13E+00 |
| | | 747.13 | 13.10 | 6.41E-02 | | 1.26E+00 |
| + | ND-147 | 91.11 | 28.90 | 2.26E-01 | 2.46E+00 | 2.46E+00 |
| | | 531.02 | 13.10 | -2.62E+00 | | 6.15E+00 |
| + | PM-149 | 285.90 | 3.10 | -1.64E+04 | 4.11E+04 | 4.11E+04 |
| + | EU-152 | 121.78 | 20.50 | -1.37E-01 | 4.44E-01 | 4.44E-01 |
| | | 244.69 | 5.40 | 1.38E-01 | | 2.50E+00 |
| | | 344.27 | 19.13 | -7.75E-02 | | 5.94E-01 |
| | | 778.89 | 9.20 | -1.10E+00 | | 1.65E+00 |
| | | 964.01 | 10.40 | -6.37E-01 | | 2.01E+00 |
| | | 1085.78 | 7.22 | -3.77E-01 | | 2.32E+00 |
| | | 1112.02 | 9.60 | -7.12E-01 | | 1.96E+00 |
| | | 1407.95 | 14.94 | -9.72E-02 | | 1.20E+00 |
| + | GD-153 | 97.43 | 31.30 | -2.75E-02 | 3.09E-01 | 3.09E-01 |
| | | 103.18 | 22.20 | -8.58E-03 | | 4.20E-01 |
| + | EU-154 | 123.07 | 40.50 | -9.40E-02 | 2.28E-01 | 2.28E-01 |
| | | 723.30 | 19.70 | -9.55E-02 | | 8.54E-01 |
| | | 873.19 | 11.50 | 5.39E-02 | | 1.49E+00 |
| | | 996.32 | 10.30 | 1.23E+00 | | 1.91E+00 |
| | | 1004.76 | 17.90 | 2.87E-01 | | 1.00E+00 |
| | | 1274.45 | 35.50 | -5.93E-02 | | 5.65E-01 |
| + | EU-155 | 86.50 | 30.90 | -8.06E-02 | 3.20E-01 | 3.20E-01 |
| | | 105.30 | 20.70 | 1.70E-01 | | 4.18E-01 |
| + | EU-156 | 811.77 | 10.40 | 4.13E-01 | 5.98E+00 | 5.98E+00 |
| | | 1153.47 | 7.20 | -2.30E+00 | | 1.14E+01 |
| | | 1230.71 | 8.90 | -2.49E+00 | | 1.01E+01 |
| + | HO-166M | 184.41 | 72.60 | 2.50E-01 | 1.66E-01 | 1.66E-01 |
| | | 280.45 | 29.60 | 1.99E-02 | | 3.78E-01 |
| | | 410.94 | 11.10 | 5.02E-01 | | 1.21E+00 |
| | | 711.69 | 54.10 | 3.22E-02 | | 2.84E-01 |
| + | TM-171 | 66.72 | 0.14 | -1.42E+01 | 6.38E+01 | 6.38E+01 |
| + | HF-172 | 81.75 | 4.52 | -1.10E+00 | 8.66E-01 | 2.21E+00 |
| | | 125.81 | 11.30 | -3.17E-01 | | 8.66E-01 |
| + | LU-172 | 181.53 | 20.60 | -3.37E+00 | 7.00E+00 | 1.19E+01 |
| | | 810.06 | 16.63 | 5.73E+00 | | 2.15E+01 |
| | | 912.12 | 15.25 | 5.18E+01 | | 3.87E+01 |
| | | 1093.66 | 62.50 | 1.67E+00 | | 7.00E+00 |
| + | LU-173 | 100.72 | 5.24 | -1.36E-01 | 5.94E-01 | 1.70E+00 |
| | | 272.11 | 21.20 | 5.79E-02 | | 5.94E-01 |
| + | HF-175 | 343.40 | 84.00 | -2.36E-02 | 1.97E-01 | 1.97E-01 |
| + | LU-176 | 88.34 | 13.30 | -2.50E-02 | 1.16E-01 | 7.80E-01 |
| | | 201.83 | 86.00 | -5.38E-02 | | 1.31E-01 |
| | | 306.78 | 94.00 | -8.69E-02 | | 1.16E-01 |

Analysis Report for 1510085-07
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| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | TA-182 | 67.75 | 41.20 | -4.79E-01 | 2.53E-01 | 2.53E-01 |
| | | 1121.30 | 34.90 | 8.33E-01 | | 8.94E-01 |
| | | 1189.05 | 16.23 | -2.15E-01 | | 1.52E+00 |
| | | 1221.41 | 26.98 | 5.05E-02 | | 1.00E+00 |
| | | 1231.02 | 11.44 | -5.91E-01 | | 2.40E+00 |
| + | IR-192 | 308.46 | 29.68 | 2.04E-01 | 3.70E-01 | 5.03E-01 |
| | | 468.07 | 48.10 | -5.31E-02 | | 3.70E-01 |
| + | HG-203 | 279.19 | 77.30 | 5.67E-02 | 2.27E-01 | 2.27E-01 |
| + | BI-207 | 569.67 | 97.72 | 1.50E-02 | 1.42E-01 | 1.42E-01 |
| | | 1063.62 | 74.90 | -6.22E-02 | | 1.95E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.63E+00 | 2.24E-01 | 6.48E-01 |
| | | 860.37 | 4.48 | 3.46E-01 | | 4.00E+00 |
| | | 2614.66 | * 35.85 | 1.64E+00 | | 2.24E-01 |
| + | BI-210M | 262.00 | 45.00 | 5.52E-02 | 2.60E-01 | 2.60E-01 |
| | | 300.00 | 23.00 | -1.41E-01 | | 6.21E-01 |
| + | PB-210 | 46.50 | 4.25 | 6.49E-02 | 1.44E+00 | 1.44E+00 |
| + | PB-211 | 404.84 | 2.90 | 1.12E+00 | 4.45E+00 | 4.45E+00 |
| | | 831.96 | 2.90 | 3.06E+00 | | 6.22E+00 |
| + | BI-212 | 727.17 | * 11.80 | 1.98E+00 | 1.51E+00 | 1.51E+00 |
| | | 1620.62 | 2.75 | -3.04E-01 | | 5.93E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.77E+00 | 4.09E-01 | 4.09E-01 |
| | | 300.09 | 3.41 | -9.52E-01 | | 4.19E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.19E+00 | 4.96E-01 | 4.96E-01 |
| | | 1120.29 | * 15.10 | 1.83E+00 | | 2.24E+00 |
| | | 1764.49 | * 15.80 | 1.76E+00 | | 6.60E-01 |
| | | 2204.22 | * 4.98 | 1.66E+00 | | 2.34E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.99E+00 | 4.34E-01 | 9.69E-01 |
| | | 351.92 | * 37.19 | 1.29E+00 | | 4.34E-01 |
| + | RN-219 | 401.80 | 6.50 | -6.90E-01 | 1.89E+00 | 1.89E+00 |
| + | RA-223 | 323.87 | 3.88 | -1.39E-01 | 3.03E+00 | 3.03E+00 |
| + | RA-224 | 240.98 | 3.95 | 2.09E+01 | 4.90E+00 | 4.90E+00 |
| + | RA-225 | 40.00 | 31.00 | -6.37E-01 | 7.03E-01 | 7.03E-01 |
| + | RA-226 | 186.21 | * 3.28 | 7.18E+00 | 4.79E+00 | 4.79E+00 |
| + | TH-227 | 50.10 | 8.40 | 4.31E-01 | 7.71E-01 | 7.71E-01 |
| | | 236.00 | 11.50 | 1.38E-01 | | 1.55E+00 |
| | | 256.20 | 6.30 | 1.98E-01 | | 1.80E+00 |
| + | AC-228 | 338.32 | 11.40 | 1.68E+00 | 1.04E+00 | 1.28E+00 |
| | | 911.07 | * 27.70 | 1.62E+00 | | 1.04E+00 |
| | | 969.11 | * 16.60 | 1.92E+00 | | 1.84E+00 |
| + | TH-230 | 48.44 | 16.90 | 4.56E-02 | 3.71E-01 | 3.71E-01 |
| | | 62.85 | 4.60 | 2.55E+00 | | 1.82E+00 |
| | | 67.67 | 0.37 | -4.45E+01 | | 2.35E+01 |
| + | PA-231 | 283.67 | 1.60 | -4.23E-01 | 5.19E+00 | 6.85E+00 |
| | | 302.67 | 2.30 | -2.30E+00 | | 5.19E+00 |
| + | TH-231 | 25.64 | 14.70 | -1.30E-01 | 3.24E-01 | 3.24E-01 |
| | | 84.21 | 6.40 | 9.56E-02 | | 1.43E+00 |
| + | PA-233 | 311.98 | 38.60 | -1.97E-01 | 6.06E-01 | 6.06E-01 |
| + | PA-234 | 131.20 | 20.40 | 1.70E-01 | 4.82E-01 | 4.82E-01 |

Analysis Report for 1510085-07
CP5007S08-09

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | PA-234 | 733.99 | 8.80 | -1.63E-01 | 4.82E-01 | 1.81E+00 |
| | | 946.00 | 12.00 | 1.82E-01 | | 1.53E+00 |
| + | PA-234M | 1001.03 | 0.92 | -1.85E+00 | 1.95E+01 | 1.95E+01 |
| + | TH-234 | 63.29 | 3.80 | 2.79E+00 | 2.22E+00 | 2.22E+00 |
| + | U-235 | 143.76 | 10.50 | -3.40E-01 | 9.06E-01 | 9.06E-01 |
| | | 163.35 | 4.70 | -3.37E-01 | | 2.20E+00 |
| | | 205.31 | 4.70 | 5.68E-01 | | 2.44E+00 |
| + | NP-237 | 86.50 | 12.60 | -1.96E-01 | 7.77E-01 | 7.77E-01 |
| + | NP-239 | 106.10 | 22.70 | 1.04E+03 | 2.56E+03 | 2.56E+03 |
| | | 228.18 | 10.70 | -1.68E+03 | | 7.05E+03 |
| | | 277.60 | 14.10 | 1.32E+03 | | 5.47E+03 |
| + | AM-241 | 59.54 | 35.90 | -1.98E-02 | 2.16E-01 | 2.16E-01 |
| + | AM-243 | 74.67 | 66.00 | 7.93E-01 | 1.79E-01 | 1.79E-01 |
| + | CM-243 | 209.75 | 3.29 | 1.57E-01 | 8.17E-01 | 3.44E+00 |
| | | 228.14 | 10.60 | -1.87E-01 | | 1.04E+00 |
| | | 277.60 | 14.00 | 1.97E-01 | | 8.17E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| | BE-7 | 477.59 | 10.42 | 1.90E+00 | 1.90E+00 | 4.37E-01 | 8.99E-01 |
| | NA-22 | 1274.54 | 99.94 | 2.04E-01 | 2.04E-01 | -2.14E-02 | 9.25E-02 |
| | NA-24 | 1368.53 | 99.99 | 4.66E+13 | 3.11E+13 | 9.92E+12 | 2.07E+13 |
| | | 2754.09 | 99.86 | 3.11E+13 | | 0.00E+00 | 1.10E+13 |
| | AL-26 | 1808.65 | 99.76 | 1.53E-01 | 1.53E-01 | 2.48E-02 | 6.41E-02 |
| + | K-40 | 1460.81 | * 10.67 | 1.70E+00 | 1.70E+00 | 1.84E+01 | 7.52E-01 |

Analysis Report for 1510085-07

CP5007S08-09

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 9.23E-02 | 9.23E-02 | -1.75E-01 | 4.53E-02 |
| | 78.34 | 96.00 | 1.20E-01 | | 3.93E-01 | 5.93E-02 |
| SC-46 | 889.25 | 99.98 | 1.96E-01 | 1.96E-01 | -4.64E-02 | 8.97E-02 |
| | 1120.51 | 99.99 | 3.33E-01 | | 3.04E-01 | 1.56E-01 |
| V-48 | 983.52 | 99.98 | 6.26E-01 | 6.15E-01 | 7.80E-02 | 2.87E-01 |
| | 1312.10 | 97.50 | 6.15E-01 | | -5.76E-02 | 2.72E-01 |
| CR-51 | 320.08 | 9.83 | 2.46E+00 | 2.46E+00 | 4.72E-01 | 1.18E+00 |
| MN-54 | 834.83 | 99.97 | 1.79E-01 | 1.79E-01 | -2.31E-02 | 8.28E-02 |
| CO-56 | 846.75 | 99.96 | 2.09E-01 | 2.09E-01 | 9.72E-03 | 9.64E-02 |
| | 1037.75 | 14.03 | 1.69E+00 | | 5.79E-01 | 7.73E-01 |
| | 1238.25 | 67.00 | 4.92E-01 | | 1.94E-01 | 2.29E-01 |
| | 1771.40 | 15.51 | 1.32E+00 | | -1.91E-01 | 5.56E-01 |
| | 2598.48 | 16.90 | 1.30E+00 | | 3.84E-01 | 5.25E-01 |
| CO-57 | 122.06 | 85.51 | 1.15E-01 | 1.15E-01 | -3.54E-02 | 5.59E-02 |
| | 136.48 | 10.60 | 9.83E-01 | | -2.36E-01 | 4.79E-01 |
| CO-58 | 810.76 | 99.40 | 2.17E-01 | 2.17E-01 | 5.80E-02 | 1.01E-01 |
| FE-59 | 1099.22 | 56.50 | 5.58E-01 | 5.58E-01 | -1.37E-01 | 2.57E-01 |
| | 1291.56 | 43.20 | 6.32E-01 | | -1.74E-01 | 2.82E-01 |
| CO-60 | 1173.22 | 100.00 | 2.22E-01 | 1.71E-01 | -1.59E-02 | 1.02E-01 |
| | 1332.49 | 100.00 | 1.71E-01 | | -6.99E-02 | 7.60E-02 |
| ZN-65 | 1115.52 | 50.75 | 4.78E-01 | 4.78E-01 | -1.50E-02 | 2.21E-01 |
| + GA-67 | 93.31 | * 35.70 | 1.78E+02 | 1.78E+02 | 1.13E+02 | 8.73E+01 |
| | 208.95 | 2.24 | 3.02E+03 | | 2.15E+03 | 1.47E+03 |
| | 300.22 | 16.00 | 4.69E+02 | | -1.03E+02 | 2.26E+02 |
| SE-75 | 121.11 | 16.70 | 6.46E-01 | 1.94E-01 | -7.75E-02 | 3.15E-01 |
| | 136.00 | 59.20 | 1.94E-01 | | -5.81E-02 | 9.47E-02 |
| | 264.65 | 59.80 | 2.27E-01 | | -7.94E-02 | 1.10E-01 |
| | 279.53 | 25.20 | 5.32E-01 | | 1.33E-01 | 2.56E-01 |
| | 400.65 | 11.40 | 1.29E+00 | | -1.00E-01 | 6.13E-01 |
| RB-82 | 776.52 | 13.00 | 2.58E+00 | 2.58E+00 | -1.34E+00 | 1.19E+00 |
| RB-83 | 520.41 | 46.00 | 3.34E-01 | 3.34E-01 | -7.08E-02 | 1.56E-01 |
| | 529.64 | 30.30 | 4.99E-01 | | -1.81E-01 | 2.33E-01 |
| | 552.65 | 16.40 | 1.05E+00 | | -1.15E-01 | 4.93E-01 |
| KR-85 | 513.99 | 0.43 | 4.27E+01 | 4.27E+01 | 6.50E+01 | 2.05E+01 |
| SR-85 | 513.99 | 99.27 | 2.56E-01 | 2.56E-01 | 3.90E-01 | 1.23E-01 |
| Y-88 | 898.02 | 93.40 | 2.15E-01 | 1.80E-01 | 5.68E-02 | 9.88E-02 |
| | 1836.01 | 99.38 | 1.80E-01 | | 3.21E-02 | 7.46E-02 |
| NB-93M | 16.57 | 9.43 | 4.54E-01 | 4.54E-01 | 1.09E+00 | 2.21E-01 |
| NB-94 | 702.63 | 100.00 | 1.48E-01 | 1.48E-01 | 3.22E-02 | 6.89E-02 |
| | 871.10 | 100.00 | 1.65E-01 | | -2.30E-02 | 7.61E-02 |
| NB-95 | 765.79 | 99.81 | 3.18E-01 | 3.18E-01 | -2.93E-03 | 1.49E-01 |
| NB-95M | 235.69 | 25.00 | 2.25E+02 | 2.25E+02 | 2.00E+01 | 1.10E+02 |
| ZR-95 | 724.18 | 43.70 | 5.53E-01 | 4.51E-01 | 1.29E-01 | 2.60E-01 |
| | 756.72 | 55.30 | 4.51E-01 | | 3.57E-02 | 2.12E-01 |
| MO-99 | 181.06 | 6.20 | 3.18E+03 | 2.31E+03 | -6.64E+02 | 1.55E+03 |
| | 739.58 | 12.80 | 2.31E+03 | | 4.22E+02 | 1.08E+03 |
| | 778.00 | 4.50 | 6.35E+03 | | -4.24E+03 | 2.94E+03 |
| RU-103 | 497.08 | 89.00 | 2.59E-01 | 2.59E-01 | 3.52E-02 | 1.22E-01 |
| RU-106 | 621.84 | 9.80 | 1.57E+00 | 1.57E+00 | 3.12E-01 | 7.38E-01 |
| AG-108M | 433.93 | 89.90 | 1.49E-01 | 1.49E-01 | 6.63E-02 | 7.11E-02 |
| | 614.37 | 90.40 | 1.90E-01 | | 2.47E-02 | 9.01E-02 |
| | 722.95 | 90.50 | 1.85E-01 | | -2.07E-02 | 8.65E-02 |

Analysis Report for 1510085-07
 CP5007S08-09

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| CD-109 | 88.03 | 3.72 | 2.84E+00 | 2.84E+00 | -2.82E-01 | 1.40E+00 |
| AG-110M | 657.75 | 93.14 | 1.61E-01 | 1.61E-01 | -1.08E-01 | 7.47E-02 |
| | 677.61 | 10.53 | 1.36E+00 | | -3.01E-01 | 6.27E-01 |
| | 706.67 | 16.46 | 9.53E-01 | | -2.67E-01 | 4.42E-01 |
| | 763.93 | 21.98 | 8.89E-01 | | 1.72E-01 | 4.17E-01 |
| | 884.67 | 71.63 | 2.44E-01 | | 1.29E-02 | 1.12E-01 |
| | 1384.27 | 23.94 | 7.43E-01 | | -2.30E-01 | 3.27E-01 |
| CD-113M | 263.70 | 0.02 | 4.92E+02 | 4.92E+02 | -1.60E+02 | 2.37E+02 |
| SN-113 | 255.12 | 1.93 | 7.00E+00 | 2.43E-01 | -1.49E-01 | 3.38E+00 |
| | 391.69 | 64.90 | 2.43E-01 | | 1.16E-01 | 1.16E-01 |
| TE123M | 159.00 | 84.10 | 1.47E-01 | 1.47E-01 | 2.37E-02 | 7.15E-02 |
| SB-124 | 602.71 | 97.87 | 1.95E-01 | 1.95E-01 | -1.88E-02 | 9.10E-02 |
| | 645.85 | 7.26 | 2.79E+00 | | -7.84E-02 | 1.30E+00 |
| | 722.78 | 11.10 | 1.91E+00 | | -3.22E-01 | 8.87E-01 |
| | 1691.02 | 49.00 | 3.52E-01 | | 1.25E-02 | 1.42E-01 |
| I-125 | 35.49 | 6.49 | 1.10E+00 | 1.10E+00 | -1.19E-02 | 5.39E-01 |
| SB-125 | 176.33 | 6.89 | 1.45E+00 | 4.42E-01 | -6.03E-01 | 7.03E-01 |
| | 427.89 | 29.33 | 4.42E-01 | | 1.81E-02 | 2.10E-01 |
| | 463.38 | 10.35 | 1.43E+00 | | 8.76E-01 | 6.79E-01 |
| | 600.56 | 17.80 | 8.13E-01 | | 3.32E-01 | 3.81E-01 |
| | 635.90 | 11.32 | 1.38E+00 | | 2.02E-01 | 6.46E-01 |
| SB-126 | 414.70 | 83.30 | 8.38E-01 | 8.38E-01 | -2.00E-01 | 3.99E-01 |
| | 666.33 | 99.60 | 8.52E-01 | | 3.62E-01 | 4.00E-01 |
| | 695.00 | 99.60 | 8.94E-01 | | 2.81E-01 | 4.19E-01 |
| | 720.50 | 53.80 | 1.42E+00 | | -2.98E-01 | 6.59E-01 |
| SN-126 | 87.57 | 37.00 | 2.72E-01 | 2.72E-01 | -2.70E-02 | 1.34E-01 |
| SB-127 | 473.00 | 25.00 | 1.10E+02 | 8.70E+01 | -5.33E+01 | 5.17E+01 |
| | 685.20 | 35.70 | 8.70E+01 | | -4.26E+01 | 4.04E+01 |
| | 783.80 | 14.70 | 2.58E+02 | | 6.69E+01 | 1.21E+02 |
| I-129 | 29.78 | 57.00 | 8.32E-02 | 8.32E-02 | -5.17E-02 | 4.06E-02 |
| | 33.60 | 13.20 | 3.69E-01 | | -2.22E-01 | 1.80E-01 |
| | 39.58 | 7.52 | 7.10E-01 | | -6.44E-01 | 3.47E-01 |
| I-131 | 284.30 | 6.05 | 2.37E+01 | 2.02E+00 | -5.19E+00 | 1.14E+01 |
| | 364.48 | 81.20 | 2.02E+00 | | 7.36E-01 | 9.66E-01 |
| | 636.97 | 7.26 | 2.76E+01 | | 5.51E-01 | 1.29E+01 |
| | 722.89 | 1.80 | 1.10E+02 | | -1.86E+01 | 5.13E+01 |
| TE-132 | 49.72 | 13.10 | 2.89E+02 | 7.34E+01 | 1.61E+02 | 1.41E+02 |
| | 228.16 | 88.00 | 7.34E+01 | | -1.31E+01 | 3.55E+01 |
| BA-133 | 81.00 | 33.00 | 3.20E-01 | 2.96E-01 | -9.98E-02 | 1.57E-01 |
| | 302.84 | 17.80 | 6.74E-01 | | -2.99E-01 | 3.24E-01 |
| | 356.01 | 60.00 | 2.96E-01 | | 3.44E-02 | 1.43E-01 |
| I-133 | 529.87 | 86.30 | 3.51E+09 | 3.51E+09 | -1.27E+09 | 1.64E+09 |
| XE-133 | 81.00 | 38.00 | 1.45E+01 | 1.45E+01 | -4.52E+00 | 7.13E+00 |
| CS-134 | 563.23 | 8.38 | 1.63E+00 | 1.94E-01 | -4.77E-01 | 7.65E-01 |
| | 569.32 | 15.43 | 9.23E-01 | | 9.74E-02 | 4.34E-01 |
| | 604.70 | 97.60 | 1.94E-01 | | 1.16E-02 | 9.22E-02 |
| | 795.84 | 85.40 | 2.25E-01 | | 7.48E-02 | 1.06E-01 |
| | 801.93 | 8.73 | 1.96E+00 | | -1.13E+00 | 9.09E-01 |
| CS-135 | 268.24 | 16.00 | 7.41E-01 | 7.41E-01 | -1.17E-01 | 3.58E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 6.63E+00 | 7.62E-01 | 6.86E-01 | 3.23E+00 |

Analysis Report for 1510085-07
 CP5007S08-09

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|-----------|----------|
| CS-136 | 163.89 | 4.61 | 1.09E+01 | 7.62E-01 | -1.67E+00 | 5.30E+00 | | |
| | 176.55 | 13.56 | 3.50E+00 | | -1.46E+00 | 1.70E+00 | | |
| | 273.65 | 12.66 | 4.56E+00 | | 2.48E-01 | 2.20E+00 | | |
| | 340.57 | 48.50 | 1.46E+00 | | 2.33E+00 | 7.07E-01 | | |
| | 818.50 | 99.70 | 7.62E-01 | | -2.47E-02 | 3.52E-01 | | |
| | 1048.07 | 79.60 | 1.02E+00 | | 5.19E-02 | 4.66E-01 | | |
| | 1235.34 | 19.70 | 5.81E+00 | | -1.52E+00 | 2.69E+00 | | |
| CS-137 | 661.65 | 85.12 | 1.81E-01 | 1.81E-01 | 4.02E-02 | 8.49E-02 | | |
| LA-138 | 788.74 | 34.00 | 5.07E-01 | 2.07E-01 | -2.72E-01 | 2.36E-01 | | |
| | 1435.80 | 66.00 | 2.07E-01 | | -1.45E-02 | 8.81E-02 | | |
| CE-139 | 165.85 | 80.35 | 1.49E-01 | 1.49E-01 | -4.11E-02 | 7.24E-02 | | |
| BA-140 | 162.64 | 6.70 | 7.83E+00 | 2.76E+00 | -4.46E-01 | 3.81E+00 | | |
| | 304.84 | 4.50 | 1.27E+01 | | -9.22E+00 | 6.09E+00 | | |
| | 423.70 | 3.20 | 2.02E+01 | | -4.94E-01 | 9.60E+00 | | |
| | 437.55 | 2.00 | 3.26E+01 | | 3.71E+00 | 1.55E+01 | | |
| | 537.32 | 25.00 | 2.76E+00 | | 1.49E+00 | 1.30E+00 | | |
| LA-140 | 328.77 | 20.50 | 3.08E+00 | 7.64E-01 | 8.98E-01 | 1.48E+00 | | |
| | 487.03 | 45.50 | 1.38E+00 | | -7.02E-01 | 6.48E-01 | | |
| | 815.85 | 23.50 | 3.40E+00 | | 2.12E-01 | 1.57E+00 | | |
| CE-141 | 1596.49 | 95.49 | 7.64E-01 | | 1.04E-02 | 3.23E-01 | | |
| CE-143 | 145.44 | 48.40 | 3.74E-01 | 3.74E-01 | -1.65E-01 | 1.82E-01 | | |
| | 57.36 | 11.80 | 2.20E+06 | | 1.31E+06 | -8.54E+04 | 1.08E+06 | |
| | 293.26 | 42.00 | 1.31E+06 | | 2.17E+06 | 6.35E+05 | | |
| CE-144 | 664.55 | 5.20 | 1.07E+07 | | 1.45E+06 | 5.01E+06 | | |
| PM-144 | 133.54 | 10.80 | 9.72E-01 | 9.72E-01 | -1.46E-01 | 4.74E-01 | | |
| | 476.78 | 42.00 | 3.36E-01 | | 1.46E-01 | 1.99E-02 | 1.59E-01 | |
| | 618.01 | 98.60 | 1.46E-01 | | 2.47E-02 | 6.79E-02 | | |
| PM-145 | 696.49 | 99.49 | 1.71E-01 | 1.32E-01 | -1.87E-02 | 8.02E-02 | | |
| | 36.85 | 21.70 | 2.40E-01 | | 4.71E-02 | 1.17E-01 | | |
| | 37.36 | 39.70 | 1.32E-01 | | 1.67E-02 | 6.45E-02 | | |
| | 42.30 | 15.10 | 3.88E-01 | | 2.08E-01 | 1.90E-01 | | |
| PM-146 | 72.40 | 2.31 | 4.70E+00 | 3.17E-01 | 6.38E+00 | 2.31E+00 | | |
| | 453.90 | 39.94 | 3.17E-01 | | 4.09E-02 | 1.50E-01 | | |
| | 735.90 | 14.01 | 1.13E+00 | | -1.19E-01 | 5.25E-01 | | |
| ND-147 | 747.13 | 13.10 | 1.26E+00 | 2.46E+00 | 6.41E-02 | 5.88E-01 | | |
| | 91.11 | 28.90 | 2.46E+00 | | 2.26E-01 | 1.21E+00 | | |
| PM-149 | 531.02 | 13.10 | 6.15E+00 | | -2.62E+00 | 2.88E+00 | | |
| EU-152 | 285.90 | 3.10 | 4.11E+04 | 4.44E-01 | -1.64E+04 | 1.97E+04 | | |
| | 121.78 | 20.50 | 4.44E-01 | | -1.37E-01 | 2.17E-01 | | |
| | 244.69 | 5.40 | 2.50E+00 | | 1.38E-01 | 1.22E+00 | | |
| | 344.27 | 19.13 | 5.94E-01 | | -7.75E-02 | 2.84E-01 | | |
| | 778.89 | 9.20 | 1.65E+00 | | -1.10E+00 | 7.60E-01 | | |
| | 964.01 | 10.40 | 2.01E+00 | | -6.37E-01 | 9.36E-01 | | |
| | 1085.78 | 7.22 | 2.32E+00 | | -3.77E-01 | 1.05E+00 | | |
| | 1112.02 | 9.60 | 1.96E+00 | | -7.12E-01 | 8.95E-01 | | |
| | 1407.95 | 14.94 | 1.20E+00 | | -9.72E-02 | 5.31E-01 | | |
| | GD-153 | 97.43 | 31.30 | | 3.09E-01 | 3.09E-01 | -2.75E-02 | 1.51E-01 |
| | | 103.18 | 22.20 | | 4.20E-01 | | -8.58E-03 | 2.05E-01 |
| | EU-154 | 123.07 | 40.50 | | 2.28E-01 | 2.28E-01 | -9.40E-02 | 1.11E-01 |
| 723.30 | | 19.70 | 8.54E-01 | -9.55E-02 | 4.00E-01 | | | |
| 873.19 | | 11.50 | 1.49E+00 | 5.39E-02 | 6.88E-01 | | | |
| 996.32 | | 10.30 | 1.91E+00 | 1.23E+00 | 8.81E-01 | | | |
| 1004.76 | | 17.90 | 1.00E+00 | 2.87E-01 | 4.60E-01 | | | |

Analysis Report for 1510085-07
CP5007S08-09

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| EU-154 | 1274.45 | 35.50 | 5.65E-01 | 2.28E-01 | -5.93E-02 | 2.56E-01 |
| EU-155 | 86.50 | 30.90 | 3.20E-01 | 3.20E-01 | -8.06E-02 | 1.57E-01 |
| | 105.30 | 20.70 | 4.18E-01 | | 1.70E-01 | 2.04E-01 |
| EU-156 | 811.77 | 10.40 | 5.98E+00 | 5.98E+00 | 4.13E-01 | 2.76E+00 |
| | 1153.47 | 7.20 | 1.14E+01 | | -2.30E+00 | 5.25E+00 |
| | 1230.71 | 8.90 | 1.01E+01 | | -2.49E+00 | 4.66E+00 |
| HO-166M | 184.41 | 72.60 | 1.66E-01 | 1.66E-01 | 2.50E-01 | 8.11E-02 |
| | 280.45 | 29.60 | 3.78E-01 | | 1.99E-02 | 1.82E-01 |
| | 410.94 | 11.10 | 1.21E+00 | | 5.02E-01 | 5.78E-01 |
| | 711.69 | 54.10 | 2.84E-01 | | 3.22E-02 | 1.32E-01 |
| TM-171 | 66.72 | 0.14 | 6.38E+01 | 6.38E+01 | -1.42E+01 | 3.13E+01 |
| HF-172 | 81.75 | 4.52 | 2.21E+00 | 8.66E-01 | -1.10E+00 | 1.09E+00 |
| | 125.81 | 11.30 | 8.66E-01 | | -3.17E-01 | 4.23E-01 |
| LU-172 | 181.53 | 20.60 | 1.19E+01 | 7.00E+00 | -3.37E+00 | 5.78E+00 |
| | 810.06 | 16.63 | 2.15E+01 | | 5.73E+00 | 9.94E+00 |
| | 912.12 | 15.25 | 3.87E+01 | | 5.18E+01 | 1.84E+01 |
| | 1093.66 | 62.50 | 7.00E+00 | | 1.67E+00 | 3.22E+00 |
| LU-173 | 100.72 | 5.24 | 1.70E+00 | 5.94E-01 | -1.36E-01 | 8.29E-01 |
| | 272.11 | 21.20 | 5.94E-01 | | 5.79E-02 | 2.87E-01 |
| HF-175 | 343.40 | 84.00 | 1.97E-01 | 1.97E-01 | -2.36E-02 | 9.44E-02 |
| LU-176 | 88.34 | 13.30 | 7.80E-01 | 1.16E-01 | -2.50E-02 | 3.83E-01 |
| | 201.83 | 86.00 | 1.31E-01 | | -5.38E-02 | 6.37E-02 |
| | 306.78 | 94.00 | 1.16E-01 | | -8.69E-02 | 5.56E-02 |
| TA-182 | 67.75 | 41.20 | 2.53E-01 | 2.53E-01 | -4.79E-01 | 1.24E-01 |
| | 1121.30 | 34.90 | 8.94E-01 | | 8.33E-01 | 4.19E-01 |
| | 1189.05 | 16.23 | 1.52E+00 | | -2.15E-01 | 6.99E-01 |
| | 1221.41 | 26.98 | 1.00E+00 | | 5.05E-02 | 4.61E-01 |
| | 1231.02 | 11.44 | 2.40E+00 | | -5.91E-01 | 1.11E+00 |
| IR-192 | 308.46 | 29.68 | 5.03E-01 | 3.70E-01 | 2.04E-01 | 2.41E-01 |
| | 468.07 | 48.10 | 3.70E-01 | | -5.31E-02 | 1.75E-01 |
| HG-203 | 279.19 | 77.30 | 2.27E-01 | 2.27E-01 | 5.67E-02 | 1.09E-01 |
| BI-207 | 569.67 | 97.72 | 1.42E-01 | 1.42E-01 | 1.50E-02 | 6.68E-02 |
| | 1063.62 | 74.90 | 1.95E-01 | | -6.22E-02 | 8.72E-02 |
| + TL-208 | 583.14 | * 30.22 | 6.48E-01 | 2.24E-01 | 1.63E+00 | 3.10E-01 |
| | 860.37 | 4.48 | 4.00E+00 | | 3.46E-01 | 1.86E+00 |
| | 2614.66 | * 35.85 | 2.24E-01 | | 1.64E+00 | 6.67E-02 |
| BI-210M | 262.00 | 45.00 | 2.60E-01 | 2.60E-01 | 5.52E-02 | 1.25E-01 |
| | 300.00 | 23.00 | 6.21E-01 | | -1.41E-01 | 3.01E-01 |
| PB-210 | 46.50 | 4.25 | 1.44E+00 | 1.44E+00 | 6.49E-02 | 7.05E-01 |
| PB-211 | 404.84 | 2.90 | 4.45E+00 | 4.45E+00 | 1.12E+00 | 2.12E+00 |
| | 831.96 | 2.90 | 6.22E+00 | | 3.06E+00 | 2.90E+00 |
| + BI-212 | 727.17 | * 11.80 | 1.51E+00 | 1.51E+00 | 1.98E+00 | 7.08E-01 |
| | 1620.62 | 2.75 | 5.93E+00 | | -3.04E-01 | 2.55E+00 |
| + PB-212 | 238.63 | * 44.60 | 4.09E-01 | 4.09E-01 | 1.77E+00 | 2.00E-01 |
| | 300.09 | 3.41 | 4.19E+00 | | -9.52E-01 | 2.03E+00 |
| + BI-214 | 609.31 | * 46.30 | 4.96E-01 | 4.96E-01 | 1.19E+00 | 2.38E-01 |
| | 1120.29 | * 15.10 | 2.24E+00 | | 1.83E+00 | 1.07E+00 |
| | 1764.49 | * 15.80 | 6.60E-01 | | 1.76E+00 | 2.53E-01 |
| | 2204.22 | * 4.98 | 2.34E+00 | | 1.66E+00 | 8.82E-01 |
| + PB-214 | 295.21 | * 19.19 | 9.69E-01 | 4.34E-01 | 1.99E+00 | 4.73E-01 |
| | 351.92 | * 37.19 | 4.34E-01 | | 1.29E+00 | 2.10E-01 |
| RN-219 | 401.80 | 6.50 | 1.89E+00 | 1.89E+00 | -6.90E-01 | 8.99E-01 |
| RA-223 | 323.87 | 3.88 | 3.03E+00 | 3.03E+00 | -1.39E-01 | 1.45E+00 |

Analysis Report for 1510085-07

CP5007S08-09

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| RA-224 | 240.98 | 3.95 | 4.90E+00 | 4.90E+00 | 2.09E+01 | 2.40E+00 |
| RA-225 | 40.00 | 31.00 | 7.03E-01 | 7.03E-01 | -6.37E-01 | 3.43E-01 |
| + RA-226 | 186.21 * | 3.28 | 4.79E+00 | 4.79E+00 | 7.18E+00 | 2.35E+00 |
| TH-227 | 50.10 | 8.40 | 7.71E-01 | 7.71E-01 | 4.31E-01 | 3.77E-01 |
| | 236.00 | 11.50 | 1.55E+00 | | 1.38E-01 | 7.60E-01 |
| | 256.20 | 6.30 | 1.80E+00 | | 1.98E-01 | 8.70E-01 |
| + AC-228 | 338.32 | 11.40 | 1.28E+00 | 1.04E+00 | 1.68E+00 | 6.19E-01 |
| | 911.07 * | 27.70 | 1.04E+00 | | 1.62E+00 | 4.98E-01 |
| | 969.11 * | 16.60 | 1.84E+00 | | 1.92E+00 | 8.76E-01 |
| TH-230 | 48.44 | 16.90 | 3.71E-01 | 3.71E-01 | 4.56E-02 | 1.81E-01 |
| | 62.85 | 4.60 | 1.82E+00 | | 2.55E+00 | 8.95E-01 |
| | 67.67 | 0.37 | 2.35E+01 | | -4.45E+01 | 1.15E+01 |
| PA-231 | 283.67 | 1.60 | 6.85E+00 | 5.19E+00 | -4.23E-01 | 3.29E+00 |
| | 302.67 | 2.30 | 5.19E+00 | | -2.30E+00 | 2.49E+00 |
| TH-231 | 25.64 | 14.70 | 3.24E-01 | 3.24E-01 | -1.30E-01 | 1.58E-01 |
| | 84.21 | 6.40 | 1.43E+00 | | 9.56E-02 | 7.03E-01 |
| PA-233 | 311.98 | 38.60 | 6.06E-01 | 6.06E-01 | -1.97E-01 | 2.90E-01 |
| PA-234 | 131.20 | 20.40 | 4.82E-01 | 4.82E-01 | 1.70E-01 | 2.35E-01 |
| | 733.99 | 8.80 | 1.81E+00 | | -1.63E-01 | 8.45E-01 |
| | 946.00 | 12.00 | 1.53E+00 | | 1.82E-01 | 7.08E-01 |
| PA-234M | 1001.03 | 0.92 | 1.95E+01 | 1.95E+01 | -1.85E+00 | 8.96E+00 |
| TH-234 | 63.29 | 3.80 | 2.22E+00 | 2.22E+00 | 2.79E+00 | 1.09E+00 |
| U-235 | 143.76 | 10.50 | 9.06E-01 | 9.06E-01 | -3.40E-01 | 4.41E-01 |
| | 163.35 | 4.70 | 2.20E+00 | | -3.37E-01 | 1.07E+00 |
| | 205.31 | 4.70 | 2.44E+00 | | 5.68E-01 | 1.18E+00 |
| NP-237 | 86.50 | 12.60 | 7.77E-01 | 7.77E-01 | -1.96E-01 | 3.82E-01 |
| NP-239 | 106.10 | 22.70 | 2.56E+03 | 2.56E+03 | 1.04E+03 | 1.25E+03 |
| | 228.18 | 10.70 | 7.05E+03 | | -1.68E+03 | 3.41E+03 |
| | 277.60 | 14.10 | 5.47E+03 | | 1.32E+03 | 2.63E+03 |
| AM-241 | 59.54 | 35.90 | 2.16E-01 | 2.16E-01 | -1.98E-02 | 1.06E-01 |
| AM-243 | 74.67 | 66.00 | 1.79E-01 | 1.79E-01 | 7.93E-01 | 8.80E-02 |
| CM-243 | 209.75 | 3.29 | 3.44E+00 | 8.17E-01 | 1.57E-01 | 1.67E+00 |
| | 228.14 | 10.60 | 1.04E+00 | | -1.87E-01 | 5.04E-01 |
| | 277.60 | 14.00 | 8.17E-01 | | 1.97E-01 | 3.93E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

Analysis Report for 1510085-07
CP5007S08-09

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5007S08-09

Elapsed Live time: 3600
 Elapsed Real Time: 3640

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 1 | 28 | 95 |
| 17: | 87 | 76 | 71 | 87 | 58 | 57 | 71 | 67 |
| 25: | 61 | 58 | 72 | 50 | 51 | 57 | 52 | 59 |
| 33: | 56 | 72 | 67 | 55 | 50 | 67 | 74 | 66 |
| 41: | 64 | 77 | 58 | 65 | 102 | 94 | 88 | 71 |
| 49: | 67 | 66 | 86 | 65 | 95 | 74 | 83 | 79 |
| 57: | 69 | 110 | 93 | 95 | 110 | 127 | 153 | 115 |
| 65: | 123 | 101 | 120 | 103 | 83 | 116 | 117 | 111 |
| 73: | 173 | 234 | 276 | 291 | 254 | 160 | 101 | 92 |
| 81: | 73 | 95 | 96 | 90 | 97 | 140 | 129 | 117 |
| 89: | 120 | 126 | 142 | 148 | 135 | 84 | 75 | 77 |
| 97: | 72 | 63 | 69 | 77 | 66 | 65 | 75 | 69 |
| 105: | 65 | 69 | 68 | 60 | 65 | 64 | 47 | 55 |
| 113: | 72 | 62 | 53 | 65 | 52 | 81 | 64 | 60 |
| 121: | 62 | 58 | 58 | 61 | 60 | 58 | 77 | 75 |
| 129: | 75 | 74 | 64 | 74 | 51 | 42 | 64 | 59 |
| 137: | 63 | 69 | 54 | 60 | 53 | 52 | 62 | 40 |
| 145: | 61 | 49 | 50 | 57 | 54 | 49 | 61 | 58 |
| 153: | 54 | 58 | 59 | 67 | 44 | 55 | 57 | 59 |
| 161: | 48 | 46 | 51 | 52 | 45 | 59 | 50 | 51 |
| 169: | 50 | 56 | 46 | 49 | 44 | 53 | 32 | 50 |
| 177: | 40 | 33 | 29 | 39 | 40 | 50 | 47 | 72 |
| 185: | 101 | 73 | 54 | 52 | 51 | 45 | 43 | 35 |
| 193: | 38 | 55 | 50 | 47 | 46 | 58 | 41 | 38 |
| 201: | 35 | 42 | 38 | 56 | 41 | 49 | 43 | 47 |
| 209: | 45 | 42 | 40 | 32 | 31 | 44 | 30 | 38 |
| 217: | 37 | 44 | 32 | 31 | 30 | 29 | 27 | 35 |
| 225: | 35 | 41 | 43 | 27 | 31 | 29 | 36 | 35 |
| 233: | 48 | 28 | 39 | 52 | 124 | 221 | 187 | 76 |
| 241: | 91 | 59 | 43 | 22 | 22 | 32 | 26 | 33 |
| 249: | 25 | 26 | 34 | 23 | 24 | 28 | 29 | 31 |
| 257: | 30 | 35 | 32 | 30 | 28 | 26 | 30 | 31 |
| 265: | 25 | 20 | 22 | 38 | 30 | 36 | 40 | 21 |
| 273: | 19 | 30 | 30 | 26 | 24 | 28 | 22 | 29 |
| 281: | 20 | 21 | 19 | 26 | 22 | 17 | 25 | 16 |
| 289: | 21 | 24 | 22 | 27 | 47 | 66 | 89 | 48 |
| 297: | 26 | 27 | 36 | 25 | 33 | 10 | 19 | 28 |
| 305: | 17 | 17 | 24 | 13 | 21 | 23 | 17 | 22 |
| 313: | 16 | 18 | 10 | 22 | 19 | 20 | 14 | 23 |
| 321: | 25 | 25 | 16 | 16 | 15 | 21 | 25 | 34 |
| 329: | 23 | 19 | 24 | 20 | 20 | 16 | 17 | 27 |
| 337: | 45 | 51 | 40 | 22 | 21 | 22 | 21 | 10 |
| 345: | 13 | 11 | 17 | 11 | 18 | 56 | 100 | 93 |
| 353: | 61 | 13 | 18 | 15 | 6 | 22 | 20 | 19 |
| 361: | 12 | 19 | 15 | 18 | 21 | 18 | 15 | 23 |

369: 14 16 14 19 13 15 17 19

Sample Title: CP5007S08-09

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 16 | 26 | 20 | 16 | 21 | 17 | 16 | 23 |
| 385: | 14 | 10 | 16 | 14 | 23 | 17 | 16 | 20 |
| 393: | 17 | 14 | 20 | 13 | 14 | 12 | 14 | 16 |
| 401: | 15 | 16 | 14 | 17 | 11 | 14 | 15 | 23 |
| 409: | 16 | 14 | 14 | 24 | 17 | 12 | 16 | 15 |
| 417: | 10 | 16 | 17 | 14 | 17 | 11 | 6 | 10 |
| 425: | 21 | 14 | 15 | 7 | 15 | 21 | 13 | 9 |
| 433: | 15 | 14 | 17 | 13 | 16 | 11 | 12 | 13 |
| 441: | 8 | 11 | 12 | 11 | 11 | 13 | 10 | 12 |
| 449: | 12 | 8 | 13 | 5 | 16 | 18 | 12 | 10 |
| 457: | 11 | 11 | 11 | 9 | 16 | 21 | 23 | 24 |
| 465: | 10 | 12 | 10 | 8 | 10 | 17 | 12 | 11 |
| 473: | 8 | 13 | 6 | 10 | 13 | 16 | 16 | 15 |
| 481: | 12 | 9 | 10 | 6 | 14 | 7 | 10 | 7 |
| 489: | 9 | 16 | 14 | 6 | 12 | 11 | 12 | 16 |
| 497: | 9 | 8 | 10 | 13 | 12 | 10 | 10 | 9 |
| 505: | 12 | 11 | 4 | 23 | 24 | 39 | 40 | 24 |
| 513: | 11 | 15 | 12 | 10 | 8 | 7 | 8 | 8 |
| 521: | 8 | 7 | 10 | 7 | 8 | 14 | 9 | 6 |
| 529: | 7 | 2 | 7 | 7 | 8 | 11 | 5 | 14 |
| 537: | 14 | 10 | 8 | 11 | 7 | 6 | 10 | 9 |
| 545: | 6 | 9 | 9 | 10 | 7 | 11 | 5 | 10 |
| 553: | 12 | 10 | 9 | 8 | 19 | 8 | 6 | 10 |
| 561: | 7 | 9 | 9 | 9 | 10 | 9 | 7 | 5 |
| 569: | 7 | 13 | 7 | 9 | 14 | 9 | 13 | 2 |
| 577: | 10 | 10 | 13 | 9 | 20 | 48 | 68 | 27 |
| 585: | 9 | 18 | 8 | 11 | 6 | 10 | 4 | 9 |
| 593: | 2 | 4 | 9 | 12 | 12 | 4 | 9 | 9 |
| 601: | 9 | 9 | 8 | 4 | 5 | 11 | 24 | 51 |
| 609: | 76 | 44 | 14 | 8 | 6 | 5 | 6 | 6 |
| 617: | 13 | 7 | 9 | 5 | 5 | 9 | 6 | 12 |
| 625: | 9 | 10 | 5 | 4 | 3 | 15 | 12 | 8 |
| 633: | 5 | 6 | 11 | 10 | 5 | 12 | 10 | 10 |
| 641: | 7 | 9 | 5 | 6 | 5 | 8 | 5 | 12 |
| 649: | 10 | 9 | 10 | 7 | 7 | 6 | 5 | 8 |
| 657: | 5 | 7 | 13 | 4 | 4 | 9 | 9 | 12 |
| 665: | 11 | 9 | 9 | 6 | 7 | 6 | 7 | 9 |
| 673: | 3 | 4 | 7 | 7 | 6 | 6 | 9 | 4 |
| 681: | 4 | 4 | 7 | 6 | 8 | 7 | 9 | 4 |
| 689: | 8 | 11 | 12 | 8 | 15 | 12 | 9 | 9 |
| 697: | 2 | 8 | 4 | 6 | 8 | 7 | 8 | 8 |
| 705: | 7 | 4 | 8 | 2 | 5 | 7 | 9 | 6 |
| 713: | 10 | 5 | 11 | 4 | 10 | 6 | 6 | 2 |
| 721: | 3 | 9 | 7 | 6 | 5 | 14 | 21 | 13 |
| 729: | 9 | 10 | 6 | 5 | 10 | 6 | 8 | 6 |
| 737: | 6 | 7 | 7 | 4 | 9 | 7 | 6 | 9 |
| 745: | 3 | 3 | 4 | 10 | 13 | 7 | 10 | 9 |
| 753: | 8 | 5 | 8 | 12 | 5 | 6 | 11 | 14 |
| 761: | 3 | 5 | 12 | 9 | 6 | 4 | 11 | 12 |
| 769: | 10 | 3 | 10 | 4 | 9 | 5 | 5 | 3 |
| 777: | 9 | 5 | 6 | 3 | 6 | 8 | 8 | 7 |
| 785: | 11 | 12 | 5 | 7 | 8 | 5 | 7 | 3 |
| 793: | 9 | 10 | 14 | 14 | 4 | 7 | 8 | 5 |

801: 11 5 7 3 5 7 7 8

Sample Title: CP5007S08-09

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|---|----|----|----|----|----|
| 809: | 8 | 2 | 2 | 8 | 5 | 6 | 5 | 5 |
| 817: | 4 | 8 | 7 | 6 | 5 | 3 | 4 | 7 |
| 825: | 7 | 5 | 8 | 10 | 7 | 7 | 7 | 6 |
| 833: | 3 | 11 | 9 | 4 | 3 | 4 | 4 | 4 |
| 841: | 8 | 7 | 0 | 6 | 10 | 1 | 8 | 6 |
| 849: | 4 | 6 | 7 | 2 | 6 | 10 | 5 | 8 |
| 857: | 7 | 7 | 4 | 13 | 10 | 2 | 4 | 4 |
| 865: | 10 | 4 | 3 | 5 | 5 | 7 | 5 | 10 |
| 873: | 3 | 3 | 7 | 7 | 4 | 9 | 3 | 8 |
| 881: | 6 | 9 | 5 | 1 | 2 | 5 | 5 | 3 |
| 889: | 2 | 6 | 5 | 7 | 4 | 7 | 4 | 5 |
| 897: | 5 | 7 | 2 | 5 | 3 | 7 | 2 | 3 |
| 905: | 4 | 3 | 8 | 8 | 12 | 29 | 27 | 24 |
| 913: | 8 | 4 | 5 | 4 | 8 | 4 | 5 | 4 |
| 921: | 6 | 3 | 7 | 2 | 4 | 6 | 6 | 2 |
| 929: | 8 | 7 | 7 | 5 | 6 | 4 | 7 | 2 |
| 937: | 5 | 2 | 5 | 2 | 8 | 4 | 9 | 4 |
| 945: | 9 | 7 | 2 | 4 | 7 | 5 | 5 | 6 |
| 953: | 5 | 5 | 4 | 4 | 7 | 3 | 3 | 4 |
| 961: | 4 | 3 | 4 | 10 | 7 | 6 | 6 | 20 |
| 969: | 18 | 16 | 9 | 5 | 6 | 3 | 4 | 4 |
| 977: | 4 | 4 | 2 | 7 | 7 | 2 | 5 | 7 |
| 985: | 2 | 5 | 3 | 4 | 5 | 3 | 1 | 6 |
| 993: | 4 | 6 | 6 | 4 | 6 | 7 | 3 | 10 |
| 1001: | 2 | 5 | 3 | 2 | 5 | 3 | 6 | 6 |
| 1009: | 2 | 1 | 4 | 5 | 1 | 4 | 3 | 4 |
| 1017: | 8 | 4 | 5 | 7 | 4 | 5 | 2 | 3 |
| 1025: | 1 | 5 | 7 | 8 | 5 | 2 | 7 | 2 |
| 1033: | 3 | 4 | 4 | 7 | 3 | 6 | 5 | 3 |
| 1041: | 6 | 6 | 1 | 2 | 5 | 4 | 3 | 5 |
| 1049: | 4 | 2 | 6 | 3 | 3 | 3 | 3 | 3 |
| 1057: | 4 | 1 | 3 | 0 | 4 | 4 | 3 | 1 |
| 1065: | 3 | 4 | 2 | 4 | 4 | 5 | 4 | 4 |
| 1073: | 6 | 4 | 5 | 7 | 5 | 4 | 2 | 0 |
| 1081: | 3 | 3 | 3 | 4 | 4 | 4 | 6 | 2 |
| 1089: | 2 | 3 | 5 | 4 | 8 | 3 | 6 | 8 |
| 1097: | 5 | 4 | 3 | 5 | 5 | 3 | 5 | 5 |
| 1105: | 7 | 7 | 8 | 2 | 3 | 6 | 3 | 5 |
| 1113: | 4 | 7 | 4 | 4 | 4 | 14 | 10 | 14 |
| 1121: | 14 | 5 | 8 | 3 | 4 | 4 | 2 | 4 |
| 1129: | 3 | 2 | 4 | 8 | 5 | 4 | 5 | 4 |
| 1137: | 8 | 6 | 6 | 4 | 5 | 7 | 4 | 2 |
| 1145: | 5 | 7 | 5 | 8 | 1 | 3 | 4 | 5 |
| 1153: | 5 | 9 | 8 | 7 | 3 | 6 | 2 | 4 |
| 1161: | 8 | 7 | 2 | 3 | 3 | 6 | 2 | 6 |
| 1169: | 7 | 3 | 7 | 4 | 3 | 8 | 8 | 6 |
| 1177: | 2 | 5 | 7 | 7 | 8 | 5 | 10 | 5 |
| 1185: | 5 | 5 | 5 | 2 | 2 | 6 | 5 | 5 |
| 1193: | 6 | 2 | 3 | 6 | 6 | 7 | 8 | 6 |
| 1201: | 1 | 5 | 2 | 8 | 6 | 7 | 1 | 9 |
| 1209: | 3 | 10 | 5 | 5 | 3 | 5 | 2 | 4 |
| 1217: | 1 | 7 | 4 | 5 | 7 | 6 | 6 | 5 |
| 1225: | 6 | 6 | 8 | 5 | 8 | 8 | 1 | 4 |

1233: 6 6 2 6 7 7 12 6

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| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1241: | 6 | 7 | 8 | 6 | 4 | 6 | 5 | 7 |
| 1249: | 4 | 3 | 4 | 4 | 3 | 3 | 1 | 2 |
| 1257: | 1 | 3 | 6 | 5 | 6 | 4 | 5 | 5 |
| 1265: | 8 | 4 | 4 | 4 | 3 | 3 | 5 | 1 |
| 1273: | 3 | 5 | 1 | 7 | 3 | 5 | 4 | 5 |
| 1281: | 4 | 1 | 3 | 0 | 2 | 3 | 1 | 2 |
| 1289: | 4 | 3 | 4 | 2 | 2 | 4 | 1 | 5 |
| 1297: | 2 | 7 | 0 | 2 | 2 | 1 | 6 | 0 |
| 1305: | 5 | 3 | 3 | 1 | 3 | 2 | 3 | 6 |
| 1313: | 0 | 3 | 2 | 0 | 3 | 0 | 2 | 2 |
| 1321: | 1 | 3 | 3 | 4 | 3 | 4 | 5 | 3 |
| 1329: | 1 | 4 | 4 | 2 | 0 | 1 | 3 | 3 |
| 1337: | 3 | 4 | 2 | 1 | 2 | 3 | 1 | 6 |
| 1345: | 2 | 1 | 4 | 3 | 2 | 4 | 0 | 0 |
| 1353: | 2 | 0 | 7 | 3 | 4 | 0 | 3 | 2 |
| 1361: | 2 | 1 | 6 | 2 | 2 | 4 | 1 | 0 |
| 1369: | 3 | 4 | 3 | 2 | 2 | 0 | 0 | 1 |
| 1377: | 6 | 4 | 1 | 0 | 0 | 4 | 5 | 1 |
| 1385: | 4 | 2 | 0 | 2 | 2 | 2 | 2 | 1 |
| 1393: | 1 | 4 | 0 | 7 | 2 | 3 | 2 | 3 |
| 1401: | 3 | 3 | 0 | 1 | 2 | 5 | 2 | 1 |
| 1409: | 4 | 2 | 1 | 3 | 5 | 3 | 1 | 4 |
| 1417: | 7 | 0 | 4 | 1 | 1 | 0 | 1 | 1 |
| 1425: | 2 | 3 | 1 | 4 | 0 | 1 | 0 | 2 |
| 1433: | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 4 |
| 1441: | 3 | 1 | 3 | 1 | 2 | 3 | 1 | 2 |
| 1449: | 0 | 0 | 0 | 1 | 3 | 3 | 1 | 1 |
| 1457: | 2 | 4 | 26 | 59 | 76 | 72 | 16 | 5 |
| 1465: | 1 | 2 | 2 | 0 | 1 | 0 | 3 | 1 |
| 1473: | 4 | 2 | 0 | 1 | 0 | 1 | 1 | 0 |
| 1481: | 0 | 1 | 2 | 1 | 4 | 0 | 1 | 5 |
| 1489: | 2 | 4 | 1 | 0 | 2 | 0 | 2 | 5 |
| 1497: | 1 | 0 | 2 | 2 | 0 | 2 | 3 | 2 |
| 1505: | 2 | 2 | 0 | 3 | 2 | 0 | 2 | 2 |
| 1513: | 2 | 1 | 1 | 1 | 0 | 0 | 3 | 2 |
| 1521: | 1 | 1 | 1 | 2 | 0 | 2 | 1 | 1 |
| 1529: | 1 | 1 | 1 | 4 | 1 | 1 | 0 | 3 |
| 1537: | 1 | 1 | 1 | 1 | 4 | 0 | 1 | 4 |
| 1545: | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 0 |
| 1553: | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 0 |
| 1561: | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 |
| 1569: | 0 | 1 | 1 | 2 | 0 | 1 | 3 | 0 |
| 1577: | 1 | 3 | 1 | 2 | 2 | 0 | 4 | 1 |
| 1585: | 2 | 5 | 1 | 3 | 2 | 5 | 2 | 3 |
| 1593: | 1 | 1 | 1 | 0 | 0 | 2 | 2 | 1 |
| 1601: | 2 | 2 | 2 | 2 | 1 | 0 | 0 | 1 |
| 1609: | 1 | 1 | 0 | 0 | 0 | 2 | 3 | 0 |
| 1617: | 1 | 0 | 0 | 1 | 2 | 3 | 3 | 1 |
| 1625: | 2 | 0 | 1 | 0 | 4 | 1 | 5 | 3 |
| 1633: | 0 | 1 | 3 | 0 | 3 | 1 | 2 | 1 |
| 1641: | 0 | 1 | 1 | 0 | 0 | 3 | 1 | 3 |
| 1649: | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 1657: | 2 | 3 | 2 | 2 | 4 | 3 | 0 | 0 |

1665: 1 1 1 2 0 2 0 1

Sample Title: CP5007S08-09

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|----|---|---|---|---|---|
| 1673: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | |
| 1681: | 0 | 2 | 0 | 0 | 1 | 1 | 1 | 1 | |
| 1689: | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 4 | |
| 1697: | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | |
| 1705: | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 1713: | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | |
| 1721: | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | |
| 1729: | 3 | 2 | 2 | 1 | 1 | 1 | 2 | 0 | |
| 1737: | 1 | 3 | 0 | 1 | 1 | 0 | 0 | 1 | |
| 1745: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | |
| 1753: | 0 | 1 | 1 | 1 | 0 | 1 | 3 | 0 | |
| 1761: | 1 | 0 | 3 | 10 | 9 | 7 | 1 | 2 | |
| 1769: | 0 | 0 | 1 | 1 | 2 | 0 | 3 | 0 | |
| 1777: | 0 | 0 | 4 | 0 | 1 | 3 | 1 | 0 | |
| 1785: | 1 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | |
| 1793: | 0 | 0 | 3 | 1 | 2 | 2 | 1 | 0 | |
| 1801: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 1809: | 0 | 0 | 2 | 2 | 2 | 2 | 0 | 1 | |
| 1817: | 0 | 1 | 1 | 2 | 0 | 4 | 0 | 1 | |
| 1825: | 2 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | |
| 1833: | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | |
| 1841: | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | |
| 1849: | 2 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | |
| 1857: | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | |
| 1865: | 1 | 2 | 0 | 4 | 0 | 0 | 2 | 1 | |
| 1873: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 1881: | 0 | 1 | 3 | 0 | 1 | 1 | 1 | 0 | |
| 1889: | 0 | 0 | 0 | 4 | 0 | 2 | 1 | 0 | |
| 1897: | 1 | 0 | 2 | 1 | 2 | 3 | 1 | 0 | |
| 1905: | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 0 | |
| 1913: | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | |
| 1921: | 1 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | |
| 1929: | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | |
| 1937: | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | |
| 1945: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 1953: | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | |
| 1961: | 2 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | |
| 1969: | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | |
| 1977: | 1 | 2 | 0 | 1 | 1 | 2 | 0 | 0 | |
| 1985: | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | |
| 1993: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | |
| 2001: | 0 | 2 | 0 | 1 | 3 | 1 | 0 | 0 | |
| 2009: | 0 | 2 | 0 | 1 | 0 | 1 | 2 | 1 | |
| 2017: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | |
| 2025: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | |
| 2033: | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | |
| 2041: | 0 | 2 | 2 | 2 | 0 | 2 | 1 | 0 | |
| 2049: | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | |
| 2057: | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 0 | |
| 2065: | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | |
| 2073: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | |
| 2081: | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | |
| 2089: | 0 | 1 | 0 | 2 | 2 | 0 | 0 | 1 | |

2097: 0 4 0 0 1 2 0 1

Sample Title: CP5007S08-09

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2105: | 2 | 4 | 1 | 2 | 2 | 0 | 0 | 1 |
| 2113: | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 0 |
| 2121: | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 1 |
| 2129: | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2137: | 0 | 1 | 0 | 2 | 0 | 1 | 2 | 0 |
| 2145: | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| 2153: | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |
| 2161: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2169: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2177: | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| 2185: | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 |
| 2193: | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 2201: | 0 | 0 | 1 | 5 | 2 | 2 | 0 | 0 |
| 2209: | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 |
| 2217: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2225: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2233: | 1 | 0 | 0 | 2 | 0 | 2 | 0 | 0 |
| 2241: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2249: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2257: | 1 | 1 | 1 | 2 | 2 | 1 | 0 | 0 |
| 2265: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2273: | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| 2281: | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| 2289: | 0 | 1 | 1 | 2 | 0 | 1 | 1 | 1 |
| 2297: | 1 | 0 | 2 | 2 | 0 | 1 | 0 | 0 |
| 2305: | 5 | 0 | 0 | 0 | 2 | 1 | 0 | 1 |
| 2313: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2321: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2329: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 |
| 2337: | 1 | 2 | 0 | 2 | 0 | 0 | 1 | 3 |
| 2345: | 0 | 0 | 0 | 1 | 3 | 1 | 1 | 2 |
| 2353: | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| 2361: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2369: | 2 | 0 | 2 | 0 | 1 | 2 | 0 | 0 |
| 2377: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2385: | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2393: | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 |
| 2401: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 2409: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2417: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2425: | 0 | 1 | 0 | 0 | 0 | 1 | 4 | 3 |
| 2433: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2441: | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 2 |
| 2449: | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 |
| 2457: | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 0 |
| 2465: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 2473: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2481: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2489: | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| 2497: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2505: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 2513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2521: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |

2529: 0 0 0 0 1 0 0 1

Sample Title: CP5007S08-09

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|---|---|---|---|---|----|----|
| 2537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2545: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 2553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2577: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2593: | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 |
| 2601: | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| 2609: | 0 | 0 | 0 | 0 | 3 | 5 | 16 | 14 |
| 2617: | 10 | 2 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2633: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 2641: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2649: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2657: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2665: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2681: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2697: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2713: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2737: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2745: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2761: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2769: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2793: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2817: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2841: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2849: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2865: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2873: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2889: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2897: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2921: | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2945: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

2961: 1 0 0 0 0 0 0 0 0

Sample Title: CP5007S08-09

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 2969: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | |
| 2977: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 2985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 3001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3009: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3017: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3033: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3049: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3057: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 3065: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | |
| 3073: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | |
| 3081: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 3089: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3097: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3121: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3129: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3145: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3169: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3185: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 3193: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 3201: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 3209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3241: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3257: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 3265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3273: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 3281: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 3289: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3297: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3313: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3321: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3329: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3345: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 3361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3369: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 3385: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

3393: 0 0 0 0 0 1 0 0

Sample Title: CP5007S08-09

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 3409: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 3417: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3425: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3433: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3441: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3449: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | |
| 3457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3489: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | |
| 3497: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3537: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3569: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3577: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3601: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3617: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3649: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3657: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3665: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3681: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3697: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 3705: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 3769: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3777: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3785: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3817: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |

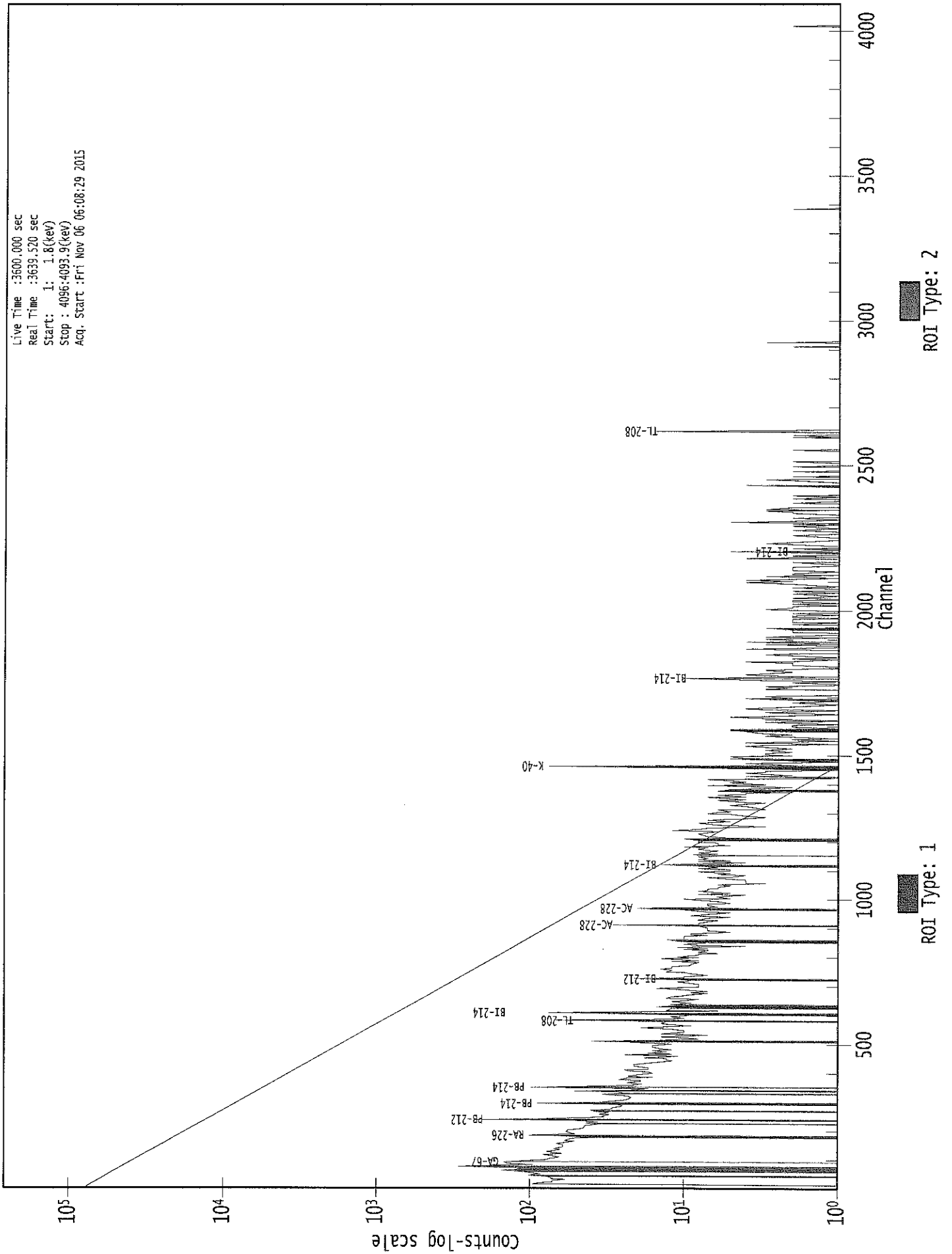
3825: 0 0 0 0 0 1 0 0

Sample Title: CP5007S08-09

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3889: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3897: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3929: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 4017: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029236.CNF

Live Time : 3600.000 sec
Real Time : 3639.520 sec
Start : 1: 1.8(keV)
Stop : 4096:4093.9(keV)
Acq. Start : Fri Nov 06 06:08:29 2015



Analysis Report for 1510085-08
CP5007S11-12

✓
11/6

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-08
Sample Description : CP5007S11-12
Sample Type : SOIL

Sample Size : 5.405E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:39:07AM
Acquisition Started : 11/6/2015 7:10:54AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.03 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 8 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29239

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-08
CP5007S11-12

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 8:11:12AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 46.37 | 46.48 | 0.0000 | 0.00 |
| 2 | 62.84 | 62.94 | 0.0000 | 0.00 |
| 3 | 76.43 | 76.51 | 0.0000 | 0.00 |
| 4 | 84.10 | 84.19 | 0.0000 | 0.00 |
| 5 | 87.19 | 87.28 | 0.0000 | 0.00 |
| 6 | 122.73 | 122.79 | 0.0000 | 0.00 |
| 7 | 186.11 | 186.13 | 0.0000 | 0.00 |
| 8 | 209.12 | 209.13 | 0.0000 | 0.00 |
| 9 | 238.04 | 238.03 | 0.0000 | 0.00 |
| 10 | 241.87 | 241.86 | 0.0000 | 0.00 |
| 11 | 269.97 | 269.95 | 0.0000 | 0.00 |
| 12 | 279.06 | 279.03 | 0.0000 | 0.00 |
| 13 | 295.30 | 295.27 | 0.0000 | 0.00 |
| 14 | 299.97 | 299.93 | 0.0000 | 0.00 |
| 15 | 328.20 | 328.15 | 0.0000 | 0.00 |
| 16 | 338.68 | 338.63 | 0.0000 | 0.00 |
| 17 | 351.99 | 351.92 | 0.0000 | 0.00 |
| 18 | 463.43 | 463.31 | 0.0000 | 0.00 |
| 19 | 511.04 | 510.90 | 0.0000 | 0.00 |
| 20 | 542.02 | 541.86 | 0.0000 | 0.00 |
| 21 | 583.35 | 583.17 | 0.0000 | 0.00 |
| 22 | 609.26 | 609.07 | 0.0000 | 0.00 |
| 23 | 628.42 | 628.22 | 0.0000 | 0.00 |
| 24 | 636.90 | 636.69 | 0.0000 | 0.00 |
| 25 | 727.46 | 727.21 | 0.0000 | 0.00 |
| 26 | 760.16 | 759.90 | 0.0000 | 0.00 |
| 27 | 768.65 | 768.39 | 0.0000 | 0.00 |
| 28 | 795.49 | 795.21 | 0.0000 | 0.00 |
| 29 | 820.83 | 820.55 | 0.0000 | 0.00 |
| 30 | 861.09 | 860.78 | 0.0000 | 0.00 |
| 31 | 911.28 | 910.96 | 0.0000 | 0.00 |
| 32 | 915.74 | 915.41 | 0.0000 | 0.00 |
| 33 | 934.52 | 934.19 | 0.0000 | 0.00 |
| 34 | 964.43 | 964.09 | 0.0000 | 0.00 |
| 35 | 969.23 | 968.88 | 0.0000 | 0.00 |
| 36 | 1002.75 | 1002.38 | 0.0000 | 0.00 |
| 37 | 1034.72 | 1034.35 | 0.0000 | 0.00 |
| 38 | 1095.48 | 1095.08 | 0.0000 | 0.00 |
| 39 | 1120.23 | 1119.82 | 0.0000 | 0.00 |
| 40 | 1238.50 | 1238.05 | 0.0000 | 0.00 |
| 41 | 1331.21 | 1330.73 | 0.0000 | 0.00 |
| 42 | 1367.22 | 1366.72 | 0.0000 | 0.00 |

Analysis Report for 1510085-08
CP5007S11-12

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1407.90 | 1407.39 | 0.0000 | 0.00 |
| 44 | 1460.89 | 1460.37 | 0.0000 | 0.00 |
| 45 | 1511.25 | 1510.71 | 0.0000 | 0.00 |
| 46 | 1543.62 | 1543.08 | 0.0000 | 0.00 |
| 47 | 1556.79 | 1556.24 | 0.0000 | 0.00 |
| 48 | 1563.43 | 1562.88 | 0.0000 | 0.00 |
| 49 | 1587.06 | 1586.50 | 0.0000 | 0.00 |
| 50 | 1620.62 | 1620.06 | 0.0000 | 0.00 |
| 51 | 1632.10 | 1631.53 | 0.0000 | 0.00 |
| 52 | 1660.37 | 1659.79 | 0.0000 | 0.00 |
| 53 | 1729.48 | 1728.88 | 0.0000 | 0.00 |
| 54 | 1764.69 | 1764.09 | 0.0000 | 0.00 |
| 55 | 1803.52 | 1802.90 | 0.0000 | 0.00 |
| 56 | 1846.77 | 1846.15 | 0.0000 | 0.00 |
| 57 | 2052.81 | 2052.14 | 0.0000 | 0.00 |
| 58 | 2060.22 | 2059.56 | 0.0000 | 0.00 |
| 59 | 2102.51 | 2101.84 | 0.0000 | 0.00 |
| 60 | 2108.36 | 2107.68 | 0.0000 | 0.00 |
| 61 | 2203.09 | 2202.40 | 0.0000 | 0.00 |
| 62 | 2340.32 | 2339.60 | 0.0000 | 0.00 |
| 63 | 2428.21 | 2427.49 | 0.0000 | 0.00 |
| 64 | 2614.24 | 2613.50 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-08
 CP5007S11-12

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 8:11:12AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 46.37 | 43 - | 50 | 46.48 | 1.69E+02 | 108.98 | 1.86E+03 | 1.44 |
| 2 | 62.84 | 59 - | 66 | 62.94 | 1.80E+02 | 103.79 | 1.68E+03 | 2.53 |
| 3 | 76.43 | 72 - | 82 | 76.51 | 1.19E+03 | 156.40 | 2.59E+03 | 3.51 |
| M 4 | 84.10 | 82 - | 89 | 84.19 | 5.45E+01 | 62.93 | 9.01E+02 | 1.33 |
| m 5 | 87.19 | 82 - | 89 | 87.28 | 2.03E+02 | 69.83 | 1.00E+03 | 1.34 |
| 6 | 122.73 | 121 - | 125 | 122.79 | 4.99E+01 | 55.44 | 6.46E+02 | 2.71 |
| 7 | 186.11 | 183 - | 189 | 186.13 | 1.56E+02 | 73.72 | 8.75E+02 | 1.21 |
| 8 | 209.12 | 207 - | 211 | 209.13 | 6.45E+01 | 49.85 | 4.95E+02 | 1.41 |
| M 9 | 238.04 | 235 - | 245 | 238.03 | 1.13E+02 | 82.80 | 5.57E+02 | 2.98 |
| m 10 | 241.87 | 235 - | 245 | 241.86 | 2.59E+02 | 74.92 | 4.53E+02 | 2.15 |
| 11 | 269.97 | 267 - | 273 | 269.95 | 7.40E+01 | 52.73 | 4.52E+02 | 2.37 |
| 12 | 279.06 | 275 - | 283 | 279.03 | 5.76E+01 | 62.41 | 5.57E+02 | 3.91 |
| M 13 | 295.30 | 291 - | 304 | 295.27 | 2.99E+02 | 48.09 | 2.54E+02 | 1.60 |
| m 14 | 299.97 | 291 - | 304 | 299.93 | 8.08E+01 | 38.17 | 2.40E+02 | 1.66 |
| 15 | 328.20 | 325 - | 331 | 328.15 | 6.77E+01 | 45.38 | 3.19E+02 | 1.30 |
| 16 | 338.68 | 334 - | 344 | 338.63 | 2.06E+02 | 71.02 | 5.52E+02 | 1.83 |
| 17 | 351.99 | 348 - | 356 | 351.92 | 5.85E+02 | 70.39 | 4.05E+02 | 1.50 |
| 18 | 463.43 | 459 - | 467 | 463.31 | 8.82E+01 | 44.56 | 2.50E+02 | 1.60 |
| 19 | 511.04 | 505 - | 517 | 510.90 | 2.30E+02 | 60.67 | 3.24E+02 | 2.37 |
| 20 | 542.02 | 540 - | 545 | 541.86 | 1.88E+01 | 24.39 | 1.02E+02 | 1.41 |
| 21 | 583.35 | 579 - | 587 | 583.17 | 2.40E+02 | 52.18 | 2.64E+02 | 1.54 |
| 22 | 609.26 | 604 - | 613 | 609.07 | 3.94E+02 | 56.77 | 2.35E+02 | 1.60 |
| 23 | 628.42 | 624 - | 632 | 628.22 | 3.72E+01 | 34.54 | 1.58E+02 | 1.97 |
| 24 | 636.90 | 633 - | 642 | 636.69 | 3.74E+01 | 36.18 | 1.67E+02 | 2.29 |
| 25 | 727.46 | 723 - | 731 | 727.21 | 6.47E+01 | 36.24 | 1.63E+02 | 1.88 |
| 26 | 760.16 | 758 - | 763 | 759.90 | 2.13E+01 | 21.17 | 7.33E+01 | 1.74 |
| 27 | 768.65 | 763 - | 773 | 768.39 | 6.88E+01 | 38.33 | 1.58E+02 | 1.55 |
| 28 | 795.49 | 792 - | 799 | 795.21 | 3.50E+01 | 26.76 | 9.60E+01 | 1.40 |
| 29 | 820.83 | 818 - | 823 | 820.55 | 2.16E+01 | 18.00 | 4.68E+01 | 3.58 |
| 30 | 861.09 | 857 - | 866 | 860.78 | 4.44E+01 | 35.37 | 1.49E+02 | 2.16 |
| M 31 | 911.28 | 908 - | 927 | 910.96 | 1.94E+02 | 32.42 | 5.61E+01 | 1.90 |
| m 32 | 915.74 | 908 - | 927 | 915.41 | 1.85E+01 | 25.31 | 6.82E+01 | 2.36 |
| 33 | 934.52 | 930 - | 939 | 934.19 | 3.97E+01 | 31.56 | 1.19E+02 | 3.42 |
| M 34 | 964.43 | 961 - | 973 | 964.09 | 3.20E+01 | 23.43 | 9.28E+01 | 2.05 |
| m 35 | 969.23 | 961 - | 973 | 968.88 | 1.05E+02 | 29.07 | 8.43E+01 | 2.15 |
| 36 | 1002.75 | 999 - | 1005 | 1002.38 | 2.30E+01 | 21.84 | 7.00E+01 | 2.99 |
| 37 | 1034.72 | 1031 - | 1038 | 1034.35 | 3.25E+01 | 25.38 | 8.11E+01 | 2.75 |
| 38 | 1095.48 | 1091 - | 1099 | 1095.08 | 3.26E+01 | 25.47 | 7.67E+01 | 3.13 |
| 39 | 1120.23 | 1114 - | 1125 | 1119.82 | 1.04E+02 | 38.37 | 1.32E+02 | 1.92 |
| 40 | 1238.50 | 1234 - | 1242 | 1238.05 | 4.57E+01 | 31.22 | 1.23E+02 | 1.66 |

Analysis Report for 1510085-08
CP5007S11-12

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 41 | 1331.21 | 1325 - | 1338 | 1330.73 | 3.32E+01 | 32.36 | 8.97E+01 | 10.78 |
| 42 | 1367.22 | 1364 - | 1369 | 1366.72 | 9.80E+00 | 12.33 | 2.04E+01 | 1.00 |
| 43 | 1407.90 | 1403 - | 1411 | 1407.39 | 2.45E+01 | 18.17 | 3.51E+01 | 1.49 |
| 44 | 1460.89 | 1456 - | 1466 | 1460.37 | 7.11E+02 | 56.82 | 5.70E+01 | 2.42 |
| 45 | 1511.25 | 1506 - | 1516 | 1510.71 | 2.21E+01 | 18.04 | 2.79E+01 | 1.05 |
| 46 | 1543.62 | 1540 - | 1546 | 1543.08 | 1.16E+01 | 10.23 | 1.08E+01 | 4.43 |
| M 47 | 1556.79 | 1554 - | 1566 | 1556.24 | 1.02E+01 | 7.21 | 7.31E+00 | 2.61 |
| m 48 | 1563.43 | 1554 - | 1566 | 1562.88 | 1.11E+01 | 10.20 | 9.85E+00 | 2.61 |
| 49 | 1587.06 | 1582 - | 1591 | 1586.50 | 1.69E+01 | 20.45 | 5.03E+01 | 1.58 |
| 50 | 1620.62 | 1616 - | 1623 | 1620.06 | 1.01E+01 | 12.65 | 1.98E+01 | 1.03 |
| 51 | 1632.10 | 1627 - | 1636 | 1631.53 | 1.70E+01 | 11.58 | 8.10E+00 | 4.85 |
| 52 | 1660.37 | 1654 - | 1663 | 1659.79 | 8.97E+00 | 11.79 | 1.41E+01 | 1.33 |
| 53 | 1729.48 | 1725 - | 1732 | 1728.88 | 1.70E+01 | 10.77 | 8.00E+00 | 3.13 |
| 54 | 1764.69 | 1758 - | 1767 | 1764.09 | 5.93E+01 | 19.49 | 2.15E+01 | 2.91 |
| 55 | 1803.52 | 1798 - | 1806 | 1802.90 | 7.58E+00 | 9.41 | 8.83E+00 | 5.70 |
| 56 | 1846.77 | 1840 - | 1849 | 1846.15 | 1.85E+01 | 12.08 | 1.11E+01 | 3.26 |
| 57 | 2052.81 | 2048 - | 2055 | 2052.14 | 6.00E+00 | 6.93 | 4.00E+00 | 5.70 |
| 58 | 2060.22 | 2057 - | 2062 | 2059.56 | 9.00E+00 | 6.00 | 0.00E+00 | 3.74 |
| 59 | 2102.51 | 2096 - | 2105 | 2101.84 | 1.78E+01 | 14.56 | 2.04E+01 | 1.86 |
| 60 | 2108.36 | 2105 - | 2110 | 2107.68 | 7.50E+00 | 7.62 | 5.00E+00 | 2.05 |
| 61 | 2203.09 | 2196 - | 2206 | 2202.40 | 2.85E+01 | 15.45 | 1.69E+01 | 2.79 |
| 62 | 2340.32 | 2333 - | 2346 | 2339.60 | 1.14E+01 | 13.04 | 1.32E+01 | 1.33 |
| 63 | 2428.21 | 2423 - | 2431 | 2427.49 | 8.77E+00 | 9.62 | 8.46E+00 | 6.73 |
| 64 | 2614.24 | 2609 - | 2619 | 2613.50 | 1.26E+02 | 24.09 | 8.95E+00 | 2.74 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 8:11:12AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 1 | 46.37 | 43 - | 50 | 1.69E+02 | 108.98 | 1.86E+03 | 8.70E+01 |
| 2 | 62.84 | 59 - | 66 | 1.80E+02 | 103.79 | 1.68E+03 | 8.24E+01 |
| 3 | 76.43 | 72 - | 82 | 1.19E+03 | 156.40 | 2.59E+03 | 1.15E+02 |
| M 4 | 84.10 | 82 - | 89 | 5.45E+01 | 62.93 | 9.01E+02 | 4.93E+01 |

Analysis Report for 1510085-08

CP5007S11-12

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| m | 5 | 87.19 | 82 - | 89 | 2.03E+02 | 69.83 | 1.00E+03 | 5.20E+01 |
| | 6 | 122.73 | 121 - | 125 | 4.99E+01 | 55.44 | 6.46E+02 | 4.41E+01 |
| | 7 | 186.11 | 183 - | 189 | 1.56E+02 | 73.72 | 8.75E+02 | 5.70E+01 |
| | 8 | 209.12 | 207 - | 211 | 6.45E+01 | 49.85 | 4.95E+02 | 3.88E+01 |
| M | 9 | 238.04 | 235 - | 245 | 1.13E+02 | 82.80 | 5.57E+02 | 3.88E+01 |
| m | 10 | 241.87 | 235 - | 245 | 2.59E+02 | 74.92 | 4.53E+02 | 3.50E+01 |
| | 11 | 269.97 | 267 - | 273 | 7.40E+01 | 52.73 | 4.52E+02 | 4.10E+01 |
| | 12 | 279.06 | 275 - | 283 | 5.76E+01 | 62.41 | 5.57E+02 | 4.98E+01 |
| M | 13 | 295.30 | 291 - | 304 | 2.99E+02 | 48.09 | 2.54E+02 | 2.62E+01 |
| m | 14 | 299.97 | 291 - | 304 | 8.08E+01 | 38.17 | 2.40E+02 | 2.55E+01 |
| | 15 | 328.20 | 325 - | 331 | 6.77E+01 | 45.38 | 3.19E+02 | 3.48E+01 |
| | 16 | 338.68 | 334 - | 344 | 2.06E+02 | 71.02 | 5.52E+02 | 5.34E+01 |
| | 17 | 351.99 | 348 - | 356 | 5.85E+02 | 70.39 | 4.05E+02 | 4.20E+01 |
| | 18 | 463.43 | 459 - | 467 | 8.82E+01 | 44.56 | 2.50E+02 | 3.32E+01 |
| | 19 | 511.04 | 505 - | 517 | 2.30E+02 | 60.67 | 3.24E+02 | 4.32E+01 |
| | 20 | 542.02 | 540 - | 545 | 1.88E+01 | 24.39 | 1.02E+02 | 1.87E+01 |
| | 21 | 583.35 | 579 - | 587 | 2.40E+02 | 52.18 | 2.64E+02 | 3.45E+01 |
| | 22 | 609.26 | 604 - | 613 | 3.94E+02 | 56.77 | 2.35E+02 | 1.58E+01 |
| | 23 | 628.42 | 624 - | 632 | 3.72E+01 | 34.54 | 1.58E+02 | 2.66E+01 |
| | 24 | 636.90 | 633 - | 642 | 3.74E+01 | 36.18 | 1.67E+02 | 2.80E+01 |
| | 25 | 727.46 | 723 - | 731 | 6.47E+01 | 36.24 | 1.63E+02 | 2.67E+01 |
| | 26 | 760.16 | 758 - | 763 | 2.13E+01 | 21.17 | 7.33E+01 | 1.57E+01 |
| | 27 | 768.65 | 763 - | 773 | 6.88E+01 | 38.33 | 1.58E+02 | 1.30E+01 |
| | 28 | 795.49 | 792 - | 799 | 3.50E+01 | 26.76 | 9.60E+01 | 1.97E+01 |
| | 29 | 820.83 | 818 - | 823 | 2.16E+01 | 18.00 | 4.68E+01 | 1.27E+01 |
| | 30 | 861.09 | 857 - | 866 | 4.44E+01 | 35.37 | 1.49E+02 | 2.69E+01 |
| M | 31 | 911.28 | 908 - | 927 | 1.94E+02 | 32.42 | 5.61E+01 | 1.23E+01 |
| m | 32 | 915.74 | 908 - | 927 | 1.85E+01 | 25.31 | 6.82E+01 | 1.36E+01 |
| | 33 | 934.52 | 930 - | 939 | 3.97E+01 | 31.56 | 1.19E+02 | 2.38E+01 |
| M | 34 | 964.43 | 961 - | 973 | 3.20E+01 | 23.43 | 9.28E+01 | 1.58E+01 |
| m | 35 | 969.23 | 961 - | 973 | 1.05E+02 | 29.07 | 8.43E+01 | 1.51E+01 |
| | 36 | 1002.75 | 999 - | 1005 | 2.30E+01 | 21.84 | 7.00E+01 | 1.61E+01 |
| | 37 | 1034.72 | 1031 - | 1038 | 3.25E+01 | 25.38 | 8.11E+01 | 1.86E+01 |
| | 38 | 1095.48 | 1091 - | 1099 | 3.26E+01 | 25.47 | 7.67E+01 | 1.87E+01 |
| | 39 | 1120.23 | 1114 - | 1125 | 1.04E+02 | 38.37 | 1.32E+02 | 2.67E+01 |
| | 40 | 1238.50 | 1234 - | 1242 | 4.57E+01 | 31.22 | 1.23E+02 | 2.31E+01 |
| | 41 | 1331.21 | 1325 - | 1338 | 3.32E+01 | 32.36 | 8.97E+01 | 2.49E+01 |
| | 42 | 1367.22 | 1364 - | 1369 | 9.80E+00 | 12.33 | 2.04E+01 | 8.73E+00 |
| | 43 | 1407.90 | 1403 - | 1411 | 2.45E+01 | 18.17 | 3.51E+01 | 1.25E+01 |
| | 44 | 1460.89 | 1456 - | 1466 | 7.11E+02 | 56.82 | 5.70E+01 | 1.62E+01 |
| | 45 | 1511.25 | 1506 - | 1516 | 2.21E+01 | 18.04 | 2.79E+01 | 1.27E+01 |
| | 46 | 1543.62 | 1540 - | 1546 | 1.16E+01 | 10.23 | 1.08E+01 | 6.28E+00 |
| M | 47 | 1556.79 | 1554 - | 1566 | 1.02E+01 | 7.21 | 7.31E+00 | 4.44E+00 |
| m | 48 | 1563.43 | 1554 - | 1566 | 1.11E+01 | 10.20 | 9.85E+00 | 5.16E+00 |
| | 49 | 1587.06 | 1582 - | 1591 | 1.69E+01 | 20.45 | 5.03E+01 | 1.54E+01 |
| | 50 | 1620.62 | 1616 - | 1623 | 1.01E+01 | 12.65 | 1.98E+01 | 8.99E+00 |
| | 51 | 1632.10 | 1627 - | 1636 | 1.70E+01 | 11.58 | 8.10E+00 | 6.69E+00 |
| | 52 | 1660.37 | 1654 - | 1663 | 8.97E+00 | 11.79 | 1.41E+01 | 8.35E+00 |
| | 53 | 1729.48 | 1725 - | 1732 | 1.70E+01 | 10.77 | 8.00E+00 | 5.70E+00 |
| | 54 | 1764.69 | 1758 - | 1767 | 5.93E+01 | 19.49 | 2.15E+01 | 9.83E+00 |
| | 55 | 1803.52 | 1798 - | 1806 | 7.58E+00 | 9.41 | 8.83E+00 | 6.27E+00 |

Analysis Report for 1510085-08

CP5007S11-12

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 56 | 1846.77 | 1840 - | 1849 | 1.85E+01 | 12.08 | 1.11E+01 | 6.98E+00 |
| 57 | 2052.81 | 2048 - | 2055 | 6.00E+00 | 6.93 | 4.00E+00 | 4.03E+00 |
| 58 | 2060.22 | 2057 - | 2062 | 9.00E+00 | 6.00 | 0.00E+00 | 0.00E+00 |
| 59 | 2102.51 | 2096 - | 2105 | 1.78E+01 | 14.56 | 2.04E+01 | 9.76E+00 |
| 60 | 2108.36 | 2105 - | 2110 | 7.50E+00 | 7.62 | 5.00E+00 | 4.35E+00 |
| 61 | 2203.09 | 2196 - | 2206 | 2.85E+01 | 15.45 | 1.69E+01 | 9.18E+00 |
| 62 | 2340.32 | 2333 - | 2346 | 1.14E+01 | 13.04 | 1.32E+01 | 9.17E+00 |
| 63 | 2428.21 | 2423 - | 2431 | 8.77E+00 | 9.62 | 8.46E+00 | 6.23E+00 |
| 64 | 2614.24 | 2609 - | 2619 | 1.26E+02 | 24.09 | 8.95E+00 | 7.28E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 8:11:12AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|--------------------------------------|
| 1 | 46.37 | 43 - | 50 | 46.48 | 1.69E+02 | 108.98 | 1.86E+03 | PB-210 |
| 2 | 62.84 | 59 - | 66 | 62.94 | 1.80E+02 | 103.79 | 1.68E+03 | TH-230 TH-234 |
| 3 | 76.43 | 72 - | 82 | 76.51 | 1.19E+03 | 156.40 | 2.59E+03 | ..... |
| M m | 84.10 | 82 - | 89 | 84.19 | 5.45E+01 | 62.93 | 9.01E+02 | TH-231 |
| 5 | 87.19 | 82 - | 89 | 87.28 | 2.03E+02 | 69.83 | 1.00E+03 | SN-126 NP-237 EU-155 CD-109 |
| 6 | 122.73 | 121 - | 125 | 122.79 | 4.99E+01 | 55.44 | 6.46E+02 | EU-154 CO-57 EU-152 |
| 7 | 186.11 | 183 - | 189 | 186.13 | 1.56E+02 | 73.72 | 8.75E+02 | RA-226 |
| 8 | 209.12 | 207 - | 211 | 209.13 | 6.45E+01 | 49.85 | 4.95E+02 | GA-67 CM-243 |
| M m | 238.04 | 235 - | 245 | 238.03 | 1.13E+02 | 82.80 | 5.57E+02 | PB-212 |
| 10 | 241.87 | 235 - | 245 | 241.86 | 2.59E+02 | 74.92 | 4.53E+02 | RA-224 |

Analysis Report for 1510085-08

CP5007S11-12

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| | 11 | 269.97 | 267 - | 273 | 269.95 | 7.40E+01 | 52.73 | 4.52E+02 | ..... |
| | 12 | 279.06 | 275 - | 283 | 279.03 | 5.76E+01 | 62.41 | 5.57E+02 | HG-203 SE-75 |
| M | 13 | 295.30 | 291 - | 304 | 295.27 | 2.99E+02 | 48.09 | 2.54E+02 | PB-214 |
| m | 14 | 299.97 | 291 - | 304 | 299.93 | 8.08E+01 | 38.17 | 2.40E+02 | BI-210M PB-212 GA-67 |
| | 15 | 328.20 | 325 - | 331 | 328.15 | 6.77E+01 | 45.38 | 3.19E+02 | LA-140 |
| | 16 | 338.68 | 334 - | 344 | 338.63 | 2.06E+02 | 71.02 | 5.52E+02 | AC-228 |
| | 17 | 351.99 | 348 - | 356 | 351.92 | 5.85E+02 | 70.39 | 4.05E+02 | PB-214 |
| | 18 | 463.43 | 459 - | 467 | 463.31 | 8.82E+01 | 44.56 | 2.50E+02 | SB-125 |
| | 19 | 511.04 | 505 - | 517 | 510.90 | 2.30E+02 | 60.67 | 3.24E+02 | ..... |
| | 20 | 542.02 | 540 - | 545 | 541.86 | 1.88E+01 | 24.39 | 1.02E+02 | ..... |
| | 21 | 583.35 | 579 - | 587 | 583.17 | 2.40E+02 | 52.18 | 2.64E+02 | TL-208 |
| | 22 | 609.26 | 604 - | 613 | 609.07 | 3.94E+02 | 56.77 | 2.35E+02 | BI-214 |
| | 23 | 628.42 | 624 - | 632 | 628.22 | 3.72E+01 | 34.54 | 1.58E+02 | ..... |
| | 24 | 636.90 | 633 - | 642 | 636.69 | 3.74E+01 | 36.18 | 1.67E+02 | I-131 |
| | 25 | 727.46 | 723 - | 731 | 727.21 | 6.47E+01 | 36.24 | 1.63E+02 | BI-212 |
| | 26 | 760.16 | 758 - | 763 | 759.90 | 2.13E+01 | 21.17 | 7.33E+01 | ..... |
| | 27 | 768.65 | 763 - | 773 | 768.39 | 6.88E+01 | 38.33 | 1.58E+02 | ..... |
| | 28 | 795.49 | 792 - | 799 | 795.21 | 3.50E+01 | 26.76 | 9.60E+01 | CS-134 |
| | 29 | 820.83 | 818 - | 823 | 820.55 | 2.16E+01 | 18.00 | 4.68E+01 | ..... |
| | 30 | 861.09 | 857 - | 866 | 860.78 | 4.44E+01 | 35.37 | 1.49E+02 | TL-208 |
| M | 31 | 911.28 | 908 - | 927 | 910.96 | 1.94E+02 | 32.42 | 5.61E+01 | AC-228 LU-172 |
| m | 32 | 915.74 | 908 - | 927 | 915.41 | 1.85E+01 | 25.31 | 6.82E+01 | ..... |
| | 33 | 934.52 | 930 - | 939 | 934.19 | 3.97E+01 | 31.56 | 1.19E+02 | ..... |
| M | 34 | 964.43 | 961 - | 973 | 964.09 | 3.20E+01 | 23.43 | 9.28E+01 | EU-152 |
| m | 35 | 969.23 | 961 - | 973 | 968.88 | 1.05E+02 | 29.07 | 8.43E+01 | AC-228 |
| | 36 | 1002.75 | 999 - | 1005 | 1002.38 | 2.30E+01 | 21.84 | 7.00E+01 | ..... |
| | 37 | 1034.72 | 1031 - | 1038 | 1034.35 | 3.25E+01 | 25.38 | 8.11E+01 | ..... |
| | 38 | 1095.48 | 1091 - | 1099 | 1095.08 | 3.26E+01 | 25.47 | 7.67E+01 | ..... |
| | 39 | 1120.23 | 1114 - | 1125 | 1119.82 | 1.04E+02 | 38.37 | 1.32E+02 | BI-214 SC-46 |
| | 40 | 1238.50 | 1234 - | 1242 | 1238.05 | 4.57E+01 | 31.22 | 1.23E+02 | CO-56 |
| | 41 | 1331.21 | 1325 - | 1338 | 1330.73 | 3.32E+01 | 32.36 | 8.97E+01 | ..... |
| | 42 | 1367.22 | 1364 - | 1369 | 1366.72 | 9.80E+00 | 12.33 | 2.04E+01 | ..... |
| | 43 | 1407.90 | 1403 - | 1411 | 1407.39 | 2.45E+01 | 18.17 | 3.51E+01 | EU-152 |
| | 44 | 1460.89 | 1456 - | 1466 | 1460.37 | 7.11E+02 | 56.82 | 5.70E+01 | K-40 |
| | 45 | 1511.25 | 1506 - | 1516 | 1510.71 | 2.21E+01 | 18.04 | 2.79E+01 | ..... |
| | 46 | 1543.62 | 1540 - | 1546 | 1543.08 | 1.16E+01 | 10.23 | 1.08E+01 | ..... |
| M | 47 | 1556.79 | 1554 - | 1566 | 1556.24 | 1.02E+01 | 7.21 | 7.31E+00 | ..... |
| m | 48 | 1563.43 | 1554 - | 1566 | 1562.88 | 1.11E+01 | 10.20 | 9.85E+00 | ..... |
| | 49 | 1587.06 | 1582 - | 1591 | 1586.50 | 1.69E+01 | 20.45 | 5.03E+01 | ..... |
| | 50 | 1620.62 | 1616 - | 1623 | 1620.06 | 1.01E+01 | 12.65 | 1.98E+01 | BI-212 |
| | 51 | 1632.10 | 1627 - | 1636 | 1631.53 | 1.70E+01 | 11.58 | 8.10E+00 | ..... |
| | 52 | 1660.37 | 1654 - | 1663 | 1659.79 | 8.97E+00 | 11.79 | 1.41E+01 | ..... |
| | 53 | 1729.48 | 1725 - | 1732 | 1728.88 | 1.70E+01 | 10.77 | 8.00E+00 | ..... |
| | 54 | 1764.69 | 1758 - | 1767 | 1764.09 | 5.93E+01 | 19.49 | 2.15E+01 | BI-214 |
| | 55 | 1803.52 | 1798 - | 1806 | 1802.90 | 7.58E+00 | 9.41 | 8.83E+00 | ..... |
| | 56 | 1846.77 | 1840 - | 1849 | 1846.15 | 1.85E+01 | 12.08 | 1.11E+01 | ..... |
| | 57 | 2052.81 | 2048 - | 2055 | 2052.14 | 6.00E+00 | 6.93 | 4.00E+00 | ..... |
| | 58 | 2060.22 | 2057 - | 2062 | 2059.56 | 9.00E+00 | 6.00 | 0.00E+00 | ..... |
| | 59 | 2102.51 | 2096 - | 2105 | 2101.84 | 1.78E+01 | 14.56 | 2.04E+01 | ..... |

Analysis Report for 1510085-08

CP5007S11-12

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 60 | 2108.36 | 2105 - | 2110 | 2107.68 | 7.50E+00 | 7.62 | 5.00E+00 | ..... |
| 61 | 2203.09 | 2196 - | 2206 | 2202.40 | 2.85E+01 | 15.45 | 1.69E+01 | ..... |
| 62 | 2340.32 | 2333 - | 2346 | 2339.60 | 1.14E+01 | 13.04 | 1.32E+01 | ..... |
| 63 | 2428.21 | 2423 - | 2431 | 2427.49 | 8.77E+00 | 9.62 | 8.46E+00 | ..... |
| 64 | 2614.24 | 2609 - | 2619 | 2613.50 | 1.26E+02 | 24.09 | 8.95E+00 | TL-208 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 8:11:12AM

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty | |
|----------|--------------|---------------|----------------------|-----------------|------------------------|----------|
| | 1 | 46.37 | 1.69E+02 | 108.98 | 1.33E-02 | 1.68E-03 |
| | 2 | 62.84 | 1.80E+02 | 103.79 | 2.36E-02 | 2.01E-03 |
| | 3 | 76.43 | 1.19E+03 | 156.40 | 2.74E-02 | 3.35E-03 |
| M | 4 | 84.10 | 5.45E+01 | 62.93 | 2.83E-02 | 4.12E-03 |
| m | 5 | 87.19 | 2.03E+02 | 69.83 | 2.84E-02 | 4.42E-03 |
| | 6 | 122.73 | 4.99E+01 | 55.44 | 2.66E-02 | 2.97E-03 |
| | 7 | 186.11 | 1.56E+02 | 73.72 | 2.11E-02 | 1.65E-03 |
| | 8 | 209.12 | 6.45E+01 | 49.85 | 1.95E-02 | 1.63E-03 |
| M | 9 | 238.04 | 1.13E+02 | 82.80 | 1.79E-02 | 1.60E-03 |
| m | 10 | 241.87 | 2.59E+02 | 74.92 | 1.77E-02 | 1.60E-03 |
| | 11 | 269.97 | 7.40E+01 | 52.73 | 1.64E-02 | 1.57E-03 |
| | 12 | 279.06 | 5.76E+01 | 62.41 | 1.61E-02 | 1.56E-03 |
| M | 13 | 295.30 | 2.99E+02 | 48.09 | 1.55E-02 | 1.48E-03 |
| m | 14 | 299.97 | 8.08E+01 | 38.17 | 1.53E-02 | 1.46E-03 |
| | 15 | 328.20 | 6.77E+01 | 45.38 | 1.44E-02 | 1.32E-03 |
| | 16 | 338.68 | 2.06E+02 | 71.02 | 1.41E-02 | 1.27E-03 |
| | 17 | 351.99 | 5.85E+02 | 70.39 | 1.37E-02 | 1.21E-03 |
| | 18 | 463.43 | 8.82E+01 | 44.56 | 1.13E-02 | 9.47E-04 |
| | 19 | 511.04 | 2.30E+02 | 60.67 | 1.06E-02 | 8.98E-04 |
| | 20 | 542.02 | 1.88E+01 | 24.39 | 1.01E-02 | 8.67E-04 |
| | 21 | 583.35 | 2.40E+02 | 52.18 | 9.58E-03 | 8.25E-04 |
| | 22 | 609.26 | 3.94E+02 | 56.77 | 9.27E-03 | 7.98E-04 |
| | 23 | 628.42 | 3.72E+01 | 34.54 | 9.06E-03 | 7.79E-04 |
| | 24 | 636.90 | 3.74E+01 | 36.18 | 8.96E-03 | 7.70E-04 |
| | 25 | 727.46 | 6.47E+01 | 36.24 | 8.08E-03 | 7.03E-04 |

Analysis Report for 1510085-08
CP5007S11-12

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 26 | 760.16 | 2.13E+01 | 21.17 | 7.81E-03 | 6.82E-04 |
| | 27 | 768.65 | 6.88E+01 | 38.33 | 7.74E-03 | 6.76E-04 |
| | 28 | 795.49 | 3.50E+01 | 26.76 | 7.53E-03 | 6.59E-04 |
| | 29 | 820.83 | 2.16E+01 | 18.00 | 7.34E-03 | 6.43E-04 |
| | 30 | 861.09 | 4.44E+01 | 35.37 | 7.06E-03 | 6.17E-04 |
| M | 31 | 911.28 | 1.94E+02 | 32.42 | 6.74E-03 | 5.87E-04 |
| m | 32 | 915.74 | 1.85E+01 | 25.31 | 6.72E-03 | 5.84E-04 |
| | 33 | 934.52 | 3.97E+01 | 31.56 | 6.61E-03 | 5.75E-04 |
| M | 34 | 964.43 | 3.20E+01 | 23.43 | 6.44E-03 | 5.59E-04 |
| m | 35 | 969.23 | 1.05E+02 | 29.07 | 6.41E-03 | 5.57E-04 |
| | 36 | 1002.75 | 2.30E+01 | 21.84 | 6.24E-03 | 5.40E-04 |
| | 37 | 1034.72 | 3.25E+01 | 25.38 | 6.08E-03 | 5.24E-04 |
| | 38 | 1095.48 | 3.26E+01 | 25.47 | 5.81E-03 | 4.92E-04 |
| | 39 | 1120.23 | 1.04E+02 | 38.37 | 5.70E-03 | 4.80E-04 |
| | 40 | 1238.50 | 4.57E+01 | 31.22 | 5.27E-03 | 4.83E-04 |
| | 41 | 1331.21 | 3.32E+01 | 32.36 | 4.99E-03 | 5.26E-04 |
| | 42 | 1367.22 | 9.80E+00 | 12.33 | 4.89E-03 | 5.12E-04 |
| | 43 | 1407.90 | 2.45E+01 | 18.17 | 4.79E-03 | 4.95E-04 |
| | 44 | 1460.89 | 7.11E+02 | 56.82 | 4.67E-03 | 4.73E-04 |
| | 45 | 1511.25 | 2.21E+01 | 18.04 | 4.57E-03 | 4.52E-04 |
| | 46 | 1543.62 | 1.16E+01 | 10.23 | 4.51E-03 | 4.39E-04 |
| M | 47 | 1556.79 | 1.02E+01 | 7.21 | 4.48E-03 | 4.34E-04 |
| m | 48 | 1563.43 | 1.11E+01 | 10.20 | 4.47E-03 | 4.31E-04 |
| | 49 | 1587.06 | 1.69E+01 | 20.45 | 4.43E-03 | 4.21E-04 |
| | 50 | 1620.62 | 1.01E+01 | 12.65 | 4.38E-03 | 4.07E-04 |
| | 51 | 1632.10 | 1.70E+01 | 11.58 | 4.36E-03 | 4.02E-04 |
| | 52 | 1660.37 | 8.97E+00 | 11.79 | 4.32E-03 | 3.91E-04 |
| | 53 | 1729.48 | 1.70E+01 | 10.77 | 4.23E-03 | 3.62E-04 |
| | 54 | 1764.69 | 5.93E+01 | 19.49 | 4.18E-03 | 3.47E-04 |
| | 55 | 1803.52 | 7.58E+00 | 9.41 | 4.14E-03 | 3.31E-04 |
| | 56 | 1846.77 | 1.85E+01 | 12.08 | 4.10E-03 | 3.18E-04 |
| | 57 | 2052.81 | 6.00E+00 | 6.93 | 3.97E-03 | 3.18E-04 |
| | 58 | 2060.22 | 9.00E+00 | 6.00 | 3.97E-03 | 3.18E-04 |
| | 59 | 2102.51 | 1.78E+01 | 14.56 | 3.95E-03 | 3.18E-04 |
| | 60 | 2108.36 | 7.50E+00 | 7.62 | 3.95E-03 | 3.18E-04 |
| | 61 | 2203.09 | 2.85E+01 | 15.45 | 3.93E-03 | 3.18E-04 |
| | 62 | 2340.32 | 1.14E+01 | 13.04 | 3.94E-03 | 3.18E-04 |
| | 63 | 2428.21 | 8.77E+00 | 9.62 | 3.96E-03 | 3.18E-04 |
| | 64 | 2614.24 | 1.26E+02 | 24.09 | 4.05E-03 | 3.18E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 8:11:12AM

: 00000

Analysis Report for 1510085-08

CP5007S11-12

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| | 1 | 46.37 | 1.69E+02 | 108.98 | 6.46E+01 | 1.16E+01 | 1.05E+02 | 1.10E+02 |
| | 2 | 62.84 | 1.80E+02 | 103.79 | 4.34E+01 | 1.15E+01 | 1.37E+02 | 1.04E+02 |
| | 3 | 76.43 | 1.19E+03 | 156.40 | | | 1.19E+03 | 1.56E+02 |
| M | 4 | 84.10 | 5.45E+01 | 62.93 | | | 5.45E+01 | 6.29E+01 |
| m | 5 | 87.19 | 2.03E+02 | 69.83 | 1.46E+00 | 7.88E+00 | 2.02E+02 | 7.03E+01 |
| | 6 | 122.73 | 4.99E+01 | 55.44 | | | 4.99E+01 | 5.54E+01 |
| | 7 | 186.11 | 1.56E+02 | 73.72 | 4.72E+01 | 7.97E+00 | 1.08E+02 | 7.41E+01 |
| | 8 | 209.12 | 6.45E+01 | 49.85 | | | 6.45E+01 | 4.99E+01 |
| M | 9 | 238.04 | 1.13E+02 | 82.80 | 2.36E+01 | 1.35E+01 | 8.93E+01 | 8.39E+01 |
| m | 10 | 241.87 | 2.59E+02 | 74.92 | 6.38E+00 | 3.91E+00 | 2.53E+02 | 7.50E+01 |
| | 11 | 269.97 | 7.40E+01 | 52.73 | | | 7.40E+01 | 5.27E+01 |
| | 12 | 279.06 | 5.76E+01 | 62.41 | | | 5.76E+01 | 6.24E+01 |
| M | 13 | 295.30 | 2.99E+02 | 48.09 | 8.57E+00 | 6.10E+00 | 2.90E+02 | 4.85E+01 |
| m | 14 | 299.97 | 8.08E+01 | 38.17 | | | 8.08E+01 | 3.82E+01 |
| | 15 | 328.20 | 6.77E+01 | 45.38 | 0.00E+00 | 0.00E+00 | 6.77E+01 | 4.54E+01 |
| | 16 | 338.68 | 2.06E+02 | 71.02 | | | 2.06E+02 | 7.10E+01 |
| | 17 | 351.99 | 5.85E+02 | 70.39 | 1.40E+01 | 5.55E+00 | 5.71E+02 | 7.06E+01 |
| | 18 | 463.43 | 8.82E+01 | 44.56 | | | 8.82E+01 | 4.46E+01 |
| | 19 | 511.04 | 2.30E+02 | 60.67 | 8.41E+01 | 5.50E+00 | 1.46E+02 | 6.09E+01 |
| | 20 | 542.02 | 1.88E+01 | 24.39 | | | 1.88E+01 | 2.44E+01 |
| | 21 | 583.35 | 2.40E+02 | 52.18 | 7.32E+00 | 4.08E+00 | 2.33E+02 | 5.23E+01 |
| | 22 | 609.26 | 3.94E+02 | 56.77 | 1.30E+01 | 3.89E+00 | 3.81E+02 | 5.69E+01 |
| | 23 | 628.42 | 3.72E+01 | 34.54 | | | 3.72E+01 | 3.45E+01 |
| | 24 | 636.90 | 3.74E+01 | 36.18 | | | 3.74E+01 | 3.62E+01 |
| | 25 | 727.46 | 6.47E+01 | 36.24 | | | 6.47E+01 | 3.62E+01 |
| | 26 | 760.16 | 2.13E+01 | 21.17 | | | 2.13E+01 | 2.12E+01 |
| | 27 | 768.65 | 6.88E+01 | 38.33 | | | 6.88E+01 | 3.83E+01 |
| | 28 | 795.49 | 3.50E+01 | 26.76 | | | 3.50E+01 | 2.68E+01 |
| | 29 | 820.83 | 2.16E+01 | 18.00 | | | 2.16E+01 | 1.80E+01 |
| | 30 | 861.09 | 4.44E+01 | 35.37 | | | 4.44E+01 | 3.54E+01 |
| M | 31 | 911.28 | 1.94E+02 | 32.42 | 5.60E+00 | 3.32E+00 | 1.89E+02 | 3.26E+01 |
| m | 32 | 915.74 | 1.85E+01 | 25.31 | | | 1.85E+01 | 2.53E+01 |
| | 33 | 934.52 | 3.97E+01 | 31.56 | | | 3.97E+01 | 3.16E+01 |
| M | 34 | 964.43 | 3.20E+01 | 23.43 | | | 3.20E+01 | 2.34E+01 |
| m | 35 | 969.23 | 1.05E+02 | 29.07 | | | 1.05E+02 | 2.91E+01 |
| | 36 | 1002.75 | 2.30E+01 | 21.84 | | | 2.30E+01 | 2.18E+01 |
| | 37 | 1034.72 | 3.25E+01 | 25.38 | | | 3.25E+01 | 2.54E+01 |
| | 38 | 1095.48 | 3.26E+01 | 25.47 | | | 3.26E+01 | 2.55E+01 |
| | 39 | 1120.23 | 1.04E+02 | 38.37 | 3.93E+00 | 2.96E+00 | 9.99E+01 | 3.85E+01 |
| | 40 | 1238.50 | 4.57E+01 | 31.22 | | | 4.57E+01 | 3.12E+01 |
| | 41 | 1331.21 | 3.32E+01 | 32.36 | | | 3.32E+01 | 3.24E+01 |
| | 42 | 1367.22 | 9.80E+00 | 12.33 | | | 9.80E+00 | 1.23E+01 |
| | 43 | 1407.90 | 2.45E+01 | 18.17 | | | 2.45E+01 | 1.82E+01 |
| | 44 | 1460.89 | 7.11E+02 | 56.82 | 1.12E+01 | 2.55E+00 | 6.99E+02 | 5.69E+01 |
| | 45 | 1511.25 | 2.21E+01 | 18.04 | | | 2.21E+01 | 1.80E+01 |
| | 46 | 1543.62 | 1.16E+01 | 10.23 | | | 1.16E+01 | 1.02E+01 |
| M | 47 | 1556.79 | 1.02E+01 | 7.21 | | | 1.02E+01 | 7.21E+00 |
| m | 48 | 1563.43 | 1.11E+01 | 10.20 | | | 1.11E+01 | 1.02E+01 |
| | 49 | 1587.06 | 1.69E+01 | 20.45 | | | 1.69E+01 | 2.04E+01 |

Analysis Report for 1510085-08

CP5007S11-12

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 50 | 1620.62 | 1.01E+01 | 12.65 | | | 1.01E+01 | 1.26E+01 |
| 51 | 1632.10 | 1.70E+01 | 11.58 | | | 1.70E+01 | 1.16E+01 |
| 52 | 1660.37 | 8.97E+00 | 11.79 | | | 8.97E+00 | 1.18E+01 |
| 53 | 1729.48 | 1.70E+01 | 10.77 | | | 1.70E+01 | 1.08E+01 |
| 54 | 1764.69 | 5.93E+01 | 19.49 | 4.23E+00 | 2.21E+00 | 5.50E+01 | 1.96E+01 |
| 55 | 1803.52 | 7.58E+00 | 9.41 | | | 7.58E+00 | 9.41E+00 |
| 56 | 1846.77 | 1.85E+01 | 12.08 | | | 1.85E+01 | 1.21E+01 |
| 57 | 2052.81 | 6.00E+00 | 6.93 | | | 6.00E+00 | 6.93E+00 |
| 58 | 2060.22 | 9.00E+00 | 6.00 | | | 9.00E+00 | 6.00E+00 |
| 59 | 2102.51 | 1.78E+01 | 14.56 | | | 1.78E+01 | 1.46E+01 |
| 60 | 2108.36 | 7.50E+00 | 7.62 | | | 7.50E+00 | 7.62E+00 |
| 61 | 2203.09 | 2.85E+01 | 15.45 | | | 2.85E+01 | 1.55E+01 |
| 62 | 2340.32 | 1.14E+01 | 13.04 | | | 1.14E+01 | 1.30E+01 |
| 63 | 2428.21 | 8.77E+00 | 9.62 | | | 8.77E+00 | 9.62E+00 |
| 64 | 2614.24 | 1.26E+02 | 24.09 | 7.38E+00 | 1.57E+00 | 1.18E+02 | 2.41E+01 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 8:11:12AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. | |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|----------|
| 1 | 46.37 | 1.69E+02 | 108.98 | 6.46E+01 | 1.16E+01 | 1.05E+02 | 1.10E+02 | |
| 2 | 62.84 | 1.80E+02 | 103.79 | 4.34E+01 | 1.15E+01 | 1.37E+02 | 1.04E+02 | |
| 3 | 76.43 | 1.19E+03 | 156.40 | | | 1.19E+03 | 1.56E+02 | |
| M | 4 | 84.10 | 5.45E+01 | 62.93 | | 5.45E+01 | 6.29E+01 | |
| m | 5 | 87.19 | 2.03E+02 | 69.83 | 1.46E+00 | 7.88E+00 | 2.02E+02 | 7.03E+01 |
| | 6 | 122.73 | 4.99E+01 | 55.44 | | 4.99E+01 | 5.54E+01 | |
| | 7 | 186.11 | 1.56E+02 | 73.72 | 4.72E+01 | 7.97E+00 | 1.08E+02 | 7.41E+01 |
| | 8 | 209.12 | 6.45E+01 | 49.85 | | 6.45E+01 | 4.99E+01 | |
| M | 9 | 238.04 | 1.13E+02 | 82.80 | 2.36E+01 | 1.35E+01 | 8.93E+01 | 8.39E+01 |
| m | 10 | 241.87 | 2.59E+02 | 74.92 | 6.38E+00 | 3.91E+00 | 2.53E+02 | 7.50E+01 |
| | 11 | 269.97 | 7.40E+01 | 52.73 | | 7.40E+01 | 5.27E+01 | |
| | 12 | 279.06 | 5.76E+01 | 62.41 | | 5.76E+01 | 6.24E+01 | |
| M | 13 | 295.30 | 2.99E+02 | 48.09 | 8.57E+00 | 6.10E+00 | 2.90E+02 | 4.85E+01 |

Analysis Report for 1510085-08

CP5007S11-12

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| m | 14 | 299.97 | 8.08E+01 | 38.17 | | | 8.08E+01 | 3.82E+01 |
| | 15 | 328.20 | 6.77E+01 | 45.38 | 0.00E+00 | 0.00E+00 | 6.77E+01 | 4.54E+01 |
| | 16 | 338.68 | 2.06E+02 | 71.02 | | | 2.06E+02 | 7.10E+01 |
| | 17 | 351.99 | 5.85E+02 | 70.39 | 1.40E+01 | 5.55E+00 | 5.71E+02 | 7.06E+01 |
| | 18 | 463.43 | 8.82E+01 | 44.56 | | | 8.82E+01 | 4.46E+01 |
| | 19 | 511.04 | 2.30E+02 | 60.67 | 8.41E+01 | 5.50E+00 | 1.46E+02 | 6.09E+01 |
| | 20 | 542.02 | 1.88E+01 | 24.39 | | | 1.88E+01 | 2.44E+01 |
| | 21 | 583.35 | 2.40E+02 | 52.18 | 7.32E+00 | 4.08E+00 | 2.33E+02 | 5.23E+01 |
| | 22 | 609.26 | 3.94E+02 | 56.77 | 1.30E+01 | 3.89E+00 | 3.81E+02 | 5.69E+01 |
| | 23 | 628.42 | 3.72E+01 | 34.54 | | | 3.72E+01 | 3.45E+01 |
| | 24 | 636.90 | 3.74E+01 | 36.18 | | | 3.74E+01 | 3.62E+01 |
| | 25 | 727.46 | 6.47E+01 | 36.24 | | | 6.47E+01 | 3.62E+01 |
| | 26 | 760.16 | 2.13E+01 | 21.17 | | | 2.13E+01 | 2.12E+01 |
| | 27 | 768.65 | 6.88E+01 | 38.33 | | | 6.88E+01 | 3.83E+01 |
| | 28 | 795.49 | 3.50E+01 | 26.76 | | | 3.50E+01 | 2.68E+01 |
| | 29 | 820.83 | 2.16E+01 | 18.00 | | | 2.16E+01 | 1.80E+01 |
| | 30 | 861.09 | 4.44E+01 | 35.37 | | | 4.44E+01 | 3.54E+01 |
| M | 31 | 911.28 | 1.94E+02 | 32.42 | 5.60E+00 | 3.32E+00 | 1.89E+02 | 3.26E+01 |
| m | 32 | 915.74 | 1.85E+01 | 25.31 | | | 1.85E+01 | 2.53E+01 |
| | 33 | 934.52 | 3.97E+01 | 31.56 | | | 3.97E+01 | 3.16E+01 |
| M | 34 | 964.43 | 3.20E+01 | 23.43 | | | 3.20E+01 | 2.34E+01 |
| m | 35 | 969.23 | 1.05E+02 | 29.07 | | | 1.05E+02 | 2.91E+01 |
| | 36 | 1002.75 | 2.30E+01 | 21.84 | | | 2.30E+01 | 2.18E+01 |
| | 37 | 1034.72 | 3.25E+01 | 25.38 | | | 3.25E+01 | 2.54E+01 |
| | 38 | 1095.48 | 3.26E+01 | 25.47 | | | 3.26E+01 | 2.55E+01 |
| | 39 | 1120.23 | 1.04E+02 | 38.37 | 3.93E+00 | 2.96E+00 | 9.99E+01 | 3.85E+01 |
| | 40 | 1238.50 | 4.57E+01 | 31.22 | | | 4.57E+01 | 3.12E+01 |
| | 41 | 1331.21 | 3.32E+01 | 32.36 | | | 3.32E+01 | 3.24E+01 |
| | 42 | 1367.22 | 9.80E+00 | 12.33 | | | 9.80E+00 | 1.23E+01 |
| | 43 | 1407.90 | 2.45E+01 | 18.17 | | | 2.45E+01 | 1.82E+01 |
| | 44 | 1460.89 | 7.11E+02 | 56.82 | 1.12E+01 | 2.55E+00 | 6.99E+02 | 5.69E+01 |
| | 45 | 1511.25 | 2.21E+01 | 18.04 | | | 2.21E+01 | 1.80E+01 |
| | 46 | 1543.62 | 1.16E+01 | 10.23 | | | 1.16E+01 | 1.02E+01 |
| M | 47 | 1556.79 | 1.02E+01 | 7.21 | | | 1.02E+01 | 7.21E+00 |
| m | 48 | 1563.43 | 1.11E+01 | 10.20 | | | 1.11E+01 | 1.02E+01 |
| | 49 | 1587.06 | 1.69E+01 | 20.45 | | | 1.69E+01 | 2.04E+01 |
| | 50 | 1620.62 | 1.01E+01 | 12.65 | | | 1.01E+01 | 1.26E+01 |
| | 51 | 1632.10 | 1.70E+01 | 11.58 | | | 1.70E+01 | 1.16E+01 |
| | 52 | 1660.37 | 8.97E+00 | 11.79 | | | 8.97E+00 | 1.18E+01 |
| | 53 | 1729.48 | 1.70E+01 | 10.77 | | | 1.70E+01 | 1.08E+01 |
| | 54 | 1764.69 | 5.93E+01 | 19.49 | 4.23E+00 | 2.21E+00 | 5.50E+01 | 1.96E+01 |
| | 55 | 1803.52 | 7.58E+00 | 9.41 | | | 7.58E+00 | 9.41E+00 |
| | 56 | 1846.77 | 1.85E+01 | 12.08 | | | 1.85E+01 | 1.21E+01 |
| | 57 | 2052.81 | 6.00E+00 | 6.93 | | | 6.00E+00 | 6.93E+00 |
| | 58 | 2060.22 | 9.00E+00 | 6.00 | | | 9.00E+00 | 6.00E+00 |
| | 59 | 2102.51 | 1.78E+01 | 14.56 | | | 1.78E+01 | 1.46E+01 |
| | 60 | 2108.36 | 7.50E+00 | 7.62 | | | 7.50E+00 | 7.62E+00 |
| | 61 | 2203.09 | 2.85E+01 | 15.45 | | | 2.85E+01 | 1.55E+01 |
| | 62 | 2340.32 | 1.14E+01 | 13.04 | | | 1.14E+01 | 1.30E+01 |
| | 63 | 2428.21 | 8.77E+00 | 9.62 | | | 8.77E+00 | 9.62E+00 |
| | 64 | 2614.24 | 1.26E+02 | 24.09 | 7.38E+00 | 1.57E+00 | 1.18E+02 | 2.41E+01 |

Analysis Report for 1510085-08
CP5007S11-12

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|---|----------|-------------------------|-------------------------|
| K-40 | 0.999 | 1460.81 | * | 10.67 | 1.95E+01 | 2.56E+00 |
| CO-57 | 0.767 | 122.06 | * | 85.51 | 3.29E-02 | 3.67E-02 |
| | | 136.48 | | 10.60 | | |
| CD-109 | 0.894 | 88.03 | * | 3.72 | 2.77E+00 | 1.07E+00 |
| SN-126 | 0.978 | 87.57 | * | 37.00 | 2.67E-01 | 1.02E-01 |
| EU-155 | 0.316 | 86.50 | * | 30.90 | 3.23E-01 | 1.23E-01 |
| | | 105.30 | | 20.70 | | |
| HG-203 | 0.995 | 279.19 | * | 77.30 | 1.01E-01 | 1.09E-01 |
| TL-208 | 0.978 | 583.14 | * | 30.22 | 1.12E+00 | 2.69E-01 |
| | | 860.37 | * | 4.48 | 1.95E+00 | 1.56E+00 |
| | | 2614.66 | * | 35.85 | 1.13E+00 | 2.47E-01 |
| PB-210 | 0.997 | 46.50 | * | 4.25 | 2.59E+00 | 2.72E+00 |
| BI-212 | 0.989 | 727.17 | * | 11.80 | 9.43E-01 | 5.34E-01 |
| | | 1620.62 | * | 2.75 | 1.17E+00 | 1.46E+00 |
| PB-212 | 0.949 | 238.63 | * | 44.60 | 1.55E-01 | 1.47E-01 |
| | | 300.09 | * | 3.41 | 2.15E+00 | 1.04E+00 |
| BI-214 | 0.926 | 609.31 | * | 46.30 | 1.23E+00 | 2.13E-01 |
| | | 1120.29 | * | 15.10 | 1.61E+00 | 6.35E-01 |
| | | 1764.49 | * | 15.80 | 1.16E+00 | 4.23E-01 |
| | | 2204.22 | | 4.98 | | |
| PB-214 | 0.999 | 295.21 | * | 19.19 | 1.36E+00 | 2.62E-01 |
| | | 351.92 | * | 37.19 | 1.56E+00 | 2.36E-01 |
| RA-224 | 0.882 | 240.98 | * | 3.95 | 5.02E+00 | 1.56E+00 |
| RA-226 | 0.998 | 186.21 | * | 3.28 | 2.18E+00 | 4.25E+00 |
| AC-228 | 0.992 | 338.32 | * | 11.40 | 1.78E+00 | 6.35E-01 |
| | | 911.07 | * | 27.70 | 1.40E+00 | 2.71E-01 |
| | | 969.11 | * | 16.60 | 1.37E+00 | 3.97E-01 |
| TH-231 | 0.611 | 25.64 | | 14.70 | | |
| | | 84.21 | * | 6.40 | 4.18E-01 | 4.87E-01 |
| TH-234 | 0.969 | 63.29 | * | 3.80 | 2.13E+00 | 1.63E+00 |
| NP-237 | 0.926 | 86.50 | * | 12.60 | 7.83E-01 | 2.99E-01 |

Analysis Report for 1510085-08
CP5007S11-12

* = Energy line found in the spectrum.
- = Manually added nuclide.
? = Manually edited nuclide.
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.30
Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 8:11:12AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| 3 | 76.43 | 3.30761E-01 | 6.57 | | |
| 8 | 209.12 | 1.79167E-02 | 38.65 | Sum | |
| 11 | 269.97 | 2.05556E-02 | 35.63 | Sum | |
| 15 | 328.20 | 1.88149E-02 | 33.50 | Sum | |
| 18 | 463.43 | 2.45012E-02 | 25.26 | Tol. | SB-125 |
| 19 | 511.04 | 4.05371E-02 | 20.87 | | |
| 20 | 542.02 | 5.22421E-03 | 64.85 | Sum | |
| 23 | 628.42 | 1.03329E-02 | 46.43 | | |
| 24 | 636.90 | 1.03914E-02 | 48.36 | Tol. | I-131 |
| 26 | 760.16 | 5.92433E-03 | 49.62 | | |
| 27 | 768.65 | 1.91047E-02 | 27.87 | Sum | |
| 28 | 795.49 | 9.72222E-03 | 38.23 | Sum | |
| 29 | 820.83 | 5.99383E-03 | 41.71 | Sum | |
| m 32 | 915.74 | 5.14109E-03 | 68.38 | | |
| 33 | 934.52 | 1.10297E-02 | 39.74 | Sum | |
| M 34 | 964.43 | 8.87667E-03 | 36.66 | Tol. | EU-152 |
| 36 | 1002.75 | 6.38889E-03 | 47.48 | | |
| 37 | 1034.72 | 9.01446E-03 | 39.10 | Sum | |
| 38 | 1095.48 | 9.06495E-03 | 39.02 | | |
| 40 | 1238.50 | 1.26934E-02 | 34.16 | | |
| 41 | 1331.21 | 9.21474E-03 | 48.77 | | |
| 42 | 1367.22 | 2.72222E-03 | 62.90 | | |
| 43 | 1407.90 | 6.79233E-03 | 37.15 | Tol. | EU-152 |
| 45 | 1511.25 | 6.12654E-03 | 40.90 | | |
| 46 | 1543.62 | 3.22712E-03 | 44.05 | | |
| M 47 | 1556.79 | 2.83997E-03 | 35.27 | | |
| m 48 | 1563.43 | 3.07077E-03 | 46.13 | | |
| 49 | 1587.06 | 4.68254E-03 | 60.64 | | |
| 51 | 1632.10 | 4.70899E-03 | 34.14 | | |
| 52 | 1660.37 | 2.49132E-03 | 65.73 | | |
| 53 | 1729.48 | 4.72222E-03 | 31.68 | Sum | |
| 55 | 1803.52 | 2.10648E-03 | 62.03 | | |
| 56 | 1846.77 | 5.12731E-03 | 32.73 | Sum | |

Analysis Report for 1510085-08
CP5007S11-12

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 57 | 2052.81 | 1.66667E-03 | 57.74 | | |
| 58 | 2060.22 | 2.50000E-03 | 33.33 | Sum | |
| 59 | 2102.51 | 4.94048E-03 | 40.93 | S-Esc | |
| 60 | 2108.36 | 2.08333E-03 | 50.77 | | |
| 61 | 2203.09 | 7.92793E-03 | 27.07 | Sum | |
| 62 | 2340.32 | 3.16358E-03 | 57.24 | | |
| 63 | 2428.21 | 2.43590E-03 | 54.84 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|-----------------|------------------|-----------------|----------|-------------------------|-------------------------|
| K-40 | 0.99 | 1460.81 * | 10.67 | 1.95E+01 | 2.56E+00 |
| CO-57 | 0.76 | 122.06 * | 85.51 | 3.29E-02 | 3.67E-02 |
| | | 136.48 | 10.60 | | |
| CD-109 | 0.89 | 88.03 * | 3.72 | 2.77E+00 | 1.07E+00 |
| SN-126 | 0.97 | 87.57 * | 37.00 | 2.67E-01 | 1.02E-01 |
| EU-155 | 0.31 | 86.50 * | 30.90 | 3.23E-01 | 1.23E-01 |
| | | 105.30 | 20.70 | | |
| HG-203 | 0.99 | 279.19 * | 77.30 | 1.01E-01 | 1.09E-01 |
| TL-208 | 0.97 | 583.14 * | 30.22 | 1.12E+00 | 2.69E-01 |
| | | 860.37 * | 4.48 | 1.95E+00 | 1.56E+00 |
| | | 2614.66 * | 35.85 | 1.13E+00 | 2.47E-01 |
| PB-210 | 0.99 | 46.50 * | 4.25 | 2.59E+00 | 2.72E+00 |
| BI-212 | 0.98 | 727.17 * | 11.80 | 9.43E-01 | 5.34E-01 |
| | | 1620.62 * | 2.75 | 1.17E+00 | 1.46E+00 |
| PB-212 | 0.94 | 238.63 * | 44.60 | 1.55E-01 | 1.47E-01 |
| | | 300.09 * | 3.41 | 2.15E+00 | 1.04E+00 |
| BI-214 | 0.92 | 609.31 * | 46.30 | 1.23E+00 | 2.13E-01 |
| | | 1120.29 * | 15.10 | 1.61E+00 | 6.35E-01 |
| | | 1764.49 * | 15.80 | 1.16E+00 | 4.23E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.99 | 295.21 * | 19.19 | 1.36E+00 | 2.62E-01 |

Analysis Report for 1510085-08

CP5007S11-12

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| PB-214 | 0.99 | 351.92 * | 37.19 | 1.56E+00 | 2.36E-01 |
| RA-224 | 0.88 | 240.98 * | 3.95 | 5.02E+00 | 1.56E+00 |
| RA-226 | 0.99 | 186.21 * | 3.28 | 2.18E+00 | 4.25E+00 |
| AC-228 | 0.99 | 338.32 * | 11.40 | 1.78E+00 | 6.35E-01 |
| | | 911.07 * | 27.70 | 1.40E+00 | 2.71E-01 |
| | | 969.11 * | 16.60 | 1.37E+00 | 3.97E-01 |
| TH-231 | 0.61 | 25.64 | 14.70 | | |
| | | 84.21 * | 6.40 | 4.18E-01 | 4.87E-01 |
| TH-234 | 0.96 | 63.29 * | 3.80 | 2.13E+00 | 1.63E+00 |
| NP-237 | 0.92 | 86.50 * | 12.60 | 7.83E-01 | 2.99E-01 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | 0.999 | 1.95E+01 | 2.56E+00 | |
| CO-57 | 0.767 | 3.29E-02 | 3.67E-02 | |
| ? CD-109 | 0.894 | 2.77E+00 | 1.07E+00 | |
| ? SN-126 | 0.978 | 2.67E-01 | 1.02E-01 | |
| ? EU-155 | 0.316 | 3.23E-01 | 1.23E-01 | |
| HG-203 | 0.995 | 1.01E-01 | 1.09E-01 | |
| TL-208 | 0.978 | 1.13E+00 | 1.81E-01 | |
| PB-210 | 0.997 | 2.59E+00 | 2.72E+00 | |
| BI-212 | 0.989 | 9.69E-01 | 5.02E-01 | |
| PB-212 | 0.949 | 1.94E-01 | 1.45E-01 | |
| BI-214 | 0.926 | 1.25E+00 | 1.82E-01 | |
| PB-214 | 0.999 | 1.47E+00 | 1.75E-01 | |
| RA-224 | 0.882 | 5.02E+00 | 1.56E+00 | |
| RA-226 | 0.998 | 2.18E+00 | 4.25E+00 | |
| AC-228 | 0.992 | 1.43E+00 | 2.11E-01 | |
| TH-231 | 0.611 | 4.18E-01 | 4.87E-01 | |
| TH-234 | 0.969 | 2.13E+00 | 1.63E+00 | |

Analysis Report for 1510085-08
CP5007S11-12

| | Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---|-------------------------|--------------------------------------|---|---|-----------------|
| ? | NP-237 | 0.926 | 7.83E-01 | 2.99E-01 | |

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-08
CP5007S11-12

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 8:11:12AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 3 | 76.43 | 3.30761E-01 | 6.57 | | |
| 8 | 209.12 | 1.79167E-02 | 38.65 | Sum | |
| 11 | 269.97 | 2.05556E-02 | 35.63 | Sum | |
| 15 | 328.20 | 1.88149E-02 | 33.50 | Sum | |
| 18 | 463.43 | 2.45012E-02 | 25.26 | Tol. | SB-125 |
| 19 | 511.04 | 4.05371E-02 | 20.87 | | |
| 20 | 542.02 | 5.22421E-03 | 64.85 | Sum | |
| 23 | 628.42 | 1.03329E-02 | 46.43 | | |
| 24 | 636.90 | 1.03914E-02 | 48.36 | Tol. | I-131 |
| 26 | 760.16 | 5.92433E-03 | 49.62 | | |
| 27 | 768.65 | 1.91047E-02 | 27.87 | Sum | |
| 28 | 795.49 | 9.72222E-03 | 38.23 | Sum | |
| 29 | 820.83 | 5.99383E-03 | 41.71 | Sum | |
| m 32 | 915.74 | 5.14109E-03 | 68.38 | | |
| 33 | 934.52 | 1.10297E-02 | 39.74 | Sum | |
| M 34 | 964.43 | 8.87667E-03 | 36.66 | Tol. | EU-152 |
| 36 | 1002.75 | 6.38889E-03 | 47.48 | | |
| 37 | 1034.72 | 9.01446E-03 | 39.10 | Sum | |
| 38 | 1095.48 | 9.06495E-03 | 39.02 | | |
| 40 | 1238.50 | 1.26934E-02 | 34.16 | | |
| 41 | 1331.21 | 9.21474E-03 | 48.77 | | |
| 42 | 1367.22 | 2.72222E-03 | 62.90 | | |
| 43 | 1407.90 | 6.79233E-03 | 37.15 | Tol. | EU-152 |
| 45 | 1511.25 | 6.12654E-03 | 40.90 | | |
| 46 | 1543.62 | 3.22712E-03 | 44.05 | | |
| M 47 | 1556.79 | 2.83997E-03 | 35.27 | | |
| m 48 | 1563.43 | 3.07077E-03 | 46.13 | | |
| 49 | 1587.06 | 4.68254E-03 | 60.64 | | |
| 51 | 1632.10 | 4.70899E-03 | 34.14 | | |
| 52 | 1660.37 | 2.49132E-03 | 65.73 | | |
| 53 | 1729.48 | 4.72222E-03 | 31.68 | Sum | |
| 55 | 1803.52 | 2.10648E-03 | 62.03 | | |
| 56 | 1846.77 | 5.12731E-03 | 32.73 | Sum | |
| 57 | 2052.81 | 1.66667E-03 | 57.74 | | |

Analysis Report for 1510085-08
CP5007S11-12

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 58 | 2060.22 | 2.50000E-03 | 33.33 | Sum | |
| 59 | 2102.51 | 4.94048E-03 | 40.93 | S-Esc | |
| 60 | 2108.36 | 2.08333E-03 | 50.77 | | |
| 61 | 2203.09 | 7.92793E-03 | 27.07 | Sum | |
| 62 | 2340.32 | 3.16358E-03 | 57.24 | | |
| 63 | 2428.21 | 2.43590E-03 | 54.84 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-----------------|-----------------|----------|-------------------------|----------------------------|-------------------------|
| + | BE-7 | 477.59 | 10.42 | -2.66E-02 | 7.91E-01 | 7.91E-01 |
| + | NA-22 | 1274.54 | 99.94 | -1.26E-02 | 9.15E-02 | 9.15E-02 |
| + | NA-24 | 1368.53 | 99.99 | -3.20E+12 | 1.13E+13 | 1.88E+13 |
| | | 2754.09 | 99.86 | 1.57E+12 | | 1.13E+13 |
| + | AL-26 | 1808.65 | 99.76 | -2.99E-03 | 6.10E-02 | 6.10E-02 |
| + | K-40 | 1460.81 | * 10.67 | 1.95E+01 | 1.03E+00 | 1.03E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | 1.26E-03 | 5.31E-02 | 5.31E-02 |
| | | 78.34 | 96.00 | 3.21E-01 | | 7.99E-02 |
| + | SC-46 | 889.25 | 99.98 | 4.74E-02 | 9.95E-02 | 9.95E-02 |
| | | 1120.51 | 99.99 | 1.83E-01 | | 1.72E-01 |
| + | V-48 | 983.52 | 99.98 | 2.75E-02 | 3.29E-01 | 3.29E-01 |
| | | 1312.10 | 97.50 | 6.75E-03 | | 3.34E-01 |
| + | CR-51 | 320.08 | 9.83 | 4.70E-01 | 1.15E+00 | 1.15E+00 |
| + | MN-54 | 834.83 | 99.97 | -1.92E-02 | 8.07E-02 | 8.07E-02 |
| + | CO-56 | 846.75 | 99.96 | 2.02E-02 | 9.56E-02 | 9.56E-02 |
| | | 1037.75 | 14.03 | -6.37E-02 | | 7.91E-01 |
| | | 1238.25 | 67.00 | 2.31E-01 | | 2.44E-01 |
| | | 1771.40 | 15.51 | -4.83E-01 | | 4.19E-01 |
| | | 2598.48 | 16.90 | 0.00E+00 | | 2.46E-01 |
| + | CO-57 | 122.06 | * 85.51 | 3.29E-02 | 5.99E-02 | 5.99E-02 |
| | | 136.48 | 10.60 | 1.26E-01 | | 5.38E-01 |
| + | CO-58 | 810.76 | 99.40 | -2.55E-02 | 9.56E-02 | 9.56E-02 |

Analysis Report for 1510085-08
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| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | FE-59 | 1099.22 | 56.50 | 2.76E-02 | 2.41E-01 | 2.41E-01 |
| | | 1291.56 | 43.20 | 2.84E-02 | | 3.07E-01 |
| + | CO-60 | 1173.22 | 100.00 | -2.55E-02 | 8.84E-02 | 9.82E-02 |
| | | 1332.49 | 100.00 | -1.54E-02 | | 8.84E-02 |
| + | ZN-65 | 1115.52 | 50.75 | -2.08E-02 | 1.89E-01 | 1.89E-01 |
| + | GA-67 | 93.31 | 35.70 | 1.37E+02 | 1.05E+02 | 1.05E+02 |
| | | 208.95 | 2.24 | 6.91E+02 | | 1.58E+03 |
| | | 300.22 | 16.00 | 7.34E+01 | | 2.30E+02 |
| + | SE-75 | 121.11 | 16.70 | -1.95E-02 | 1.01E-01 | 3.27E-01 |
| | | 136.00 | 59.20 | 5.69E-02 | | 1.06E-01 |
| | | 264.65 | 59.80 | -3.54E-03 | | 1.01E-01 |
| | | 279.53 | 25.20 | 1.65E-01 | | 2.80E-01 |
| | | 400.65 | 11.40 | -2.64E-01 | | 5.24E-01 |
| + | RB-82 | 776.52 | 13.00 | -2.36E-02 | 1.17E+00 | 1.17E+00 |
| + | RB-83 | 520.41 | 46.00 | -1.05E-01 | 1.31E-01 | 1.31E-01 |
| | | 529.64 | 30.30 | -5.88E-02 | | 2.25E-01 |
| | | 552.65 | 16.40 | 2.06E-01 | | 4.82E-01 |
| + | KR-85 | 513.99 | 0.43 | -7.46E+00 | 1.69E+01 | 1.69E+01 |
| + | SR-85 | 513.99 | 99.27 | -4.47E-02 | 1.01E-01 | 1.01E-01 |
| + | Y-88 | 898.02 | 93.40 | 1.30E-02 | 7.78E-02 | 9.94E-02 |
| | | 1836.01 | 99.38 | 1.47E-02 | | 7.78E-02 |
| + | NB-93M | 16.57 | 9.43 | -7.13E+03 | 5.87E+03 | 5.87E+03 |
| + | NB-94 | 702.63 | 100.00 | 5.09E-02 | 7.45E-02 | 7.87E-02 |
| | | 871.10 | 100.00 | 1.21E-02 | | 7.45E-02 |
| + | NB-95 | 765.79 | 99.81 | 1.26E-01 | 1.63E-01 | 1.63E-01 |
| + | NB-95M | 235.69 | 25.00 | -7.17E+02 | 1.04E+02 | 1.04E+02 |
| + | ZR-95 | 724.18 | 43.70 | 3.39E-02 | 1.97E-01 | 2.77E-01 |
| | | 756.72 | 55.30 | 6.74E-02 | | 1.97E-01 |
| + | MO-99 | 181.06 | 6.20 | 2.91E+00 | 1.09E+03 | 1.68E+03 |
| | | 739.58 | 12.80 | -1.58E+02 | | 1.09E+03 |
| | | 778.00 | 4.50 | -2.55E+02 | | 2.92E+03 |
| + | RU-103 | 497.08 | 89.00 | 1.66E-02 | 1.15E-01 | 1.15E-01 |
| + | RU-106 | 621.84 | 9.80 | 1.23E-01 | 7.61E-01 | 7.61E-01 |
| + | AG-108M | 433.93 | 89.90 | 6.75E-03 | 6.17E-02 | 6.17E-02 |
| | | 614.37 | 90.40 | 1.63E-02 | | 7.77E-02 |
| | | 722.95 | 90.50 | 5.91E-03 | | 8.08E-02 |
| + | CD-109 | 88.03 | * 3.72 | 2.77E+00 | 2.27E+00 | 2.27E+00 |
| + | AG-110M | 657.75 | 93.14 | -2.87E-02 | 8.17E-02 | 8.17E-02 |
| | | 677.61 | 10.53 | -5.66E-02 | | 7.43E-01 |
| | | 706.67 | 16.46 | -1.65E-01 | | 4.59E-01 |
| | | 763.93 | 21.98 | -7.79E-01 | | 3.53E-01 |
| | | 884.67 | 71.63 | 2.08E-02 | | 1.13E-01 |
| | | 1384.27 | 23.94 | 5.36E-02 | | 3.31E-01 |
| + | CD-113M | 263.70 | 0.02 | 5.05E+01 | 2.34E+02 | 2.34E+02 |
| + | SN-113 | 255.12 | 1.93 | 1.26E-01 | 1.03E-01 | 3.36E+00 |
| | | 391.69 | 64.90 | -1.40E-02 | | 1.03E-01 |
| + | TE123M | 159.00 | 84.10 | 6.80E-03 | 7.32E-02 | 7.32E-02 |

Analysis Report for 1510085-08

CP5007S11-12

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SB-124 | 602.71 | 97.87 | -7.27E-03 | 1.03E-01 | 1.03E-01 |
| | | 645.85 | 7.26 | 7.88E-01 | | 1.49E+00 |
| | | 722.78 | 11.10 | 6.80E-02 | | 9.30E-01 |
| | | 1691.02 | 49.00 | -1.07E-01 | | 1.70E-01 |
| + | I-125 | 35.49 | 6.49 | 2.65E+00 | 5.84E+00 | 5.84E+00 |
| + | SB-125 | 176.33 | 6.89 | -1.19E-01 | 1.80E-01 | 7.65E-01 |
| | | 427.89 | 29.33 | -7.35E-02 | | 1.80E-01 |
| | | 463.38 | 10.35 | 8.64E-01 | | 7.24E-01 |
| | | 600.56 | 17.80 | 1.10E-01 | | 4.06E-01 |
| | | 635.90 | 11.32 | 2.54E-01 | | 6.57E-01 |
| + | SB-126 | 414.70 | 83.30 | 1.20E-01 | 3.72E-01 | 3.72E-01 |
| | | 666.33 | 99.60 | 2.60E-02 | | 3.91E-01 |
| | | 695.00 | 99.60 | -9.25E-02 | | 3.97E-01 |
| | | 720.50 | 53.80 | 9.99E-02 | | 6.87E-01 |
| + | SN-126 | 87.57 | * 37.00 | 2.67E-01 | 2.19E-01 | 2.19E-01 |
| + | SB-127 | 473.00 | 25.00 | -2.12E+01 | 4.12E+01 | 4.65E+01 |
| | | 685.20 | 35.70 | -1.92E+01 | | 4.12E+01 |
| | | 783.80 | 14.70 | 2.06E+01 | | 1.12E+02 |
| + | I-129 | 29.78 | 57.00 | 5.03E-01 | 1.26E+00 | 1.26E+00 |
| | | 33.60 | 13.20 | 1.65E+00 | | 2.73E+00 |
| | | 39.58 | 7.52 | 1.27E+00 | | 2.25E+00 |
| + | I-131 | 284.30 | 6.05 | -8.53E-01 | 9.10E-01 | 1.13E+01 |
| | | 364.48 | 81.20 | 1.06E-02 | | 9.10E-01 |
| | | 636.97 | 7.26 | 8.61E+00 | | 1.34E+01 |
| | | 722.89 | 1.80 | 3.94E+00 | | 5.39E+01 |
| + | TE-132 | 49.72 | 13.10 | 6.46E+01 | 3.86E+01 | 3.54E+02 |
| | | 228.16 | 88.00 | 1.16E+00 | | 3.86E+01 |
| + | BA-133 | 81.00 | 33.00 | 5.69E-02 | 9.18E-02 | 1.32E-01 |
| | | 302.84 | 17.80 | -2.97E-01 | | 3.06E-01 |
| | | 356.01 | 60.00 | 5.57E-03 | | 9.18E-02 |
| + | I-133 | 529.87 | 86.30 | -4.47E+08 | 1.66E+09 | 1.66E+09 |
| + | XE-133 | 81.00 | 38.00 | 2.60E+00 | 6.02E+00 | 6.02E+00 |
| + | CS-134 | 563.23 | 8.38 | 2.16E-01 | 9.15E-02 | 6.87E-01 |
| | | 569.32 | 15.43 | -1.52E-01 | | 3.70E-01 |
| | | 604.70 | 97.60 | 1.13E-03 | | 9.15E-02 |
| | | 795.84 | 85.40 | 7.30E-02 | | 9.67E-02 |
| | | 801.93 | 8.73 | -3.49E-01 | | 7.26E-01 |
| + | CS-135 | 268.24 | 16.00 | -6.55E-02 | 3.75E-01 | 3.75E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 2.74E+00 | 3.24E-01 | 3.42E+00 |
| | | 163.89 | 4.61 | 1.54E-02 | | 5.61E+00 |
| | | 176.55 | 13.56 | -1.04E+00 | | 1.86E+00 |
| | | 273.65 | 12.66 | -1.70E+00 | | 2.09E+00 |
| | | 340.57 | 48.50 | -1.98E-01 | | 6.97E-01 |
| | | 818.50 | 99.70 | -4.86E-02 | | 3.24E-01 |
| | | 1048.07 | 79.60 | -1.04E-01 | | 5.19E-01 |
| | | 1235.34 | 19.70 | -4.77E-01 | | 2.77E+00 |

Analysis Report for 1510085-08

CP5007S11-12

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | CS-137 | 661.65 | 85.12 | -2.54E-02 | 8.32E-02 | 8.32E-02 |
| + | LA-138 | 788.74 | 34.00 | 1.11E-01 | 8.95E-02 | 2.15E-01 |
| | | 1435.80 | 66.00 | -2.34E-02 | | 8.95E-02 |
| + | CE-139 | 165.85 | 80.35 | 1.39E-02 | 7.62E-02 | 7.62E-02 |
| + | BA-140 | 162.64 | 6.70 | 1.38E+00 | 1.02E+00 | 4.07E+00 |
| | | 304.84 | 4.50 | 4.88E-01 | | 5.95E+00 |
| | | 423.70 | 3.20 | 9.85E-01 | | 8.70E+00 |
| | | 437.55 | 2.00 | 1.89E-01 | | 1.39E+01 |
| | | 537.32 | 25.00 | -5.86E-01 | | 1.02E+00 |
| + | LA-140 | 328.77 | 20.50 | 1.19E+00 | 3.94E-01 | 1.52E+00 |
| | | 487.03 | 45.50 | 2.35E-01 | | 6.44E-01 |
| | | 815.85 | 23.50 | -3.27E-01 | | 1.38E+00 |
| | | 1596.49 | 95.49 | 1.09E-02 | | 3.94E-01 |
| + | CE-141 | 145.44 | 48.40 | 6.46E-02 | 2.11E-01 | 2.11E-01 |
| + | CE-143 | 57.36 | 11.80 | 4.95E+05 | 6.84E+05 | 1.72E+06 |
| | | 293.26 | 42.00 | 1.99E+05 | | 6.84E+05 |
| | | 664.55 | 5.20 | 5.82E+05 | | 5.14E+06 |
| + | CE-144 | 133.54 | 10.80 | -2.86E-01 | 5.06E-01 | 5.06E-01 |
| + | PM-144 | 476.78 | 42.00 | -4.73E-03 | 7.74E-02 | 1.41E-01 |
| | | 618.01 | 98.60 | 3.03E-02 | | 7.82E-02 |
| | | 696.49 | 99.49 | -5.26E-02 | | 7.74E-02 |
| + | PM-145 | 36.85 | 21.70 | -8.00E-01 | 5.10E-01 | 9.92E-01 |
| | | 37.36 | 39.70 | -4.11E-01 | | 5.10E-01 |
| | | 42.30 | 15.10 | -1.68E-01 | | 8.39E-01 |
| | | 72.40 | 2.31 | -3.54E-01 | | 2.24E+00 |
| + | PM-146 | 453.90 | 39.94 | 4.78E-02 | 1.48E-01 | 1.48E-01 |
| | | 735.90 | 14.01 | 2.06E-01 | | 5.64E-01 |
| | | 747.13 | 13.10 | 3.62E-01 | | 5.96E-01 |
| + | ND-147 | 91.11 | 28.90 | 1.29E+00 | 1.49E+00 | 1.49E+00 |
| | | 531.02 | 13.10 | 1.96E-01 | | 2.86E+00 |
| + | PM-149 | 285.90 | 3.10 | 2.90E+03 | 2.15E+04 | 2.15E+04 |
| + | EU-152 | 121.78 | 20.50 | 2.23E-03 | 2.29E-01 | 2.29E-01 |
| | | 244.69 | 5.40 | 2.42E-01 | | 1.04E+00 |
| | | 344.27 | 19.13 | 4.10E-02 | | 2.75E-01 |
| | | 778.89 | 9.20 | 1.46E-01 | | 7.79E-01 |
| | | 964.01 | 10.40 | -2.24E+00 | | 9.44E-01 |
| | | 1085.78 | 7.22 | 4.79E-01 | | 1.24E+00 |
| | | 1112.02 | 9.60 | -2.30E-01 | | 8.59E-01 |
| | | 1407.95 | 14.94 | 4.37E-01 | | 5.96E-01 |
| + | GD-153 | 97.43 | 31.30 | 1.56E-01 | 1.69E-01 | 1.69E-01 |
| | | 103.18 | 22.20 | -9.42E-02 | | 2.36E-01 |
| + | EU-154 | 123.07 | 40.50 | 8.07E-02 | 1.20E-01 | 1.20E-01 |
| | | 723.30 | 19.70 | 2.73E-02 | | 3.73E-01 |
| | | 873.19 | 11.50 | -3.30E-01 | | 6.08E-01 |
| | | 996.32 | 10.30 | -2.14E-02 | | 7.19E-01 |
| | | 1004.76 | 17.90 | -3.64E-02 | | 4.93E-01 |
| | | 1274.45 | 35.50 | -3.48E-02 | | 2.54E-01 |
| + | EU-155 | 86.50 | * 30.90 | 3.23E-01 | 2.43E-01 | 2.65E-01 |
| | | 105.30 | 20.70 | 1.60E-01 | | 2.43E-01 |

Analysis Report for 1510085-08

CP5007S11-12

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | EU-156 | 811.77 | 10.40 | 9.51E-02 | 2.68E+00 | 2.68E+00 |
| | | 1153.47 | 7.20 | 1.77E+00 | | 5.67E+00 |
| | | 1230.71 | 8.90 | -6.82E-01 | | 4.45E+00 |
| + | HO-166M | 184.41 | 72.60 | 7.26E-02 | 9.11E-02 | 9.11E-02 |
| | | 280.45 | 29.60 | 1.18E-01 | | 2.01E-01 |
| | | 410.94 | 11.10 | 2.64E-01 | | 5.58E-01 |
| | | 711.69 | 54.10 | 5.52E-02 | | 1.36E-01 |
| + | TM-171 | 66.72 | 0.14 | 1.86E+01 | 3.72E+01 | 3.72E+01 |
| + | HF-172 | 81.75 | 4.52 | -1.35E+00 | 4.47E-01 | 9.77E-01 |
| | | 125.81 | 11.30 | -3.90E-01 | | 4.47E-01 |
| | | 181.53 | 20.60 | 9.48E-01 | 3.25E+00 | 5.99E+00 |
| + | LU-172 | 810.06 | 16.63 | -2.53E+00 | | 9.49E+00 |
| | | 912.12 | 15.25 | 5.57E+01 | | 2.25E+01 |
| | | 1093.66 | 62.50 | 1.38E+00 | | 3.25E+00 |
| + | LU-173 | 100.72 | 5.24 | 1.63E-02 | 3.00E-01 | 9.60E-01 |
| | | 272.11 | 21.20 | 1.37E-01 | | 3.00E-01 |
| + | HF-175 | 343.40 | 84.00 | 1.24E-02 | 8.89E-02 | 8.89E-02 |
| + | LU-176 | 88.34 | 13.30 | 7.19E-01 | 5.45E-02 | 5.15E-01 |
| | | 201.83 | 86.00 | -2.12E-02 | | 6.38E-02 |
| | | 306.78 | 94.00 | 1.51E-02 | | 5.45E-02 |
| + | TA-182 | 67.75 | 41.20 | 3.47E-03 | 1.46E-01 | 1.46E-01 |
| | | 1121.30 | 34.90 | 6.30E-01 | | 4.64E-01 |
| | | 1189.05 | 16.23 | -2.54E-01 | | 6.66E-01 |
| | | 1221.41 | 26.98 | -4.96E-02 | | 4.56E-01 |
| | | 1231.02 | 11.44 | -1.17E-01 | | 1.03E+00 |
| + | IR-192 | 308.46 | 29.68 | -1.54E-03 | 1.55E-01 | 2.29E-01 |
| | | 468.07 | 48.10 | 1.97E-02 | | 1.55E-01 |
| + | HG-203 | 279.19 | * 77.30 | 1.01E-01 | 1.79E-01 | 1.79E-01 |
| + | BI-207 | 569.67 | 97.72 | -2.34E-02 | 5.70E-02 | 5.70E-02 |
| | | 1063.62 | 74.90 | 6.25E-04 | | 1.11E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.12E+00 | 1.91E-01 | 3.49E-01 |
| | | 860.37 | * 4.48 | 1.95E+00 | | 2.48E+00 |
| | | 2614.66 | * 35.85 | 1.13E+00 | | 1.91E-01 |
| + | BI-210M | 262.00 | 45.00 | -1.60E-02 | 1.22E-01 | 1.22E-01 |
| | | 300.00 | 23.00 | 8.68E-02 | | 2.72E-01 |
| + | PB-210 | 46.50 | * 4.25 | 2.59E+00 | 4.44E+00 | 4.44E+00 |
| + | PB-211 | 404.84 | 2.90 | 6.99E-01 | 1.95E+00 | 1.95E+00 |
| | | 831.96 | 2.90 | -1.13E+00 | | 2.56E+00 |
| | | 727.17 | * 11.80 | 9.43E-01 | 8.17E-01 | 8.17E-01 |
| + | PB-212 | 1620.62 | * 2.75 | 1.17E+00 | | 2.39E+00 |
| | | 238.63 | * 44.60 | 1.55E-01 | 2.29E-01 | 2.29E-01 |
| + | BI-214 | 300.09 | * 3.41 | 2.15E+00 | | 3.28E+00 |
| | | 609.31 | * 46.30 | 1.23E+00 | 2.29E-01 | 2.29E-01 |
| | | 1120.29 | * 15.10 | 1.61E+00 | | 9.16E-01 |
| + | PB-214 | 1764.49 | * 15.80 | 1.16E+00 | | 5.00E-01 |
| | | 2204.22 | 4.98 | -2.72E-01 | | 2.09E+00 |
| | | 295.21 | * 19.19 | 1.36E+00 | 2.40E-01 | 5.82E-01 |
| | | 351.92 | * 37.19 | 1.56E+00 | | 2.40E-01 |

Analysis Report for 1510085-08

CP5007S11-12

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | RN-219 | 401.80 | | 6.50 | -3.06E-01 | 7.78E-01 | 7.78E-01 |
| + | RA-223 | 323.87 | | 3.88 | 1.29E-01 | 1.44E+00 | 1.44E+00 |
| + | RA-224 | 240.98 | * | 3.95 | 5.02E+00 | 2.52E+00 | 2.52E+00 |
| + | RA-225 | 40.00 | | 31.00 | 1.21E+00 | 2.14E+00 | 2.14E+00 |
| + | RA-226 | 186.21 | * | 3.28 | 2.18E+00 | 2.41E+00 | 2.41E+00 |
| + | TH-227 | 50.10 | | 8.40 | 1.68E-01 | 7.11E-01 | 9.18E-01 |
| | | 236.00 | | 11.50 | -4.92E+00 | | 7.11E-01 |
| | | 256.20 | | 6.30 | -2.15E-01 | | 8.56E-01 |
| + | AC-228 | 338.32 | * | 11.40 | 1.78E+00 | 5.73E-01 | 9.47E-01 |
| | | 911.07 | * | 27.70 | 1.40E+00 | | 5.73E-01 |
| | | 969.11 | * | 16.60 | 1.37E+00 | | 8.36E-01 |
| + | TH-230 | 48.44 | | 16.90 | -3.49E-01 | 5.05E-01 | 5.05E-01 |
| | | 62.85 | | 4.60 | 1.79E+00 | | 1.35E+00 |
| | | 67.67 | | 0.37 | 3.23E-01 | | 1.36E+01 |
| + | PA-231 | 283.67 | | 1.60 | -2.42E-01 | 2.35E+00 | 3.21E+00 |
| | | 302.67 | | 2.30 | -2.29E+00 | | 2.35E+00 |
| + | TH-231 | 25.64 | | 14.70 | 1.63E-01 | 1.25E+00 | 1.49E+01 |
| | | 84.21 | * | 6.40 | 4.18E-01 | | 1.25E+00 |
| + | PA-233 | 311.98 | | 38.60 | 1.74E-01 | 3.10E-01 | 3.10E-01 |
| + | PA-234 | 131.20 | | 20.40 | 2.45E-01 | 2.62E-01 | 2.62E-01 |
| | | 733.99 | | 8.80 | 2.20E-01 | | 8.77E-01 |
| | | 946.00 | | 12.00 | -2.34E-01 | | 6.47E-01 |
| + | PA-234M | 1001.03 | | 0.92 | 5.85E+00 | 9.44E+00 | 9.44E+00 |
| + | TH-234 | 63.29 | * | 3.80 | 2.13E+00 | 2.64E+00 | 2.64E+00 |
| + | U-235 | 143.76 | | 10.50 | 2.06E-01 | 5.04E-01 | 5.04E-01 |
| | | 163.35 | | 4.70 | 3.88E-01 | | 1.14E+00 |
| | | 205.31 | | 4.70 | 4.33E-01 | | 1.18E+00 |
| + | NP-237 | 86.50 | * | 12.60 | 7.83E-01 | 6.42E-01 | 6.42E-01 |
| + | NP-239 | 106.10 | | 22.70 | 1.65E+01 | 1.48E+03 | 1.48E+03 |
| | | 228.18 | | 10.70 | 1.10E+02 | | 3.68E+03 |
| | | 277.60 | | 14.10 | 1.23E+03 | | 2.92E+03 |
| + | AM-241 | 59.54 | | 35.90 | -1.32E-01 | 1.50E-01 | 1.50E-01 |
| + | AM-243 | 74.67 | | 66.00 | -3.11E-01 | 1.06E-01 | 1.06E-01 |
| + | CM-243 | 209.75 | | 3.29 | 2.24E+00 | 4.31E-01 | 1.87E+00 |
| | | 228.14 | | 10.60 | 1.63E-02 | | 5.44E-01 |
| | | 277.60 | | 14.00 | 1.82E-01 | | 4.31E-01 |

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510085-08
CP5007S11-12

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 7.91E-01 | 7.91E-01 | -2.66E-02 | 3.71E-01 |
| NA-22 | 1274.54 | 99.94 | 9.15E-02 | 9.15E-02 | -1.26E-02 | 4.20E-02 |
| NA-24 | 1368.53 | 99.99 | 1.88E+13 | 1.13E+13 | -3.20E+12 | 8.33E+12 |
| | 2754.09 | 99.86 | 1.13E+13 | | 1.57E+12 | 4.38E+12 |
| AL-26 | 1808.65 | 99.76 | 6.10E-02 | 6.10E-02 | -2.99E-03 | 2.60E-02 |
| + K-40 | 1460.81 | * 10.67 | 1.03E+00 | 1.03E+00 | 1.95E+01 | 4.79E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 5.31E-02 | 5.31E-02 | 1.26E-03 | 2.58E-02 |
| | 78.34 | 96.00 | 7.99E-02 | | 3.21E-01 | 3.93E-02 |
| SC-46 | 889.25 | 99.98 | 9.95E-02 | 9.95E-02 | 4.74E-02 | 4.62E-02 |
| | 1120.51 | 99.99 | 1.72E-01 | | 1.83E-01 | 8.18E-02 |
| V-48 | 983.52 | 99.98 | 3.29E-01 | 3.29E-01 | 2.75E-02 | 1.53E-01 |
| | 1312.10 | 97.50 | 3.34E-01 | | 6.75E-03 | 1.53E-01 |
| CR-51 | 320.08 | 9.83 | 1.15E+00 | 1.15E+00 | 4.70E-01 | 5.46E-01 |
| MN-54 | 834.83 | 99.97 | 8.07E-02 | 8.07E-02 | -1.92E-02 | 3.76E-02 |
| CO-56 | 846.75 | 99.96 | 9.56E-02 | 9.56E-02 | 2.02E-02 | 4.44E-02 |
| | 1037.75 | 14.03 | 7.91E-01 | | -6.37E-02 | 3.67E-01 |
| | 1238.25 | 67.00 | 2.44E-01 | | 2.31E-01 | 1.15E-01 |
| | 1771.40 | 15.51 | 4.19E-01 | | -4.83E-01 | 1.72E-01 |
| | 2598.48 | 16.90 | 2.46E-01 | | 0.00E+00 | 8.71E-02 |
| + CO-57 | 122.06 | * 85.51 | 5.99E-02 | 5.99E-02 | 3.29E-02 | 2.91E-02 |
| | 136.48 | 10.60 | 5.38E-01 | | 1.26E-01 | 2.62E-01 |
| CO-58 | 810.76 | 99.40 | 9.56E-02 | 9.56E-02 | -2.55E-02 | 4.44E-02 |
| FE-59 | 1099.22 | 56.50 | 2.41E-01 | 2.41E-01 | 2.76E-02 | 1.11E-01 |
| | 1291.56 | 43.20 | 3.07E-01 | | 2.84E-02 | 1.40E-01 |
| CO-60 | 1173.22 | 100.00 | 9.82E-02 | 8.84E-02 | -2.55E-02 | 4.56E-02 |
| | 1332.49 | 100.00 | 8.84E-02 | | -1.54E-02 | 4.04E-02 |
| ZN-65 | 1115.52 | 50.75 | 1.89E-01 | 1.89E-01 | -2.08E-02 | 8.74E-02 |
| GA-67 | 93.31 | 35.70 | 1.05E+02 | 1.05E+02 | 1.37E+02 | 5.15E+01 |
| | 208.95 | 2.24 | 1.58E+03 | | 6.91E+02 | 7.67E+02 |
| | 300.22 | 16.00 | 2.30E+02 | | 7.34E+01 | 1.11E+02 |
| SE-75 | 121.11 | 16.70 | 3.27E-01 | 1.01E-01 | -1.95E-02 | 1.58E-01 |
| | 136.00 | 59.20 | 1.06E-01 | | 5.69E-02 | 5.14E-02 |
| | 264.65 | 59.80 | 1.01E-01 | | -3.54E-03 | 4.85E-02 |
| | 279.53 | 25.20 | 2.80E-01 | | 1.65E-01 | 1.34E-01 |
| | 400.65 | 11.40 | 5.24E-01 | | -2.64E-01 | 2.46E-01 |
| RB-82 | 776.52 | 13.00 | 1.17E+00 | 1.17E+00 | -2.36E-02 | 5.42E-01 |
| RB-83 | 520.41 | 46.00 | 1.31E-01 | 1.31E-01 | -1.05E-01 | 6.07E-02 |
| | 529.64 | 30.30 | 2.25E-01 | | -5.88E-02 | 1.05E-01 |
| | 552.65 | 16.40 | 4.82E-01 | | 2.06E-01 | 2.26E-01 |

Analysis Report for 1510085-08

CP5007S11-12

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| KR-85 | 513.99 | 0.43 | 1.69E+01 | 1.69E+01 | -7.46E+00 | 8.02E+00 |
| SR-85 | 513.99 | 99.27 | 1.01E-01 | 1.01E-01 | -4.47E-02 | 4.81E-02 |
| Y-88 | 898.02 | 93.40 | 9.94E-02 | 7.78E-02 | 1.30E-02 | 4.61E-02 |
| | 1836.01 | 99.38 | 7.78E-02 | | 1.47E-02 | 3.33E-02 |
| NB-93M | 16.57 | 9.43 | 5.87E+03 | 5.87E+03 | -7.13E+03 | 2.86E+03 |
| NB-94 | 702.63 | 100.00 | 7.87E-02 | 7.45E-02 | 5.09E-02 | 3.71E-02 |
| | 871.10 | 100.00 | 7.45E-02 | | 1.21E-02 | 3.46E-02 |
| NB-95 | 765.79 | 99.81 | 1.63E-01 | 1.63E-01 | 1.26E-01 | 7.73E-02 |
| NB-95M | 235.69 | 25.00 | 1.04E+02 | 1.04E+02 | -7.17E+02 | 5.06E+01 |
| ZR-95 | 724.18 | 43.70 | 2.77E-01 | 1.97E-01 | 3.39E-02 | 1.31E-01 |
| | 756.72 | 55.30 | 1.97E-01 | | 6.74E-02 | 9.23E-02 |
| MO-99 | 181.06 | 6.20 | 1.68E+03 | 1.09E+03 | 2.91E+00 | 8.14E+02 |
| | 739.58 | 12.80 | 1.09E+03 | | -1.58E+02 | 5.08E+02 |
| | 778.00 | 4.50 | 2.92E+03 | | -2.55E+02 | 1.36E+03 |
| RU-103 | 497.08 | 89.00 | 1.15E-01 | 1.15E-01 | 1.66E-02 | 5.42E-02 |
| RU-106 | 621.84 | 9.80 | 7.61E-01 | 7.61E-01 | 1.23E-01 | 3.58E-01 |
| AG-108M | 433.93 | 89.90 | 6.17E-02 | 6.17E-02 | 6.75E-03 | 2.91E-02 |
| | 614.37 | 90.40 | 7.77E-02 | | 1.63E-02 | 3.66E-02 |
| | 722.95 | 90.50 | 8.08E-02 | | 5.91E-03 | 3.78E-02 |
| + CD-109 | 88.03 | * | 2.27E+00 | 2.27E+00 | 2.77E+00 | 1.12E+00 |
| AG-110M | 657.75 | 93.14 | 8.17E-02 | 8.17E-02 | -2.87E-02 | 3.83E-02 |
| | 677.61 | 10.53 | 7.43E-01 | | -5.66E-02 | 3.49E-01 |
| | 706.67 | 16.46 | 4.59E-01 | | -1.65E-01 | 2.14E-01 |
| | 763.93 | 21.98 | 3.53E-01 | | -7.79E-01 | 1.64E-01 |
| | 884.67 | 71.63 | 1.13E-01 | | 2.08E-02 | 5.21E-02 |
| | 1384.27 | 23.94 | 3.31E-01 | | 5.36E-02 | 1.48E-01 |
| CD-113M | 263.70 | 0.02 | 2.34E+02 | 2.34E+02 | 5.05E+01 | 1.12E+02 |
| SN-113 | 255.12 | 1.93 | 3.36E+00 | 1.03E-01 | 1.26E-01 | 1.61E+00 |
| | 391.69 | 64.90 | 1.03E-01 | | -1.40E-02 | 4.89E-02 |
| TE123M | 159.00 | 84.10 | 7.32E-02 | 7.32E-02 | 6.80E-03 | 3.54E-02 |
| SB-124 | 602.71 | 97.87 | 1.03E-01 | 1.03E-01 | -7.27E-03 | 4.84E-02 |
| | 645.85 | 7.26 | 1.49E+00 | | 7.88E-01 | 7.02E-01 |
| | 722.78 | 11.10 | 9.30E-01 | | 6.80E-02 | 4.35E-01 |
| | 1691.02 | 49.00 | 1.70E-01 | | -1.07E-01 | 7.23E-02 |
| I-125 | 35.49 | 6.49 | 5.84E+00 | 5.84E+00 | 2.65E+00 | 2.84E+00 |
| SB-125 | 176.33 | 6.89 | 7.65E-01 | 1.80E-01 | -1.19E-01 | 3.70E-01 |
| | 427.89 | 29.33 | 1.80E-01 | | -7.35E-02 | 8.44E-02 |
| | 463.38 | 10.35 | 7.24E-01 | | 8.64E-01 | 3.46E-01 |
| | 600.56 | 17.80 | 4.06E-01 | | 1.10E-01 | 1.92E-01 |
| | 635.90 | 11.32 | 6.57E-01 | | 2.54E-01 | 3.10E-01 |
| SB-126 | 414.70 | 83.30 | 3.72E-01 | 3.72E-01 | 1.20E-01 | 1.76E-01 |
| | 666.33 | 99.60 | 3.91E-01 | | 2.60E-02 | 1.84E-01 |
| | 695.00 | 99.60 | 3.97E-01 | | -9.25E-02 | 1.86E-01 |
| | 720.50 | 53.80 | 6.87E-01 | | 9.99E-02 | 3.20E-01 |
| + SN-126 | 87.57 | * | 2.19E-01 | 2.19E-01 | 2.67E-01 | 1.07E-01 |
| SB-127 | 473.00 | 25.00 | 4.65E+01 | 4.12E+01 | -2.12E+01 | 2.18E+01 |
| | 685.20 | 35.70 | 4.12E+01 | | -1.92E+01 | 1.92E+01 |
| | 783.80 | 14.70 | 1.12E+02 | | 2.06E+01 | 5.24E+01 |
| I-129 | 29.78 | 57.00 | 1.26E+00 | 1.26E+00 | 5.03E-01 | 6.09E-01 |
| | 33.60 | 13.20 | 2.73E+00 | | 1.65E+00 | 1.33E+00 |
| | 39.58 | 7.52 | 2.25E+00 | | 1.27E+00 | 1.10E+00 |
| I-131 | 284.30 | 6.05 | 1.13E+01 | 9.10E-01 | -8.53E-01 | 5.38E+00 |
| | 364.48 | 81.20 | 9.10E-01 | | 1.06E-02 | 4.32E-01 |

Analysis Report for 1510085-08

CP5007S11-12

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| I-131 | 636.97 | 7.26 | 1.34E+01 | 9.10E-01 | 8.61E+00 | 6.29E+00 |
| | 722.89 | 1.80 | 5.39E+01 | | 3.94E+00 | 2.52E+01 |
| TE-132 | 49.72 | 13.10 | 3.54E+02 | 3.86E+01 | 6.46E+01 | 1.72E+02 |
| | 228.16 | 88.00 | 3.86E+01 | | 1.16E+00 | 1.86E+01 |
| BA-133 | 81.00 | 33.00 | 1.32E-01 | 9.18E-02 | 5.69E-02 | 6.40E-02 |
| | 302.84 | 17.80 | 3.06E-01 | | -2.97E-01 | 1.46E-01 |
| | 356.01 | 60.00 | 9.18E-02 | | 5.57E-03 | 4.36E-02 |
| I-133 | 529.87 | 86.30 | 1.66E+09 | 1.66E+09 | -4.47E+08 | 7.73E+08 |
| XE-133 | 81.00 | 38.00 | 6.02E+00 | 6.02E+00 | 2.60E+00 | 2.92E+00 |
| CS-134 | 563.23 | 8.38 | 6.87E-01 | 9.15E-02 | 2.16E-01 | 3.20E-01 |
| | 569.32 | 15.43 | 3.70E-01 | | -1.52E-01 | 1.72E-01 |
| | 604.70 | 97.60 | 9.15E-02 | | 1.13E-03 | 4.36E-02 |
| | 795.84 | 85.40 | 9.67E-02 | | 7.30E-02 | 4.53E-02 |
| | 801.93 | 8.73 | 7.26E-01 | | -3.49E-01 | 3.34E-01 |
| CS-135 | 268.24 | 16.00 | 3.75E-01 | 3.75E-01 | -6.55E-02 | 1.81E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.42E+00 | 3.24E-01 | 2.74E+00 | 1.66E+00 |
| | 163.89 | 4.61 | 5.61E+00 | | 1.54E-02 | 2.72E+00 |
| | 176.55 | 13.56 | 1.86E+00 | | -1.04E+00 | 8.99E-01 |
| | 273.65 | 12.66 | 2.09E+00 | | -1.70E+00 | 1.00E+00 |
| | 340.57 | 48.50 | 6.97E-01 | | -1.98E-01 | 3.35E-01 |
| | 818.50 | 99.70 | 3.24E-01 | | -4.86E-02 | 1.50E-01 |
| | 1048.07 | 79.60 | 5.19E-01 | | -1.04E-01 | 2.41E-01 |
| | 1235.34 | 19.70 | 2.77E+00 | | -4.77E-01 | 1.30E+00 |
| CS-137 | 661.65 | 85.12 | 8.32E-02 | 8.32E-02 | -2.54E-02 | 3.91E-02 |
| LA-138 | 788.74 | 34.00 | 2.15E-01 | 8.95E-02 | 1.11E-01 | 1.00E-01 |
| | 1435.80 | 66.00 | 8.95E-02 | | -2.34E-02 | 3.87E-02 |
| CE-139 | 165.85 | 80.35 | 7.62E-02 | 7.62E-02 | 1.39E-02 | 3.69E-02 |
| BA-140 | 162.64 | 6.70 | 4.07E+00 | 1.02E+00 | 1.38E+00 | 1.97E+00 |
| | 304.84 | 4.50 | 5.95E+00 | | 4.88E-01 | 2.83E+00 |
| | 423.70 | 3.20 | 8.70E+00 | | 9.85E-01 | 4.10E+00 |
| | 437.55 | 2.00 | 1.39E+01 | | 1.89E-01 | 6.53E+00 |
| | 537.32 | 25.00 | 1.02E+00 | | -5.86E-01 | 4.74E-01 |
| LA-140 | 328.77 | 20.50 | 1.52E+00 | 3.94E-01 | 1.19E+00 | 7.29E-01 |
| | 487.03 | 45.50 | 6.44E-01 | | 2.35E-01 | 3.03E-01 |
| | 815.85 | 23.50 | 1.38E+00 | | -3.27E-01 | 6.35E-01 |
| | 1596.49 | 95.49 | 3.94E-01 | | 1.09E-02 | 1.74E-01 |
| CE-141 | 145.44 | 48.40 | 2.11E-01 | 2.11E-01 | 6.46E-02 | 1.02E-01 |
| CE-143 | 57.36 | 11.80 | 1.72E+06 | 6.84E+05 | 4.95E+05 | 8.32E+05 |
| | 293.26 | 42.00 | 6.84E+05 | | 1.99E+05 | 3.31E+05 |
| | 664.55 | 5.20 | 5.14E+06 | | 5.82E+05 | 2.41E+06 |
| CE-144 | 133.54 | 10.80 | 5.06E-01 | 5.06E-01 | -2.86E-01 | 2.45E-01 |
| PM-144 | 476.78 | 42.00 | 1.41E-01 | 7.74E-02 | -4.73E-03 | 6.60E-02 |
| | 618.01 | 98.60 | 7.82E-02 | | 3.03E-02 | 3.69E-02 |
| | 696.49 | 99.49 | 7.74E-02 | | -5.26E-02 | 3.63E-02 |
| PM-145 | 36.85 | 21.70 | 9.92E-01 | 5.10E-01 | -8.00E-01 | 4.81E-01 |
| | 37.36 | 39.70 | 5.10E-01 | | -4.11E-01 | 2.47E-01 |
| | 42.30 | 15.10 | 8.39E-01 | | -1.68E-01 | 4.07E-01 |
| | 72.40 | 2.31 | 2.24E+00 | | -3.54E-01 | 1.09E+00 |
| PM-146 | 453.90 | 39.94 | 1.48E-01 | 1.48E-01 | 4.78E-02 | 6.97E-02 |
| | 735.90 | 14.01 | 5.64E-01 | | 2.06E-01 | 2.65E-01 |

Analysis Report for 1510085-08

CP5007S11-12

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| PM-146 | 747.13 | 13.10 | 5.96E-01 | 1.48E-01 | 3.62E-01 | 2.80E-01 |
| ND-147 | 91.11 | 28.90 | 1.49E+00 | 1.49E+00 | 1.29E+00 | 7.31E-01 |
| | 531.02 | 13.10 | 2.86E+00 | | 1.96E-01 | 1.34E+00 |
| PM-149 | 285.90 | 3.10 | 2.15E+04 | 2.15E+04 | 2.90E+03 | 1.03E+04 |
| EU-152 | 121.78 | 20.50 | 2.29E-01 | 2.29E-01 | 2.23E-03 | 1.11E-01 |
| | 244.69 | 5.40 | 1.04E+00 | | 2.42E-01 | 5.01E-01 |
| | 344.27 | 19.13 | 2.75E-01 | | 4.10E-02 | 1.31E-01 |
| | 778.89 | 9.20 | 7.79E-01 | | 1.46E-01 | 3.63E-01 |
| | 964.01 | 10.40 | 9.44E-01 | | -2.24E+00 | 4.44E-01 |
| | 1085.78 | 7.22 | 1.24E+00 | | 4.79E-01 | 5.75E-01 |
| | 1112.02 | 9.60 | 8.59E-01 | | -2.30E-01 | 3.95E-01 |
| | 1407.95 | 14.94 | 5.96E-01 | | 4.37E-01 | 2.72E-01 |
| GD-153 | 97.43 | 31.30 | 1.69E-01 | 1.69E-01 | 1.56E-01 | 8.24E-02 |
| | 103.18 | 22.20 | 2.36E-01 | | -9.42E-02 | 1.15E-01 |
| EU-154 | 123.07 | 40.50 | 1.20E-01 | 1.20E-01 | 8.07E-02 | 5.83E-02 |
| | 723.30 | 19.70 | 3.73E-01 | | 2.73E-02 | 1.75E-01 |
| | 873.19 | 11.50 | 6.08E-01 | | -3.30E-01 | 2.81E-01 |
| | 996.32 | 10.30 | 7.19E-01 | | -2.14E-02 | 3.30E-01 |
| | 1004.76 | 17.90 | 4.93E-01 | | -3.64E-02 | 2.30E-01 |
| | 1274.45 | 35.50 | 2.54E-01 | | -3.48E-02 | 1.17E-01 |
| + EU-155 | 86.50 | * 30.90 | 2.65E-01 | 2.43E-01 | 3.23E-01 | 1.30E-01 |
| | 105.30 | 20.70 | 2.43E-01 | | 1.60E-01 | 1.18E-01 |
| EU-156 | 811.77 | 10.40 | 2.68E+00 | 2.68E+00 | 9.51E-02 | 1.24E+00 |
| | 1153.47 | 7.20 | 5.67E+00 | | 1.77E+00 | 2.65E+00 |
| | 1230.71 | 8.90 | 4.45E+00 | | -6.82E-01 | 2.07E+00 |
| HO-166M | 184.41 | 72.60 | 9.11E-02 | 9.11E-02 | 7.26E-02 | 4.43E-02 |
| | 280.45 | 29.60 | 2.01E-01 | | 1.18E-01 | 9.64E-02 |
| | 410.94 | 11.10 | 5.58E-01 | | 2.64E-01 | 2.65E-01 |
| | 711.69 | 54.10 | 1.36E-01 | | 5.52E-02 | 6.37E-02 |
| TM-171 | 66.72 | 0.14 | 3.72E+01 | 3.72E+01 | 1.86E+01 | 1.81E+01 |
| HF-172 | 81.75 | 4.52 | 9.77E-01 | 4.47E-01 | -1.35E+00 | 4.73E-01 |
| | 125.81 | 11.30 | 4.47E-01 | | -3.90E-01 | 2.17E-01 |
| LU-172 | 181.53 | 20.60 | 5.99E+00 | 3.25E+00 | 9.48E-01 | 2.90E+00 |
| | 810.06 | 16.63 | 9.49E+00 | | -2.53E+00 | 4.40E+00 |
| | 912.12 | 15.25 | 2.25E+01 | | 5.57E+01 | 1.09E+01 |
| | 1093.66 | 62.50 | 3.25E+00 | | 1.38E+00 | 1.51E+00 |
| LU-173 | 100.72 | 5.24 | 9.60E-01 | 3.00E-01 | 1.63E-02 | 4.67E-01 |
| | 272.11 | 21.20 | 3.00E-01 | | 1.37E-01 | 1.44E-01 |
| HF-175 | 343.40 | 84.00 | 8.89E-02 | 8.89E-02 | 1.24E-02 | 4.23E-02 |
| LU-176 | 88.34 | 13.30 | 5.15E-01 | 5.45E-02 | 7.19E-01 | 2.53E-01 |
| | 201.83 | 86.00 | 6.38E-02 | | -2.12E-02 | 3.08E-02 |
| | 306.78 | 94.00 | 5.45E-02 | | 1.51E-02 | 2.59E-02 |
| TA-182 | 67.75 | 41.20 | 1.46E-01 | 1.46E-01 | 3.47E-03 | 7.08E-02 |
| | 1121.30 | 34.90 | 4.64E-01 | | 6.30E-01 | 2.20E-01 |
| | 1189.05 | 16.23 | 6.66E-01 | | -2.54E-01 | 3.07E-01 |
| | 1221.41 | 26.98 | 4.56E-01 | | -4.96E-02 | 2.12E-01 |
| | 1231.02 | 11.44 | 1.03E+00 | | -1.17E-01 | 4.79E-01 |
| IR-192 | 308.46 | 29.68 | 2.29E-01 | 1.55E-01 | -1.54E-03 | 1.09E-01 |
| | 468.07 | 48.10 | 1.55E-01 | | 1.97E-02 | 7.29E-02 |
| + HG-203 | 279.19 | * 77.30 | 1.79E-01 | 1.79E-01 | 1.01E-01 | 8.70E-02 |
| BI-207 | 569.67 | 97.72 | 5.70E-02 | 5.70E-02 | -2.34E-02 | 2.65E-02 |
| | 1063.62 | 74.90 | 1.11E-01 | | 6.25E-04 | 5.14E-02 |
| + TL-208 | 583.14 | * 30.22 | 3.49E-01 | 1.91E-01 | 1.12E+00 | 1.68E-01 |

Analysis Report for 1510085-08

CP5007S11-12

| Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| TL-208 | 860.37 | * | 4.48 | 2.48E+00 | 1.91E-01 | 1.95E+00 | 1.18E+00 |
| | 2614.66 | * | 35.85 | 1.91E-01 | | 1.13E+00 | 8.27E-02 |
| BI-210M | 262.00 | | 45.00 | 1.22E-01 | 1.22E-01 | -1.60E-02 | 5.85E-02 |
| | 300.00 | | 23.00 | 2.72E-01 | | 8.68E-02 | 1.31E-01 |
| + PB-210 | 46.50 | * | 4.25 | 4.44E+00 | 4.44E+00 | 2.59E+00 | 2.19E+00 |
| PB-211 | 404.84 | | 2.90 | 1.95E+00 | 1.95E+00 | 6.99E-01 | 9.21E-01 |
| | 831.96 | | 2.90 | 2.56E+00 | | -1.13E+00 | 1.19E+00 |
| + BI-212 | 727.17 | * | 11.80 | 8.17E-01 | 8.17E-01 | 9.43E-01 | 3.89E-01 |
| | 1620.62 | * | 2.75 | 2.39E+00 | | 1.17E+00 | 1.04E+00 |
| + PB-212 | 238.63 | * | 44.60 | 2.29E-01 | 2.29E-01 | 1.55E-01 | 1.12E-01 |
| | 300.09 | * | 3.41 | 3.28E+00 | | 2.15E+00 | 1.61E+00 |
| + BI-214 | 609.31 | * | 46.30 | 2.29E-01 | 2.29E-01 | 1.23E+00 | 1.10E-01 |
| | 1120.29 | * | 15.10 | 9.16E-01 | | 1.61E+00 | 4.36E-01 |
| | 1764.49 | * | 15.80 | 5.00E-01 | | 1.16E+00 | 2.22E-01 |
| | 2204.22 | | 4.98 | 2.09E+00 | | -2.72E-01 | 9.48E-01 |
| + PB-214 | 295.21 | * | 19.19 | 5.82E-01 | 2.40E-01 | 1.36E+00 | 2.85E-01 |
| | 351.92 | * | 37.19 | 2.40E-01 | | 1.56E+00 | 1.16E-01 |
| RN-219 | 401.80 | | 6.50 | 7.78E-01 | 7.78E-01 | -3.06E-01 | 3.66E-01 |
| RA-223 | 323.87 | | 3.88 | 1.44E+00 | 1.44E+00 | 1.29E-01 | 6.86E-01 |
| + RA-224 | 240.98 | * | 3.95 | 2.52E+00 | 2.52E+00 | 5.02E+00 | 1.23E+00 |
| RA-225 | 40.00 | | 31.00 | 2.14E+00 | 2.14E+00 | 1.21E+00 | 1.04E+00 |
| + RA-226 | 186.21 | * | 3.28 | 2.41E+00 | 2.41E+00 | 2.18E+00 | 1.18E+00 |
| TH-227 | 50.10 | | 8.40 | 9.18E-01 | 7.11E-01 | 1.68E-01 | 4.45E-01 |
| | 236.00 | | 11.50 | 7.11E-01 | | -4.92E+00 | 3.46E-01 |
| | 256.20 | | 6.30 | 8.56E-01 | | -2.15E-01 | 4.11E-01 |
| + AC-228 | 338.32 | * | 11.40 | 9.47E-01 | 5.73E-01 | 1.78E+00 | 4.62E-01 |
| | 911.07 | * | 27.70 | 5.73E-01 | | 1.40E+00 | 2.77E-01 |
| | 969.11 | * | 16.60 | 8.36E-01 | | 1.37E+00 | 4.01E-01 |
| TH-230 | 48.44 | | 16.90 | 5.05E-01 | 5.05E-01 | -3.49E-01 | 2.45E-01 |
| | 62.85 | | 4.60 | 1.35E+00 | | 1.79E+00 | 6.59E-01 |
| | 67.67 | | 0.37 | 1.36E+01 | | 3.23E-01 | 6.58E+00 |
| PA-231 | 283.67 | | 1.60 | 3.21E+00 | 2.35E+00 | -2.42E-01 | 1.53E+00 |
| | 302.67 | | 2.30 | 2.35E+00 | | -2.29E+00 | 1.12E+00 |
| + TH-231 | 25.64 | | 14.70 | 1.49E+01 | 1.25E+00 | 1.63E-01 | 7.24E+00 |
| | 84.21 | * | 6.40 | 1.25E+00 | | 4.18E-01 | 6.16E-01 |
| PA-233 | 311.98 | | 38.60 | 3.10E-01 | 3.10E-01 | 1.74E-01 | 1.48E-01 |
| PA-234 | 131.20 | | 20.40 | 2.62E-01 | 2.62E-01 | 2.45E-01 | 1.28E-01 |
| | 733.99 | | 8.80 | 8.77E-01 | | 2.20E-01 | 4.12E-01 |
| | 946.00 | | 12.00 | 6.47E-01 | | -2.34E-01 | 3.00E-01 |
| PA-234M | 1001.03 | | 0.92 | 9.44E+00 | 9.44E+00 | 5.85E+00 | 4.39E+00 |
| + TH-234 | 63.29 | * | 3.80 | 2.64E+00 | 2.64E+00 | 2.13E+00 | 1.30E+00 |
| U-235 | 143.76 | | 10.50 | 5.04E-01 | 5.04E-01 | 2.06E-01 | 2.45E-01 |
| | 163.35 | | 4.70 | 1.14E+00 | | 3.88E-01 | 5.54E-01 |
| | 205.31 | | 4.70 | 1.18E+00 | | 4.33E-01 | 5.68E-01 |
| + NP-237 | 86.50 | * | 12.60 | 6.42E-01 | 6.42E-01 | 7.83E-01 | 3.16E-01 |
| NP-239 | 106.10 | | 22.70 | 1.48E+03 | 1.48E+03 | 1.65E+01 | 7.20E+02 |
| | 228.18 | | 10.70 | 3.68E+03 | | 1.10E+02 | 1.77E+03 |
| | 277.60 | | 14.10 | 2.92E+03 | | 1.23E+03 | 1.40E+03 |
| AM-241 | 59.54 | | 35.90 | 1.50E-01 | 1.50E-01 | -1.32E-01 | 7.25E-02 |
| AM-243 | 74.67 | | 66.00 | 1.06E-01 | 1.06E-01 | -3.11E-01 | 5.19E-02 |
| CM-243 | 209.75 | | 3.29 | 1.87E+00 | 4.31E-01 | 2.24E+00 | 9.08E-01 |
| | 228.14 | | 10.60 | 5.44E-01 | | 1.63E-02 | 2.62E-01 |
| | 277.60 | | 14.00 | 4.31E-01 | | 1.82E-01 | 2.07E-01 |

Analysis Report for 1510085-08
CP5007S11-12

- + = Nuclide identified during the nuclide identification
 - * = Energy line found in the spectrum
 - > = MDA value not calculated
 - @ = Half-life too short to be able to perform the decay correction
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5007S11-12

Elapsed Live time: 3600
 Elapsed Real Time: 3601

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|-----|------|------|-----|-----|------|-----|-----|-----|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159 |
| 9: | 555 | 1197 | 1050 | 427 | 604 | 1660 | 272 | 151 | 151 |
| 17: | 158 | 146 | 154 | 126 | 135 | 107 | 120 | 120 | 120 |
| 25: | 113 | 102 | 114 | 104 | 107 | 125 | 120 | 106 | 106 |
| 33: | 134 | 108 | 149 | 114 | 118 | 115 | 135 | 142 | 142 |
| 41: | 122 | 115 | 123 | 120 | 144 | 151 | 200 | 130 | 130 |
| 49: | 119 | 114 | 115 | 101 | 105 | 126 | 93 | 88 | 88 |
| 57: | 98 | 107 | 88 | 105 | 121 | 143 | 165 | 181 | 181 |
| 65: | 114 | 104 | 119 | 139 | 107 | 129 | 139 | 130 | 130 |
| 73: | 159 | 158 | 434 | 232 | 550 | 384 | 107 | 121 | 121 |
| 81: | 114 | 96 | 115 | 162 | 135 | 119 | 259 | 224 | 224 |
| 89: | 97 | 175 | 136 | 126 | 251 | 176 | 71 | 83 | 83 |
| 97: | 84 | 74 | 94 | 97 | 66 | 78 | 86 | 90 | 90 |
| 105: | 95 | 86 | 84 | 73 | 85 | 81 | 84 | 67 | 67 |
| 113: | 93 | 92 | 84 | 75 | 72 | 70 | 68 | 51 | 51 |
| 121: | 60 | 83 | 77 | 81 | 72 | 70 | 73 | 80 | 80 |
| 129: | 117 | 89 | 74 | 72 | 80 | 61 | 75 | 93 | 93 |
| 137: | 96 | 78 | 63 | 86 | 54 | 72 | 62 | 82 | 82 |
| 145: | 95 | 73 | 80 | 73 | 88 | 57 | 74 | 55 | 55 |
| 153: | 80 | 80 | 62 | 55 | 64 | 71 | 59 | 62 | 62 |
| 161: | 69 | 69 | 64 | 80 | 58 | 62 | 65 | 55 | 55 |
| 169: | 59 | 69 | 53 | 51 | 73 | 46 | 48 | 61 | 61 |
| 177: | 75 | 54 | 49 | 80 | 51 | 61 | 64 | 60 | 60 |
| 185: | 70 | 191 | 97 | 52 | 59 | 66 | 63 | 58 | 58 |
| 193: | 57 | 65 | 60 | 46 | 52 | 59 | 66 | 48 | 48 |
| 201: | 51 | 56 | 52 | 62 | 54 | 55 | 44 | 58 | 58 |
| 209: | 98 | 68 | 44 | 55 | 44 | 39 | 55 | 58 | 58 |
| 217: | 56 | 46 | 45 | 61 | 48 | 46 | 54 | 54 | 54 |
| 225: | 46 | 49 | 46 | 49 | 56 | 50 | 52 | 43 | 43 |
| 233: | 47 | 46 | 37 | 55 | 45 | 310 | 565 | 100 | 100 |
| 241: | 121 | 163 | 61 | 40 | 32 | 42 | 40 | 33 | 33 |
| 249: | 52 | 43 | 35 | 40 | 37 | 34 | 38 | 31 | 31 |
| 257: | 48 | 35 | 43 | 44 | 42 | 44 | 24 | 33 | 33 |
| 265: | 37 | 38 | 26 | 44 | 47 | 63 | 54 | 39 | 39 |
| 273: | 27 | 38 | 33 | 36 | 39 | 48 | 40 | 46 | 46 |
| 281: | 38 | 28 | 28 | 27 | 25 | 37 | 33 | 43 | 43 |
| 289: | 34 | 23 | 31 | 28 | 26 | 49 | 193 | 119 | 119 |
| 297: | 35 | 32 | 32 | 74 | 35 | 30 | 37 | 25 | 25 |
| 305: | 21 | 23 | 32 | 23 | 30 | 21 | 29 | 37 | 37 |
| 313: | 33 | 29 | 18 | 34 | 19 | 23 | 25 | 24 | 24 |
| 321: | 23 | 37 | 24 | 26 | 29 | 27 | 31 | 63 | 63 |
| 329: | 33 | 28 | 16 | 23 | 33 | 27 | 27 | 29 | 29 |
| 337: | 42 | 129 | 95 | 29 | 37 | 28 | 22 | 17 | 17 |
| 345: | 26 | 22 | 21 | 19 | 22 | 25 | 161 | 374 | 374 |
| 353: | 114 | 20 | 24 | 29 | 20 | 27 | 19 | 27 | 27 |
| 361: | 17 | 27 | 24 | 26 | 23 | 20 | 28 | 23 | 23 |

369: 22 26 26 25 16 17 21 23

Sample Title: CP5007S11-12

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 30 | 24 | 23 | 19 | 23 | 24 | 24 | 29 |
| 385: | 13 | 25 | 18 | 32 | 25 | 25 | 17 | 23 |
| 393: | 23 | 21 | 22 | 19 | 21 | 22 | 20 | 17 |
| 401: | 15 | 17 | 15 | 21 | 21 | 29 | 20 | 18 |
| 409: | 38 | 29 | 21 | 15 | 23 | 21 | 20 | 20 |
| 417: | 24 | 16 | 21 | 15 | 31 | 21 | 16 | 22 |
| 425: | 14 | 20 | 14 | 14 | 18 | 15 | 21 | 21 |
| 433: | 20 | 20 | 17 | 14 | 15 | 19 | 23 | 15 |
| 441: | 16 | 16 | 20 | 17 | 17 | 16 | 18 | 20 |
| 449: | 14 | 21 | 17 | 25 | 24 | 15 | 14 | 18 |
| 457: | 15 | 14 | 17 | 10 | 22 | 24 | 55 | 33 |
| 465: | 17 | 20 | 15 | 10 | 22 | 18 | 12 | 14 |
| 473: | 16 | 17 | 13 | 21 | 13 | 16 | 18 | 17 |
| 481: | 16 | 21 | 13 | 18 | 14 | 13 | 23 | 17 |
| 489: | 17 | 16 | 8 | 12 | 19 | 12 | 13 | 17 |
| 497: | 21 | 23 | 16 | 19 | 16 | 12 | 13 | 16 |
| 505: | 10 | 16 | 17 | 21 | 26 | 66 | 97 | 58 |
| 513: | 20 | 17 | 15 | 17 | 12 | 12 | 8 | 10 |
| 521: | 9 | 11 | 21 | 12 | 11 | 16 | 12 | 12 |
| 529: | 12 | 14 | 13 | 14 | 17 | 15 | 14 | 12 |
| 537: | 10 | 9 | 9 | 10 | 19 | 13 | 13 | 10 |
| 545: | 5 | 11 | 20 | 13 | 13 | 22 | 11 | 15 |
| 553: | 12 | 21 | 13 | 11 | 9 | 18 | 7 | 12 |
| 561: | 12 | 14 | 14 | 11 | 12 | 10 | 11 | 17 |
| 569: | 12 | 12 | 9 | 12 | 24 | 13 | 8 | 20 |
| 577: | 20 | 18 | 22 | 17 | 10 | 45 | 162 | 81 |
| 585: | 16 | 10 | 9 | 12 | 6 | 10 | 10 | 12 |
| 593: | 12 | 9 | 9 | 13 | 13 | 11 | 20 | 12 |
| 601: | 13 | 11 | 14 | 9 | 15 | 20 | 11 | 63 |
| 609: | 238 | 120 | 17 | 10 | 9 | 15 | 14 | 13 |
| 617: | 11 | 12 | 11 | 17 | 17 | 12 | 8 | 13 |
| 625: | 10 | 14 | 12 | 20 | 21 | 8 | 14 | 4 |
| 633: | 11 | 8 | 13 | 18 | 21 | 11 | 9 | 11 |
| 641: | 12 | 7 | 11 | 17 | 9 | 13 | 14 | 16 |
| 649: | 18 | 11 | 11 | 13 | 14 | 10 | 14 | 13 |
| 657: | 11 | 9 | 9 | 15 | 8 | 12 | 17 | 10 |
| 665: | 20 | 9 | 7 | 12 | 9 | 16 | 9 | 14 |
| 673: | 8 | 15 | 16 | 7 | 9 | 12 | 11 | 10 |
| 681: | 16 | 9 | 11 | 9 | 11 | 12 | 4 | 10 |
| 689: | 14 | 9 | 12 | 15 | 10 | 9 | 8 | 15 |
| 697: | 11 | 13 | 12 | 18 | 16 | 13 | 11 | 10 |
| 705: | 11 | 8 | 5 | 7 | 17 | 9 | 11 | 11 |
| 713: | 9 | 13 | 12 | 8 | 6 | 11 | 12 | 8 |
| 721: | 12 | 12 | 5 | 12 | 7 | 18 | 42 | 29 |
| 729: | 13 | 12 | 8 | 11 | 14 | 15 | 12 | 10 |
| 737: | 11 | 10 | 11 | 10 | 9 | 9 | 7 | 11 |
| 745: | 7 | 17 | 5 | 15 | 6 | 18 | 5 | 9 |
| 753: | 12 | 15 | 16 | 11 | 6 | 5 | 15 | 17 |
| 761: | 5 | 9 | 7 | 6 | 15 | 9 | 13 | 35 |
| 769: | 20 | 17 | 8 | 11 | 7 | 6 | 6 | 14 |
| 777: | 9 | 6 | 7 | 10 | 5 | 11 | 9 | 9 |
| 785: | 12 | 10 | 11 | 7 | 10 | 8 | 6 | 6 |
| 793: | 3 | 11 | 29 | 14 | 7 | 7 | 6 | 6 |

801: 7 5 6 7 6 12 9 8

Sample Title: CP5007S11-12

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|-----|----|
| 809: | 8 | 7 | 9 | 10 | 6 | 9 | 11 | 1 |
| 817: | 4 | 5 | 9 | 8 | 11 | 9 | 3 | 4 |
| 825: | 3 | 9 | 7 | 9 | 9 | 9 | 14 | 5 |
| 833: | 6 | 11 | 6 | 17 | 9 | 8 | 10 | 8 |
| 841: | 5 | 9 | 8 | 13 | 9 | 10 | 6 | 6 |
| 849: | 5 | 7 | 7 | 5 | 10 | 14 | 7 | 9 |
| 857: | 9 | 8 | 16 | 27 | 21 | 9 | 7 | 11 |
| 865: | 9 | 2 | 11 | 12 | 11 | 7 | 4 | 10 |
| 873: | 5 | 7 | 7 | 8 | 10 | 6 | 10 | 2 |
| 881: | 6 | 6 | 7 | 5 | 6 | 12 | 12 | 5 |
| 889: | 10 | 6 | 6 | 8 | 5 | 7 | 3 | 9 |
| 897: | 9 | 7 | 8 | 12 | 8 | 9 | 8 | 10 |
| 905: | 6 | 9 | 8 | 1 | 12 | 47 | 106 | 44 |
| 913: | 10 | 7 | 14 | 10 | 9 | 8 | 10 | 5 |
| 921: | 6 | 10 | 4 | 7 | 5 | 7 | 3 | 7 |
| 929: | 8 | 5 | 8 | 7 | 18 | 17 | 15 | 12 |
| 937: | 7 | 5 | 5 | 6 | 7 | 7 | 10 | 12 |
| 945: | 5 | 6 | 5 | 7 | 8 | 9 | 13 | 8 |
| 953: | 7 | 5 | 6 | 13 | 8 | 15 | 8 | 6 |
| 961: | 10 | 4 | 11 | 24 | 16 | 7 | 12 | 37 |
| 969: | 52 | 28 | 10 | 6 | 4 | 9 | 7 | 4 |
| 977: | 5 | 7 | 10 | 11 | 9 | 9 | 12 | 7 |
| 985: | 10 | 9 | 9 | 10 | 6 | 5 | 7 | 9 |
| 993: | 5 | 7 | 10 | 5 | 6 | 5 | 5 | 6 |
| 1001: | 10 | 12 | 14 | 9 | 2 | 8 | 7 | 11 |
| 1009: | 9 | 6 | 6 | 4 | 8 | 9 | 5 | 5 |
| 1017: | 8 | 12 | 4 | 6 | 6 | 5 | 10 | 4 |
| 1025: | 3 | 4 | 6 | 4 | 8 | 9 | 6 | 11 |
| 1033: | 9 | 18 | 10 | 11 | 5 | 3 | 4 | 4 |
| 1041: | 5 | 7 | 5 | 6 | 8 | 8 | 4 | 6 |
| 1049: | 11 | 8 | 9 | 13 | 10 | 5 | 5 | 6 |
| 1057: | 5 | 7 | 6 | 10 | 3 | 11 | 10 | 6 |
| 1065: | 4 | 6 | 8 | 7 | 4 | 6 | 5 | 2 |
| 1073: | 3 | 7 | 4 | 10 | 3 | 11 | 14 | 6 |
| 1081: | 10 | 10 | 7 | 7 | 9 | 8 | 10 | 5 |
| 1089: | 5 | 4 | 8 | 4 | 7 | 14 | 11 | 10 |
| 1097: | 7 | 7 | 3 | 3 | 7 | 13 | 5 | 10 |
| 1105: | 4 | 5 | 10 | 12 | 4 | 9 | 9 | 6 |
| 1113: | 4 | 4 | 9 | 10 | 7 | 12 | 22 | 42 |
| 1121: | 24 | 8 | 12 | 8 | 12 | 2 | 6 | 6 |
| 1129: | 7 | 8 | 3 | 10 | 8 | 7 | 6 | 6 |
| 1137: | 8 | 7 | 5 | 13 | 9 | 7 | 8 | 2 |
| 1145: | 5 | 8 | 8 | 4 | 8 | 7 | 11 | 6 |
| 1153: | 11 | 13 | 12 | 10 | 10 | 10 | 4 | 9 |
| 1161: | 8 | 9 | 7 | 6 | 8 | 6 | 6 | 6 |
| 1169: | 11 | 8 | 9 | 7 | 7 | 5 | 13 | 10 |
| 1177: | 11 | 11 | 9 | 5 | 11 | 9 | 11 | 6 |
| 1185: | 9 | 4 | 9 | 9 | 8 | 6 | 5 | 8 |
| 1193: | 9 | 11 | 9 | 7 | 4 | 6 | 9 | 9 |
| 1201: | 5 | 10 | 9 | 12 | 5 | 8 | 5 | 6 |
| 1209: | 12 | 7 | 8 | 6 | 9 | 3 | 8 | 6 |
| 1217: | 10 | 11 | 7 | 11 | 10 | 5 | 8 | 10 |
| 1225: | 10 | 11 | 9 | 8 | 9 | 16 | 6 | 5 |

1233: 6 6 11 7 14 25 14 13

Sample Title: CP5007S11-12

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1241: | 9 | 8 | 7 | 8 | 9 | 9 | 10 | 10 |
| 1249: | 5 | 9 | 10 | 7 | 7 | 8 | 8 | 3 |
| 1257: | 8 | 9 | 8 | 6 | 8 | 3 | 7 | 10 |
| 1265: | 9 | 10 | 9 | 0 | 4 | 9 | 8 | 5 |
| 1273: | 8 | 4 | 5 | 7 | 6 | 4 | 10 | 4 |
| 1281: | 12 | 6 | 3 | 7 | 2 | 4 | 3 | 7 |
| 1289: | 6 | 4 | 5 | 6 | 5 | 3 | 4 | 7 |
| 1297: | 5 | 3 | 7 | 5 | 4 | 8 | 3 | 5 |
| 1305: | 6 | 4 | 3 | 6 | 4 | 5 | 9 | 5 |
| 1313: | 5 | 7 | 5 | 2 | 11 | 5 | 8 | 1 |
| 1321: | 6 | 8 | 4 | 8 | 4 | 7 | 10 | 10 |
| 1329: | 8 | 6 | 5 | 5 | 7 | 3 | 4 | 3 |
| 1337: | 5 | 1 | 2 | 6 | 5 | 1 | 4 | 4 |
| 1345: | 6 | 5 | 5 | 4 | 3 | 4 | 5 | 5 |
| 1353: | 3 | 4 | 2 | 2 | 2 | 1 | 8 | 4 |
| 1361: | 4 | 3 | 6 | 1 | 5 | 2 | 10 | 1 |
| 1369: | 1 | 0 | 1 | 4 | 4 | 0 | 1 | 7 |
| 1377: | 10 | 8 | 7 | 2 | 3 | 4 | 2 | 4 |
| 1385: | 4 | 3 | 4 | 2 | 1 | 2 | 2 | 4 |
| 1393: | 1 | 1 | 1 | 3 | 2 | 6 | 4 | 5 |
| 1401: | 5 | 2 | 3 | 3 | 5 | 6 | 5 | 10 |
| 1409: | 4 | 3 | 3 | 0 | 2 | 2 | 4 | 5 |
| 1417: | 1 | 2 | 1 | 3 | 1 | 4 | 3 | 1 |
| 1425: | 1 | 1 | 4 | 1 | 2 | 3 | 4 | 1 |
| 1433: | 3 | 0 | 2 | 2 | 4 | 2 | 0 | 4 |
| 1441: | 3 | 0 | 2 | 0 | 5 | 0 | 1 | 6 |
| 1449: | 3 | 2 | 6 | 4 | 2 | 5 | 1 | 0 |
| 1457: | 5 | 19 | 107 | 268 | 235 | 85 | 13 | 2 |
| 1465: | 3 | 2 | 6 | 0 | 1 | 5 | 3 | 3 |
| 1473: | 2 | 4 | 2 | 1 | 2 | 5 | 2 | 1 |
| 1481: | 4 | 4 | 2 | 3 | 1 | 3 | 1 | 3 |
| 1489: | 1 | 2 | 4 | 2 | 3 | 2 | 4 | 6 |
| 1497: | 2 | 1 | 1 | 2 | 3 | 4 | 2 | 3 |
| 1505: | 2 | 3 | 3 | 1 | 12 | 3 | 1 | 4 |
| 1513: | 5 | 1 | 3 | 0 | 1 | 4 | 0 | 3 |
| 1521: | 1 | 3 | 2 | 4 | 1 | 1 | 2 | 7 |
| 1529: | 2 | 2 | 2 | 1 | 2 | 4 | 1 | 1 |
| 1537: | 1 | 3 | 0 | 0 | 2 | 3 | 4 | 3 |
| 1545: | 4 | 1 | 2 | 1 | 1 | 3 | 2 | 2 |
| 1553: | 1 | 1 | 0 | 5 | 4 | 2 | 1 | 1 |
| 1561: | 1 | 3 | 5 | 2 | 1 | 0 | 1 | 1 |
| 1569: | 1 | 0 | 3 | 1 | 3 | 3 | 2 | 3 |
| 1577: | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 5 |
| 1585: | 4 | 4 | 11 | 7 | 4 | 2 | 3 | 4 |
| 1593: | 7 | 1 | 2 | 0 | 2 | 1 | 1 | 2 |
| 1601: | 3 | 1 | 2 | 1 | 1 | 2 | 4 | 3 |
| 1609: | 2 | 0 | 5 | 6 | 0 | 1 | 1 | 2 |
| 1617: | 0 | 1 | 1 | 12 | 2 | 2 | 0 | 2 |
| 1625: | 1 | 1 | 1 | 1 | 2 | 5 | 5 | 2 |
| 1633: | 1 | 3 | 1 | 0 | 0 | 2 | 3 | 0 |
| 1641: | 1 | 1 | 0 | 0 | 2 | 0 | 3 | 1 |
| 1649: | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 3 |
| 1657: | 2 | 1 | 0 | 2 | 2 | 4 | 0 | 0 |

1665: 0 4 1 2 2 1 2 1

Sample Title: CP5007S11-12

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|----|----|----|---|---|---|
| 1673: | 4 | 0 | 0 | 1 | 0 | 2 | 0 | 0 |
| 1681: | 1 | 3 | 1 | 2 | 5 | 1 | 1 | 2 |
| 1689: | 0 | 1 | 1 | 2 | 1 | 2 | 2 | 1 |
| 1697: | 4 | 0 | 2 | 0 | 2 | 0 | 2 | 1 |
| 1705: | 3 | 1 | 0 | 0 | 3 | 1 | 4 | 0 |
| 1713: | 0 | 1 | 2 | 2 | 1 | 1 | 3 | 2 |
| 1721: | 3 | 1 | 2 | 0 | 0 | 1 | 1 | 6 |
| 1729: | 4 | 7 | 2 | 0 | 2 | 0 | 1 | 3 |
| 1737: | 0 | 0 | 2 | 1 | 1 | 3 | 3 | 1 |
| 1745: | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 3 |
| 1753: | 2 | 1 | 2 | 0 | 2 | 1 | 1 | 2 |
| 1761: | 2 | 6 | 13 | 21 | 16 | 8 | 0 | 1 |
| 1769: | 0 | 1 | 0 | 2 | 1 | 0 | 2 | 3 |
| 1777: | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 1785: | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 1793: | 2 | 0 | 1 | 0 | 2 | 0 | 1 | 3 |
| 1801: | 0 | 1 | 2 | 3 | 2 | 0 | 0 | 0 |
| 1809: | 1 | 2 | 1 | 2 | 0 | 0 | 1 | 1 |
| 1817: | 1 | 0 | 2 | 0 | 1 | 0 | 1 | 2 |
| 1825: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1833: | 2 | 0 | 0 | 2 | 0 | 5 | 1 | 1 |
| 1841: | 1 | 3 | 0 | 0 | 3 | 6 | 5 | 5 |
| 1849: | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |
| 1857: | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 1865: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 1873: | 3 | 1 | 0 | 0 | 2 | 0 | 2 | 2 |
| 1881: | 0 | 1 | 1 | 1 | 0 | 1 | 4 | 0 |
| 1889: | 2 | 2 | 1 | 1 | 1 | 0 | 1 | 0 |
| 1897: | 2 | 1 | 0 | 1 | 2 | 0 | 1 | 0 |
| 1905: | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2 |
| 1913: | 0 | 0 | 1 | 2 | 2 | 1 | 1 | 1 |
| 1921: | 3 | 1 | 3 | 0 | 2 | 2 | 2 | 0 |
| 1929: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 1937: | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1945: | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 6 |
| 1953: | 1 | 2 | 1 | 1 | 2 | 1 | 0 | 1 |
| 1961: | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 |
| 1969: | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 2 |
| 1977: | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1985: | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 2 |
| 1993: | 0 | 1 | 2 | 0 | 0 | 2 | 3 | 0 |
| 2001: | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| 2009: | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 |
| 2017: | 1 | 0 | 2 | 1 | 2 | 0 | 0 | 1 |
| 2025: | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2033: | 2 | 0 | 4 | 0 | 2 | 2 | 0 | 2 |
| 2041: | 1 | 0 | 2 | 2 | 1 | 0 | 1 | 0 |
| 2049: | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 0 |
| 2057: | 0 | 2 | 3 | 1 | 3 | 0 | 0 | 1 |
| 2065: | 2 | 0 | 2 | 0 | 2 | 0 | 1 | 1 |
| 2073: | 1 | 1 | 2 | 0 | 0 | 2 | 0 | 1 |
| 2081: | 0 | 1 | 2 | 1 | 0 | 1 | 3 | 1 |
| 2089: | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 2 |

2097: 1 0 1 2 6 10 4 2

Sample Title: CP5007S11-12

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 2105: | 0 | 1 | 4 | 4 | 1 | 0 | 0 | 0 |
| 2113: | 1 | 1 | 1 | 2 | 3 | 1 | 1 | 1 |
| 2121: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2129: | 1 | 1 | 1 | 0 | 0 | 2 | 5 | 1 |
| 2137: | 0 | 2 | 0 | 1 | 1 | 1 | 1 | 0 |
| 2145: | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 3 |
| 2153: | 2 | 1 | 0 | 0 | 1 | 3 | 2 | 0 |
| 2161: | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 |
| 2169: | 1 | 2 | 4 | 0 | 2 | 0 | 0 | 0 |
| 2177: | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 1 |
| 2185: | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 2 |
| 2193: | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 0 |
| 2201: | 5 | 10 | 8 | 5 | 3 | 0 | 1 | 1 |
| 2209: | 4 | 2 | 3 | 1 | 0 | 3 | 1 | 0 |
| 2217: | 0 | 3 | 0 | 0 | 2 | 1 | 0 | 2 |
| 2225: | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 1 |
| 2233: | 1 | 3 | 1 | 1 | 0 | 0 | 1 | 2 |
| 2241: | 3 | 2 | 2 | 2 | 1 | 0 | 0 | 0 |
| 2249: | 1 | 0 | 1 | 2 | 0 | 3 | 1 | 0 |
| 2257: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 2265: | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 1 |
| 2273: | 0 | 0 | 1 | 0 | 0 | 1 | 5 | 1 |
| 2281: | 0 | 1 | 2 | 1 | 1 | 1 | 2 | 2 |
| 2289: | 1 | 1 | 3 | 2 | 1 | 0 | 0 | 1 |
| 2297: | 0 | 1 | 2 | 1 | 2 | 3 | 1 | 2 |
| 2305: | 1 | 3 | 1 | 1 | 2 | 2 | 2 | 0 |
| 2313: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 2321: | 1 | 1 | 2 | 0 | 2 | 2 | 0 | 1 |
| 2329: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 2337: | 0 | 0 | 0 | 6 | 3 | 2 | 2 | 1 |
| 2345: | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 1 |
| 2353: | 3 | 2 | 0 | 1 | 1 | 0 | 1 | 0 |
| 2361: | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 1 |
| 2369: | 1 | 1 | 4 | 0 | 1 | 1 | 2 | 0 |
| 2377: | 2 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 2385: | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 |
| 2393: | 0 | 1 | 0 | 2 | 2 | 1 | 1 | 1 |
| 2401: | 1 | 3 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2409: | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 2417: | 1 | 2 | 1 | 0 | 0 | 2 | 0 | 3 |
| 2425: | 0 | 2 | 1 | 3 | 1 | 3 | 0 | 0 |
| 2433: | 1 | 1 | 3 | 1 | 0 | 2 | 0 | 0 |
| 2441: | 2 | 1 | 1 | 0 | 0 | 1 | 5 | 0 |
| 2449: | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 0 |
| 2457: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 3 |
| 2465: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 2473: | 1 | 2 | 0 | 0 | 0 | 1 | 2 | 1 |
| 2481: | 0 | 1 | 0 | 2 | 2 | 1 | 0 | 0 |
| 2489: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2497: | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 0 |
| 2505: | 1 | 0 | 2 | 2 | 1 | 0 | 0 | 2 |
| 2513: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 2521: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

2529: 0 0 0 0 1 1 1 1

Sample Title: CP5007S11-12

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|----|----|----|----|----|---|
| 2537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2545: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2553: | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2561: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 2 |
| 2569: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2577: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2585: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 2593: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2601: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2609: | 0 | 0 | 12 | 19 | 38 | 33 | 16 | 9 |
| 2617: | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2625: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2633: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 2641: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2657: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 2665: | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 1 |
| 2673: | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2681: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2689: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 2697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2705: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2713: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2721: | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 0 |
| 2729: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2737: | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 |
| 2745: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 2753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2761: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| 2769: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2777: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2785: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2793: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2801: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2809: | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2817: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2825: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2833: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2841: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2849: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2865: | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 2873: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2881: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 2889: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 2897: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2905: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2913: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2921: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 |
| 2945: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 2953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

2961: 1 0 0 0 0 0 0 0 1

Sample Title: CP5007S11-12

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 2969: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2977: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2985: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2993: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3001: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 3009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3049: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 3057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 |
| 3081: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3097: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3121: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3153: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3161: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3177: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 3185: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3217: | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 3225: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3233: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3257: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3297: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 3305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3321: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3329: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3345: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3361: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

3393: 0 0 0 1 0 0 0 0

Sample Title: CP5007S11-12

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3417: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3425: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3465: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3489: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3505: | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| 3513: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 3585: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3633: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3657: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3753: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3785: | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 |
| 3793: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

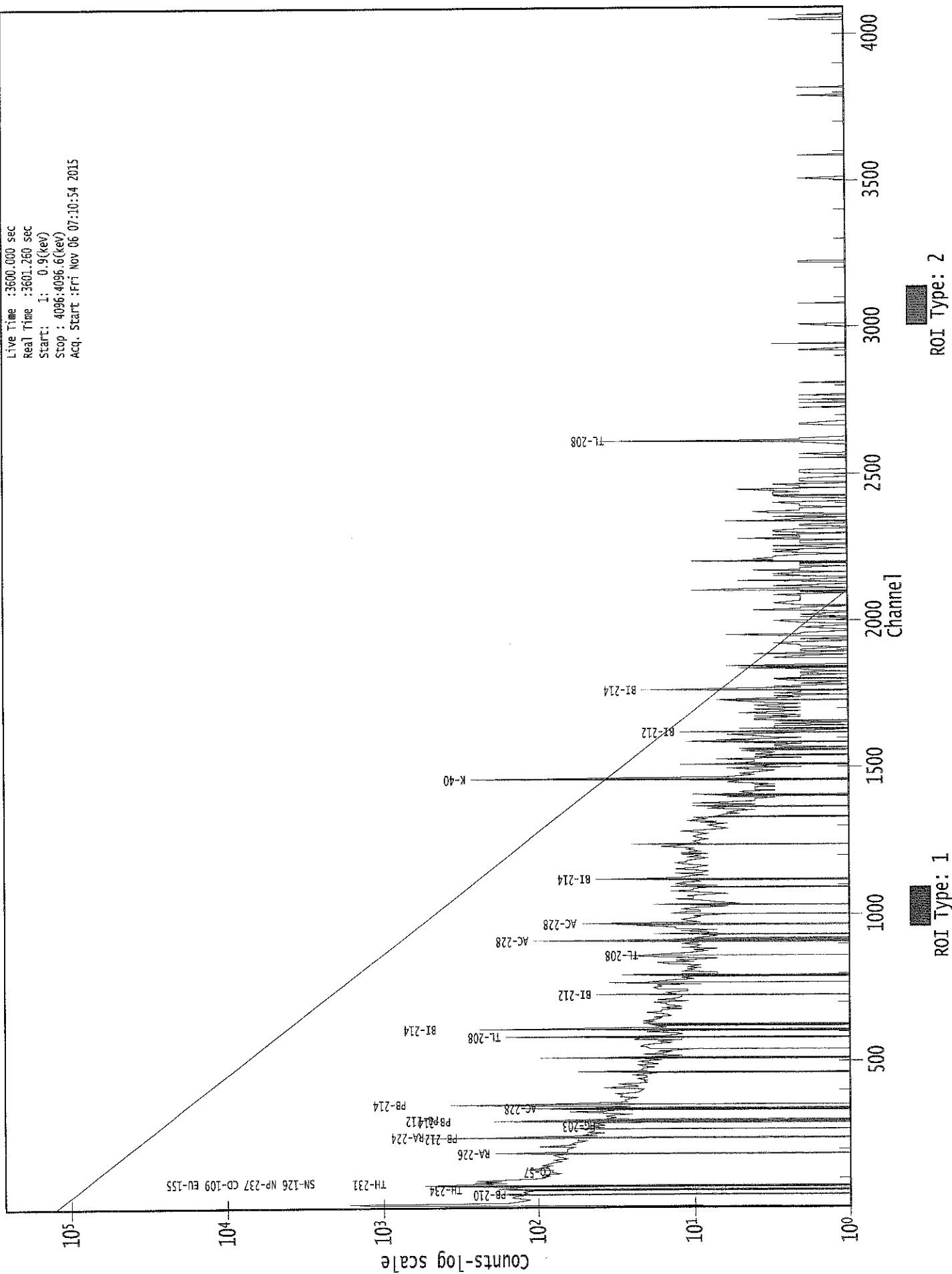
3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP5007S11-12

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3865: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3889: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3897: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3977: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4049: | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4057: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 4089: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |

0000029239.CNF

Live Time : 3600.000 sec
Real Time : 3601.260 sec
Start: 1: 0.9(keV)
Stop : 4096.4096.6(keV)
Acq. Start : Fri Nov 06 07:10:54 2015



000000 :

Analysis Report for 1510085-09
CP5007S13-14



GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-09
Sample Description : CP5007S13-14
Sample Type : SOIL

Sample Size : 5.309E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:39:35AM
Acquisition Started : 11/6/2015 7:11:02AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3616.7 seconds

Dead Time : 0.46 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29240

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-09
CP5007S13-14

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 8:11:31AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 1 | 76.37 | 76.58 | 0.0000 | 0.00 |
| 2 | 87.94 | 88.15 | 0.0000 | 0.00 |
| 3 | 92.64 | 92.85 | 0.0000 | 0.00 |
| 4 | 129.44 | 129.62 | 0.0000 | 0.00 |
| 5 | 143.71 | 143.89 | 0.0000 | 0.00 |
| 6 | 186.28 | 186.44 | 0.0000 | 0.00 |
| 7 | 210.56 | 210.70 | 0.0000 | 0.00 |
| 8 | 238.85 | 238.98 | 0.0000 | 0.00 |
| 9 | 241.96 | 242.09 | 0.0000 | 0.00 |
| 10 | 270.67 | 270.78 | 0.0000 | 0.00 |
| 11 | 295.28 | 295.38 | 0.0000 | 0.00 |
| 12 | 300.72 | 300.82 | 0.0000 | 0.00 |
| 13 | 327.87 | 327.96 | 0.0000 | 0.00 |
| 14 | 338.27 | 338.35 | 0.0000 | 0.00 |
| 15 | 349.28 | 349.35 | 0.0000 | 0.00 |
| 16 | 352.19 | 352.27 | 0.0000 | 0.00 |
| 17 | 370.72 | 370.78 | 0.0000 | 0.00 |
| 18 | 411.04 | 411.08 | 0.0000 | 0.00 |
| 19 | 464.10 | 464.11 | 0.0000 | 0.00 |
| 20 | 472.74 | 472.75 | 0.0000 | 0.00 |
| 21 | 492.15 | 492.15 | 0.0000 | 0.00 |
| 22 | 511.45 | 511.44 | 0.0000 | 0.00 |
| 23 | 583.39 | 583.34 | 0.0000 | 0.00 |
| 24 | 609.70 | 609.65 | 0.0000 | 0.00 |
| 25 | 727.34 | 727.23 | 0.0000 | 0.00 |
| 26 | 768.44 | 768.31 | 0.0000 | 0.00 |
| 27 | 772.81 | 772.67 | 0.0000 | 0.00 |
| 28 | 794.85 | 794.70 | 0.0000 | 0.00 |
| 29 | 860.78 | 860.61 | 0.0000 | 0.00 |
| 30 | 911.32 | 911.13 | 0.0000 | 0.00 |
| 31 | 964.68 | 964.46 | 0.0000 | 0.00 |
| 32 | 969.20 | 968.98 | 0.0000 | 0.00 |
| 33 | 980.69 | 980.46 | 0.0000 | 0.00 |
| 34 | 986.23 | 986.00 | 0.0000 | 0.00 |
| 35 | 1014.70 | 1014.45 | 0.0000 | 0.00 |
| 36 | 1120.59 | 1120.31 | 0.0000 | 0.00 |
| 37 | 1153.79 | 1153.49 | 0.0000 | 0.00 |
| 38 | 1197.31 | 1196.99 | 0.0000 | 0.00 |
| 39 | 1211.22 | 1210.90 | 0.0000 | 0.00 |
| 40 | 1232.09 | 1231.76 | 0.0000 | 0.00 |
| 41 | 1239.00 | 1238.67 | 0.0000 | 0.00 |
| 42 | 1351.62 | 1351.24 | 0.0000 | 0.00 |

Analysis Report for 1510085-09
CP5007S13-14

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1381.89 | 1381.50 | 0.0000 | 0.00 |
| 44 | 1386.89 | 1386.50 | 0.0000 | 0.00 |
| 45 | 1392.77 | 1392.38 | 0.0000 | 0.00 |
| 46 | 1409.23 | 1408.83 | 0.0000 | 0.00 |
| 47 | 1461.01 | 1460.59 | 0.0000 | 0.00 |
| 48 | 1508.95 | 1508.51 | 0.0000 | 0.00 |
| 49 | 1579.61 | 1579.15 | 0.0000 | 0.00 |
| 50 | 1587.97 | 1587.50 | 0.0000 | 0.00 |
| 51 | 1631.74 | 1631.26 | 0.0000 | 0.00 |
| 52 | 1730.29 | 1729.77 | 0.0000 | 0.00 |
| 53 | 1765.05 | 1764.52 | 0.0000 | 0.00 |
| 54 | 1848.19 | 1847.63 | 0.0000 | 0.00 |
| 55 | 1970.48 | 1969.88 | 0.0000 | 0.00 |
| 56 | 2103.13 | 2102.49 | 0.0000 | 0.00 |
| 57 | 2119.77 | 2119.13 | 0.0000 | 0.00 |
| 58 | 2203.90 | 2203.23 | 0.0000 | 0.00 |
| 59 | 2355.64 | 2354.93 | 0.0000 | 0.00 |
| 60 | 2364.62 | 2363.91 | 0.0000 | 0.00 |
| 61 | 2614.97 | 2614.19 | 0.0000 | 0.00 |
| 62 | 2778.02 | 2777.20 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-09
CP5007S13-14

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 8:11:31AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| m 1 | 76.37 | 73 - | 80 | 76.58 | 1.01E+03 | 130.95 | 2.20E+03 | 3.70 |
| m 2 | 87.94 | 82 - | 98 | 88.15 | 1.83E+02 | 76.92 | 1.08E+03 | 1.68 |
| m 3 | 92.64 | 82 - | 98 | 92.85 | 2.66E+02 | 78.51 | 1.00E+03 | 1.69 |
| 4 | 129.44 | 126 - | 132 | 129.62 | 7.52E+01 | 73.72 | 9.32E+02 | 2.05 |
| 5 | 143.71 | 141 - | 147 | 143.89 | 9.69E+01 | 69.64 | 8.04E+02 | 3.79 |
| 6 | 186.28 | 182 - | 189 | 186.44 | 1.92E+02 | 77.69 | 8.73E+02 | 2.16 |
| 7 | 210.56 | 206 - | 215 | 210.70 | 8.44E+01 | 86.67 | 9.99E+02 | 1.44 |
| M 8 | 238.85 | 234 - | 247 | 238.98 | 8.25E+02 | 76.86 | 4.58E+02 | 1.89 |
| m 9 | 241.96 | 234 - | 247 | 242.09 | 1.59E+02 | 74.21 | 4.34E+02 | 1.89 |
| 10 | 270.67 | 268 - | 273 | 270.78 | 8.15E+01 | 44.67 | 3.35E+02 | 2.04 |
| 11 | 295.28 | 291 - | 298 | 295.38 | 2.39E+02 | 60.76 | 4.56E+02 | 1.92 |
| 12 | 300.72 | 299 - | 305 | 300.82 | 7.65E+01 | 45.69 | 3.15E+02 | 1.89 |
| 13 | 327.87 | 325 - | 330 | 327.96 | 3.80E+01 | 38.37 | 2.64E+02 | 1.71 |
| 14 | 338.27 | 335 - | 342 | 338.35 | 1.40E+02 | 52.69 | 3.72E+02 | 1.99 |
| M 15 | 349.28 | 348 - | 365 | 349.35 | 2.00E+01 | 19.96 | 9.08E+01 | 1.60 |
| m 16 | 352.19 | 348 - | 365 | 352.27 | 4.54E+02 | 50.50 | 1.61E+02 | 1.74 |
| 17 | 370.72 | 367 - | 374 | 370.78 | 4.01E+01 | 41.09 | 2.52E+02 | 2.17 |
| 18 | 411.04 | 407 - | 417 | 411.08 | 4.80E+01 | 50.78 | 3.16E+02 | 3.54 |
| 19 | 464.10 | 459 - | 468 | 464.11 | 7.33E+01 | 43.09 | 2.19E+02 | 5.04 |
| 20 | 472.74 | 470 - | 476 | 472.75 | 2.73E+01 | 30.44 | 1.51E+02 | 2.08 |
| 21 | 492.15 | 489 - | 495 | 492.15 | 2.59E+01 | 29.97 | 1.40E+02 | 2.22 |
| 22 | 511.45 | 507 - | 515 | 511.44 | 1.46E+02 | 45.79 | 2.30E+02 | 1.72 |
| 23 | 583.39 | 577 - | 588 | 583.34 | 2.23E+02 | 51.65 | 2.21E+02 | 2.04 |
| 24 | 609.70 | 605 - | 615 | 609.65 | 3.09E+02 | 52.12 | 1.96E+02 | 2.00 |
| 25 | 727.34 | 724 - | 732 | 727.23 | 5.11E+01 | 30.70 | 1.16E+02 | 3.88 |
| M 26 | 768.44 | 764 - | 775 | 768.31 | 4.07E+01 | 28.43 | 1.11E+02 | 2.79 |
| m 27 | 772.81 | 764 - | 775 | 772.67 | 2.24E+01 | 25.43 | 8.83E+01 | 2.33 |
| 28 | 794.85 | 790 - | 799 | 794.70 | 4.64E+01 | 30.35 | 1.05E+02 | 2.33 |
| 29 | 860.78 | 856 - | 864 | 860.61 | 2.58E+01 | 29.37 | 1.16E+02 | 2.09 |
| 30 | 911.32 | 905 - | 914 | 911.13 | 1.48E+02 | 36.51 | 1.08E+02 | 1.87 |
| M 31 | 964.68 | 962 - | 995 | 964.46 | 3.49E+01 | 13.86 | 2.38E+01 | 2.66 |
| m 32 | 969.20 | 962 - | 995 | 968.98 | 8.49E+01 | 26.68 | 4.54E+01 | 2.66 |
| m 33 | 980.69 | 962 - | 995 | 980.46 | 1.91E+01 | 19.29 | 4.25E+01 | 2.67 |
| m 34 | 986.23 | 962 - | 995 | 986.00 | 1.74E+01 | 17.74 | 3.61E+01 | 2.21 |
| 35 | 1014.70 | 1007 - | 1019 | 1014.45 | 2.87E+01 | 33.11 | 1.11E+02 | 6.26 |
| 36 | 1120.59 | 1116 - | 1124 | 1120.31 | 5.33E+01 | 26.54 | 7.34E+01 | 2.20 |
| 37 | 1153.79 | 1149 - | 1159 | 1153.49 | 2.75E+01 | 33.26 | 1.35E+02 | 5.29 |
| 38 | 1197.31 | 1194 - | 1199 | 1196.99 | 2.34E+01 | 17.29 | 3.52E+01 | 2.21 |
| 39 | 1211.22 | 1204 - | 1218 | 1210.90 | 5.39E+01 | 41.39 | 1.58E+02 | 8.56 |
| 40 | 1232.09 | 1230 - | 1234 | 1231.76 | 1.90E+01 | 17.46 | 5.20E+01 | 2.59 |

Analysis Report for 1510085-09
CP5007S13-14

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| | 41 | 1239.00 | 1235 - | 1243 | 1238.67 | 3.49E+01 | 30.04 | 1.18E+02 | 1.49 |
| | 42 | 1351.62 | 1344 - | 1359 | 1351.24 | 3.56E+01 | 26.38 | 5.29E+01 | 11.89 |
| M | 43 | 1381.89 | 1380 - | 1389 | 1381.50 | 1.49E+01 | 5.66 | 2.48E+00 | 2.77 |
| m | 44 | 1386.89 | 1380 - | 1389 | 1386.50 | 1.13E+01 | 10.82 | 1.74E+01 | 2.89 |
| | 45 | 1392.77 | 1390 - | 1396 | 1392.38 | 1.13E+01 | 10.82 | 1.15E+01 | 1.99 |
| | 46 | 1409.23 | 1405 - | 1413 | 1408.83 | 2.56E+01 | 13.74 | 1.28E+01 | 2.06 |
| | 47 | 1461.01 | 1455 - | 1465 | 1460.59 | 5.61E+02 | 50.73 | 4.41E+01 | 2.31 |
| | 48 | 1508.95 | 1506 - | 1511 | 1508.51 | 1.22E+01 | 9.75 | 9.53E+00 | 3.40 |
| | 49 | 1579.61 | 1575 - | 1584 | 1579.15 | 1.21E+01 | 12.29 | 1.39E+01 | 2.66 |
| | 50 | 1587.97 | 1584 - | 1591 | 1587.50 | 1.40E+01 | 10.20 | 8.00E+00 | 3.17 |
| | 51 | 1631.74 | 1627 - | 1634 | 1631.26 | 1.17E+01 | 10.77 | 1.06E+01 | 1.63 |
| | 52 | 1730.29 | 1725 - | 1733 | 1729.77 | 1.04E+01 | 12.53 | 1.72E+01 | 2.54 |
| | 53 | 1765.05 | 1760 - | 1770 | 1764.52 | 5.13E+01 | 18.19 | 1.73E+01 | 2.03 |
| | 54 | 1848.19 | 1843 - | 1851 | 1847.63 | 1.49E+01 | 10.79 | 8.11E+00 | 3.59 |
| | 55 | 1970.48 | 1966 - | 1972 | 1969.88 | 8.15E+00 | 7.23 | 3.70E+00 | 1.26 |
| | 56 | 2103.13 | 2099 - | 2106 | 2102.49 | 1.07E+01 | 9.59 | 8.53E+00 | 2.87 |
| | 57 | 2119.77 | 2115 - | 2122 | 2119.13 | 1.02E+01 | 9.38 | 7.57E+00 | 2.93 |
| | 58 | 2203.90 | 2199 - | 2207 | 2203.23 | 2.20E+01 | 9.38 | 0.00E+00 | 3.84 |
| | 59 | 2355.64 | 2352 - | 2357 | 2354.93 | 5.64E+00 | 6.08 | 2.71E+00 | 2.60 |
| | 60 | 2364.62 | 2359 - | 2368 | 2363.91 | 1.10E+01 | 6.63 | 0.00E+00 | 7.88 |
| | 61 | 2614.97 | 2609 - | 2619 | 2614.19 | 6.85E+01 | 18.88 | 1.10E+01 | 2.81 |
| | 62 | 2778.02 | 2773 - | 2779 | 2777.20 | 5.00E+00 | 4.47 | 0.00E+00 | 2.31 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 8:11:31AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| | 1 | 76.37 | 73 - | 80 | 1.01E+03 | 130.95 | 2.20E+03 | 1.77E+02 |
| m | 2 | 87.94 | 82 - | 98 | 1.83E+02 | 76.92 | 1.08E+03 | 5.41E+01 |
| m | 3 | 92.64 | 82 - | 98 | 2.66E+02 | 78.51 | 1.00E+03 | 5.21E+01 |
| | 4 | 129.44 | 126 - | 132 | 7.52E+01 | 73.72 | 9.32E+02 | 5.89E+01 |
| | 5 | 143.71 | 141 - | 147 | 9.69E+01 | 69.64 | 8.04E+02 | 5.49E+01 |
| | 6 | 186.28 | 182 - | 189 | 1.92E+02 | 77.69 | 8.73E+02 | 5.97E+01 |

Analysis Report for 1510085-09

CP5007S13-14

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| | 7 | 210.56 | 206 - | 215 | 8.44E+01 | 86.67 | 9.99E+02 | 6.96E+01 |
| M | 8 | 238.85 | 234 - | 247 | 8.25E+02 | 76.86 | 4.58E+02 | 3.52E+01 |
| m | 9 | 241.96 | 234 - | 247 | 1.59E+02 | 74.21 | 4.34E+02 | 3.42E+01 |
| | 10 | 270.67 | 268 - | 273 | 8.15E+01 | 44.67 | 3.35E+02 | 3.36E+01 |
| | 11 | 295.28 | 291 - | 298 | 2.39E+02 | 60.76 | 4.56E+02 | 4.30E+01 |
| | 12 | 300.72 | 299 - | 305 | 7.65E+01 | 45.69 | 3.15E+02 | 3.47E+01 |
| | 13 | 327.87 | 325 - | 330 | 3.80E+01 | 38.37 | 2.64E+02 | 2.99E+01 |
| | 14 | 338.27 | 335 - | 342 | 1.40E+02 | 52.69 | 3.72E+02 | 3.87E+01 |
| M | 15 | 349.28 | 348 - | 365 | 2.00E+01 | 19.96 | 9.08E+01 | 1.57E+01 |
| m | 16 | 352.19 | 348 - | 365 | 4.54E+02 | 50.50 | 1.61E+02 | 2.08E+01 |
| | 17 | 370.72 | 367 - | 374 | 4.01E+01 | 41.09 | 2.52E+02 | 3.21E+01 |
| | 18 | 411.04 | 407 - | 417 | 4.80E+01 | 50.78 | 3.16E+02 | 4.02E+01 |
| | 19 | 464.10 | 459 - | 468 | 7.33E+01 | 43.09 | 2.19E+02 | 3.25E+01 |
| | 20 | 472.74 | 470 - | 476 | 2.73E+01 | 30.44 | 1.51E+02 | 2.35E+01 |
| | 21 | 492.15 | 489 - | 495 | 2.59E+01 | 29.97 | 1.40E+02 | 2.32E+01 |
| | 22 | 511.45 | 507 - | 515 | 1.46E+02 | 45.79 | 2.30E+02 | 3.20E+01 |
| | 23 | 583.39 | 577 - | 588 | 2.23E+02 | 51.65 | 2.21E+02 | 3.46E+01 |
| | 24 | 609.70 | 605 - | 615 | 3.09E+02 | 52.12 | 1.96E+02 | 3.16E+01 |
| | 25 | 727.34 | 724 - | 732 | 5.11E+01 | 30.70 | 1.16E+02 | 2.23E+01 |
| M | 26 | 768.44 | 764 - | 775 | 4.07E+01 | 28.43 | 1.11E+02 | 1.73E+01 |
| m | 27 | 772.81 | 764 - | 775 | 2.24E+01 | 25.43 | 8.83E+01 | 1.54E+01 |
| | 28 | 794.85 | 790 - | 799 | 4.64E+01 | 30.35 | 1.05E+02 | 2.23E+01 |
| | 29 | 860.78 | 856 - | 864 | 2.58E+01 | 29.37 | 1.16E+02 | 2.27E+01 |
| | 30 | 911.32 | 905 - | 914 | 1.48E+02 | 36.51 | 1.08E+02 | 1.30E+01 |
| M | 31 | 964.68 | 962 - | 995 | 3.49E+01 | 13.86 | 2.38E+01 | 8.02E+00 |
| m | 32 | 969.20 | 962 - | 995 | 8.49E+01 | 26.68 | 4.54E+01 | 1.11E+01 |
| m | 33 | 980.69 | 962 - | 995 | 1.91E+01 | 19.29 | 4.25E+01 | 1.07E+01 |
| m | 34 | 986.23 | 962 - | 995 | 1.74E+01 | 17.74 | 3.61E+01 | 9.88E+00 |
| | 35 | 1014.70 | 1007 - | 1019 | 2.87E+01 | 33.11 | 1.11E+02 | 2.58E+01 |
| | 36 | 1120.59 | 1116 - | 1124 | 5.33E+01 | 26.54 | 7.34E+01 | 1.82E+01 |
| | 37 | 1153.79 | 1149 - | 1159 | 2.75E+01 | 33.26 | 1.35E+02 | 2.59E+01 |
| | 38 | 1197.31 | 1194 - | 1199 | 2.34E+01 | 17.29 | 3.52E+01 | 1.18E+01 |
| | 39 | 1211.22 | 1204 - | 1218 | 5.39E+01 | 41.39 | 1.58E+02 | 3.18E+01 |
| | 40 | 1232.09 | 1230 - | 1234 | 1.90E+01 | 17.46 | 5.20E+01 | 1.24E+01 |
| | 41 | 1239.00 | 1235 - | 1243 | 3.49E+01 | 30.04 | 1.18E+02 | 2.27E+01 |
| | 42 | 1351.62 | 1344 - | 1359 | 3.56E+01 | 26.38 | 5.29E+01 | 1.93E+01 |
| M | 43 | 1381.89 | 1380 - | 1389 | 1.49E+01 | 5.66 | 2.48E+00 | 2.59E+00 |
| m | 44 | 1386.89 | 1380 - | 1389 | 1.13E+01 | 10.82 | 1.74E+01 | 6.86E+00 |
| | 45 | 1392.77 | 1390 - | 1396 | 1.13E+01 | 10.82 | 1.15E+01 | 6.97E+00 |
| | 46 | 1409.23 | 1405 - | 1413 | 2.56E+01 | 13.74 | 1.28E+01 | 7.64E+00 |
| | 47 | 1461.01 | 1455 - | 1465 | 5.61E+02 | 50.73 | 4.41E+01 | 1.49E+01 |
| | 48 | 1508.95 | 1506 - | 1511 | 1.22E+01 | 9.75 | 9.53E+00 | 5.58E+00 |
| | 49 | 1579.61 | 1575 - | 1584 | 1.21E+01 | 12.29 | 1.39E+01 | 8.33E+00 |
| | 50 | 1587.97 | 1584 - | 1591 | 1.40E+01 | 10.20 | 8.00E+00 | 5.70E+00 |
| | 51 | 1631.74 | 1627 - | 1634 | 1.17E+01 | 10.77 | 1.06E+01 | 6.84E+00 |
| | 52 | 1730.29 | 1725 - | 1733 | 1.04E+01 | 12.53 | 1.72E+01 | 8.83E+00 |
| | 53 | 1765.05 | 1760 - | 1770 | 5.13E+01 | 18.19 | 1.73E+01 | 9.20E+00 |
| | 54 | 1848.19 | 1843 - | 1851 | 1.49E+01 | 10.79 | 8.11E+00 | 6.19E+00 |
| | 55 | 1970.48 | 1966 - | 1972 | 8.15E+00 | 7.23 | 3.70E+00 | 3.64E+00 |
| | 56 | 2103.13 | 2099 - | 2106 | 1.07E+01 | 9.59 | 8.53E+00 | 5.76E+00 |
| | 57 | 2119.77 | 2115 - | 2122 | 1.02E+01 | 9.38 | 7.57E+00 | 5.64E+00 |

Analysis Report for 1510085-09

CP5007S13-14

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 58 | 2203.90 | 2199 - | 2207 | 2.20E+01 | 9.38 | 0.00E+00 | 0.00E+00 |
| 59 | 2355.64 | 2352 - | 2357 | 5.64E+00 | 6.08 | 2.71E+00 | 3.12E+00 |
| 60 | 2364.62 | 2359 - | 2368 | 1.10E+01 | 6.63 | 0.00E+00 | 0.00E+00 |
| 61 | 2614.97 | 2609 - | 2619 | 6.85E+01 | 18.88 | 1.10E+01 | 7.47E+00 |
| 62 | 2778.02 | 2773 - | 2779 | 5.00E+00 | 4.47 | 0.00E+00 | 0.00E+00 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 8:11:31AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| m 1 | 76.37 | 73 - | 80 | 76.58 | 1.01E+03 | 130.95 | 2.20E+03 | ..... |
| m 2 | 87.94 | 82 - | 98 | 88.15 | 1.83E+02 | 76.92 | 1.08E+03 | CD-109 SN-126 LU-176 |
| m 3 | 92.64 | 82 - | 98 | 92.85 | 2.66E+02 | 78.51 | 1.00E+03 | GA-67 |
| 4 | 129.44 | 126 - | 132 | 129.62 | 7.52E+01 | 73.72 | 9.32E+02 | ..... |
| 5 | 143.71 | 141 - | 147 | 143.89 | 9.69E+01 | 69.64 | 8.04E+02 | U-235 |
| 6 | 186.28 | 182 - | 189 | 186.44 | 1.92E+02 | 77.69 | 8.73E+02 | RA-226 |
| 7 | 210.56 | 206 - | 215 | 210.70 | 8.44E+01 | 86.67 | 9.99E+02 | CM-243 |
| M 8 | 238.85 | 234 - | 247 | 238.98 | 8.25E+02 | 76.86 | 4.58E+02 | PB-212 |
| m 9 | 241.96 | 234 - | 247 | 242.09 | 1.59E+02 | 74.21 | 4.34E+02 | RA-224 |
| 10 | 270.67 | 268 - | 273 | 270.78 | 8.15E+01 | 44.67 | 3.35E+02 | ..... |
| 11 | 295.28 | 291 - | 298 | 295.38 | 2.39E+02 | 60.76 | 4.56E+02 | PB-214 |
| 12 | 300.72 | 299 - | 305 | 300.82 | 7.65E+01 | 45.69 | 3.15E+02 | GA-67 PB-212 BI-210M |
| 13 | 327.87 | 325 - | 330 | 327.96 | 3.80E+01 | 38.37 | 2.64E+02 | LA-140 |
| 14 | 338.27 | 335 - | 342 | 338.35 | 1.40E+02 | 52.69 | 3.72E+02 | AC-228 |
| M 15 | 349.28 | 348 - | 365 | 349.35 | 2.00E+01 | 19.96 | 9.08E+01 | ..... |
| m 16 | 352.19 | 348 - | 365 | 352.27 | 4.54E+02 | 50.50 | 1.61E+02 | PB-214 |
| 17 | 370.72 | 367 - | 374 | 370.78 | 4.01E+01 | 41.09 | 2.52E+02 | ..... |

Analysis Report for 1510085-09

CP5007S13-14

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide | |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|---------------------------|--------|
| 18 | 411.04 | 407 - | 417 | 411.08 | 4.80E+01 | 50.78 | 3.16E+02 | HO-166M | |
| 19 | 464.10 | 459 - | 468 | 464.11 | 7.33E+01 | 43.09 | 2.19E+02 | SB-125 | |
| 20 | 472.74 | 470 - | 476 | 472.75 | 2.73E+01 | 30.44 | 1.51E+02 | SB-127 | |
| 21 | 492.15 | 489 - | 495 | 492.15 | 2.59E+01 | 29.97 | 1.40E+02 | ..... |  |
| 22 | 511.45 | 507 - | 515 | 511.44 | 1.46E+02 | 45.79 | 2.30E+02 | ..... |  |
| 23 | 583.39 | 577 - | 588 | 583.34 | 2.23E+02 | 51.65 | 2.21E+02 | TL-208 | |
| 24 | 609.70 | 605 - | 615 | 609.65 | 3.09E+02 | 52.12 | 1.96E+02 | BI-214 | |
| 25 | 727.34 | 724 - | 732 | 727.23 | 5.11E+01 | 30.70 | 1.16E+02 | BI-212 | |
| M | 26 | 768.44 | 764 - | 775 | 768.31 | 4.07E+01 | 28.43 | 1.11E+02 | |
| m | 27 | 772.81 | 764 - | 775 | 772.67 | 2.24E+01 | 25.43 | 8.83E+01 | |
| 28 | 794.85 | 790 - | 799 | 794.70 | 4.64E+01 | 30.35 | 1.05E+02 | CS-134 | |
| 29 | 860.78 | 856 - | 864 | 860.61 | 2.58E+01 | 29.37 | 1.16E+02 | TL-208 | |
| 30 | 911.32 | 905 - | 914 | 911.13 | 1.48E+02 | 36.51 | 1.08E+02 | AC-228 LU-172 | |
| M | 31 | 964.68 | 962 - | 995 | 964.46 | 3.49E+01 | 13.86 | 2.38E+01 | EU-152 |
| m | 32 | 969.20 | 962 - | 995 | 968.98 | 8.49E+01 | 26.68 | 4.54E+01 | AC-228 |
| m | 33 | 980.69 | 962 - | 995 | 980.46 | 1.91E+01 | 19.29 | 4.25E+01 | |
| m | 34 | 986.23 | 962 - | 995 | 986.00 | 1.74E+01 | 17.74 | 3.61E+01 | |
| 35 | 1014.70 | 1007 - | 1019 | 1014.45 | 2.87E+01 | 33.11 | 1.11E+02 | ..... |  |
| 36 | 1120.59 | 1116 - | 1124 | 1120.31 | 5.33E+01 | 26.54 | 7.34E+01 | SC-46 BI-214 TA-182 | |
| 37 | 1153.79 | 1149 - | 1159 | 1153.49 | 2.75E+01 | 33.26 | 1.35E+02 | EU-156 | |
| 38 | 1197.31 | 1194 - | 1199 | 1196.99 | 2.34E+01 | 17.29 | 3.52E+01 | ..... |  |
| 39 | 1211.22 | 1204 - | 1218 | 1210.90 | 5.39E+01 | 41.39 | 1.58E+02 | ..... |  |
| 40 | 1232.09 | 1230 - | 1234 | 1231.76 | 1.90E+01 | 17.46 | 5.20E+01 | ..... |  |
| 41 | 1239.00 | 1235 - | 1243 | 1238.67 | 3.49E+01 | 30.04 | 1.18E+02 | CO-56 | |
| 42 | 1351.62 | 1344 - | 1359 | 1351.24 | 3.56E+01 | 26.38 | 5.29E+01 | ..... |  |
| M | 43 | 1381.89 | 1380 - | 1389 | 1381.50 | 1.49E+01 | 5.66 | 2.48E+00 | |
| m | 44 | 1386.89 | 1380 - | 1389 | 1386.50 | 1.13E+01 | 10.82 | 1.74E+01 | |
| 45 | 1392.77 | 1390 - | 1396 | 1392.38 | 1.13E+01 | 10.82 | 1.15E+01 | ..... |  |
| 46 | 1409.23 | 1405 - | 1413 | 1408.83 | 2.56E+01 | 13.74 | 1.28E+01 | ..... |  |
| 47 | 1461.01 | 1455 - | 1465 | 1460.59 | 5.61E+02 | 50.73 | 4.41E+01 | K-40 | |
| 48 | 1508.95 | 1506 - | 1511 | 1508.51 | 1.22E+01 | 9.75 | 9.53E+00 | ..... |  |
| 49 | 1579.61 | 1575 - | 1584 | 1579.15 | 1.21E+01 | 12.29 | 1.39E+01 | ..... |  |
| 50 | 1587.97 | 1584 - | 1591 | 1587.50 | 1.40E+01 | 10.20 | 8.00E+00 | ..... |  |
| 51 | 1631.74 | 1627 - | 1634 | 1631.26 | 1.17E+01 | 10.77 | 1.06E+01 | ..... |  |
| 52 | 1730.29 | 1725 - | 1733 | 1729.77 | 1.04E+01 | 12.53 | 1.72E+01 | ..... |  |
| 53 | 1765.05 | 1760 - | 1770 | 1764.52 | 5.13E+01 | 18.19 | 1.73E+01 | BI-214 | |
| 54 | 1848.19 | 1843 - | 1851 | 1847.63 | 1.49E+01 | 10.79 | 8.11E+00 | ..... |  |
| 55 | 1970.48 | 1966 - | 1972 | 1969.88 | 8.15E+00 | 7.23 | 3.70E+00 | ..... |  |
| 56 | 2103.13 | 2099 - | 2106 | 2102.49 | 1.07E+01 | 9.59 | 8.53E+00 | ..... |  |
| 57 | 2119.77 | 2115 - | 2122 | 2119.13 | 1.02E+01 | 9.38 | 7.57E+00 | ..... |  |
| 58 | 2203.90 | 2199 - | 2207 | 2203.23 | 2.20E+01 | 9.38 | 0.00E+00 | BI-214 | |
| 59 | 2355.64 | 2352 - | 2357 | 2354.93 | 5.64E+00 | 6.08 | 2.71E+00 | ..... |  |
| 60 | 2364.62 | 2359 - | 2368 | 2363.91 | 1.10E+01 | 6.63 | 0.00E+00 | ..... |  |
| 61 | 2614.97 | 2609 - | 2619 | 2614.19 | 6.85E+01 | 18.88 | 1.10E+01 | TL-208 | |
| 62 | 2778.02 | 2773 - | 2779 | 2777.20 | 5.00E+00 | 4.47 | 0.00E+00 | ..... |  |

Analysis Report for 1510085-09
CP5007S13-14

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 8:11:31AM

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 1 | 76.37 | 1.01E+03 | 130.95 | 2.38E-02 | 2.14E-03 |
| m | 2 | 87.94 | 1.83E+02 | 76.92 | 2.44E-02 | 2.52E-03 |
| m | 3 | 92.64 | 2.66E+02 | 78.51 | 2.44E-02 | 2.42E-03 |
| | 4 | 129.44 | 7.52E+01 | 73.72 | 2.25E-02 | 1.70E-03 |
| | 5 | 143.71 | 9.69E+01 | 69.64 | 2.14E-02 | 1.62E-03 |
| | 6 | 186.28 | 1.92E+02 | 77.69 | 1.83E-02 | 1.42E-03 |
| | 7 | 210.56 | 8.44E+01 | 86.67 | 1.67E-02 | 1.31E-03 |
| M | 8 | 238.85 | 8.25E+02 | 76.86 | 1.52E-02 | 1.18E-03 |
| m | 9 | 241.96 | 1.59E+02 | 74.21 | 1.51E-02 | 1.17E-03 |
| | 10 | 270.67 | 8.15E+01 | 44.67 | 1.38E-02 | 1.04E-03 |
| | 11 | 295.28 | 2.39E+02 | 60.76 | 1.28E-02 | 9.74E-04 |
| | 12 | 300.72 | 7.65E+01 | 45.69 | 1.26E-02 | 9.66E-04 |
| | 13 | 327.87 | 3.80E+01 | 38.37 | 1.17E-02 | 9.28E-04 |
| | 14 | 338.27 | 1.40E+02 | 52.69 | 1.14E-02 | 9.13E-04 |
| M | 15 | 349.28 | 2.00E+01 | 19.96 | 1.11E-02 | 8.97E-04 |
| m | 16 | 352.19 | 4.54E+02 | 50.50 | 1.11E-02 | 8.93E-04 |
| | 17 | 370.72 | 4.01E+01 | 41.09 | 1.06E-02 | 8.67E-04 |
| | 18 | 411.04 | 4.80E+01 | 50.78 | 9.68E-03 | 8.18E-04 |
| | 19 | 464.10 | 7.33E+01 | 43.09 | 8.71E-03 | 7.65E-04 |
| | 20 | 472.74 | 2.73E+01 | 30.44 | 8.57E-03 | 7.56E-04 |
| | 21 | 492.15 | 2.59E+01 | 29.97 | 8.28E-03 | 7.37E-04 |
| | 22 | 511.45 | 1.46E+02 | 45.79 | 8.01E-03 | 7.18E-04 |
| | 23 | 583.39 | 2.23E+02 | 51.65 | 7.14E-03 | 6.46E-04 |
| | 24 | 609.70 | 3.09E+02 | 52.12 | 6.87E-03 | 6.20E-04 |
| | 25 | 727.34 | 5.11E+01 | 30.70 | 5.89E-03 | 5.14E-04 |
| M | 26 | 768.44 | 4.07E+01 | 28.43 | 5.62E-03 | 4.81E-04 |
| m | 27 | 772.81 | 2.24E+01 | 25.43 | 5.59E-03 | 4.77E-04 |
| | 28 | 794.85 | 4.64E+01 | 30.35 | 5.46E-03 | 4.59E-04 |
| | 29 | 860.78 | 2.58E+01 | 29.37 | 5.09E-03 | 4.05E-04 |
| | 30 | 911.32 | 1.48E+02 | 36.51 | 4.85E-03 | 3.72E-04 |
| M | 31 | 964.68 | 3.49E+01 | 13.86 | 4.62E-03 | 3.62E-04 |
| m | 32 | 969.20 | 8.49E+01 | 26.68 | 4.60E-03 | 3.61E-04 |
| m | 33 | 980.69 | 1.91E+01 | 19.29 | 4.56E-03 | 3.59E-04 |
| m | 34 | 986.23 | 1.74E+01 | 17.74 | 4.54E-03 | 3.58E-04 |

Analysis Report for 1510085-09
CP5007S13-14

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 35 | 1014.70 | 2.87E+01 | 33.11 | 4.43E-03 | 3.53E-04 |
| 36 | 1120.59 | 5.33E+01 | 26.54 | 4.08E-03 | 3.33E-04 |
| 37 | 1153.79 | 2.75E+01 | 33.26 | 3.98E-03 | 3.27E-04 |
| 38 | 1197.31 | 2.34E+01 | 17.29 | 3.86E-03 | 3.18E-04 |
| 39 | 1211.22 | 5.39E+01 | 41.39 | 3.82E-03 | 3.15E-04 |
| 40 | 1232.09 | 1.90E+01 | 17.46 | 3.77E-03 | 3.11E-04 |
| 41 | 1239.00 | 3.49E+01 | 30.04 | 3.75E-03 | 3.09E-04 |
| 42 | 1351.62 | 3.56E+01 | 26.38 | 3.50E-03 | 2.86E-04 |
| M 43 | 1381.89 | 1.49E+01 | 5.66 | 3.44E-03 | 2.81E-04 |
| m 44 | 1386.89 | 1.13E+01 | 10.82 | 3.43E-03 | 2.80E-04 |
| 45 | 1392.77 | 1.13E+01 | 10.82 | 3.42E-03 | 2.80E-04 |
| 46 | 1409.23 | 2.56E+01 | 13.74 | 3.39E-03 | 2.77E-04 |
| 47 | 1461.01 | 5.61E+02 | 50.73 | 3.29E-03 | 2.69E-04 |
| 48 | 1508.95 | 1.22E+01 | 9.75 | 3.21E-03 | 2.62E-04 |
| 49 | 1579.61 | 1.21E+01 | 12.29 | 3.10E-03 | 2.52E-04 |
| 50 | 1587.97 | 1.40E+01 | 10.20 | 3.09E-03 | 2.50E-04 |
| 51 | 1631.74 | 1.17E+01 | 10.77 | 3.03E-03 | 2.44E-04 |
| 52 | 1730.29 | 1.04E+01 | 12.53 | 2.90E-03 | 2.29E-04 |
| 53 | 1765.05 | 5.13E+01 | 18.19 | 2.86E-03 | 2.24E-04 |
| 54 | 1848.19 | 1.49E+01 | 10.79 | 2.77E-03 | 2.13E-04 |
| 55 | 1970.48 | 8.15E+00 | 7.23 | 2.65E-03 | 2.13E-04 |
| 56 | 2103.13 | 1.07E+01 | 9.59 | 2.54E-03 | 2.13E-04 |
| 57 | 2119.77 | 1.02E+01 | 9.38 | 2.52E-03 | 2.13E-04 |
| 58 | 2203.90 | 2.20E+01 | 9.38 | 2.46E-03 | 2.13E-04 |
| 59 | 2355.64 | 5.64E+00 | 6.08 | 2.37E-03 | 2.13E-04 |
| 60 | 2364.62 | 1.10E+01 | 6.63 | 2.36E-03 | 2.13E-04 |
| 61 | 2614.97 | 6.85E+01 | 18.88 | 2.24E-03 | 2.13E-04 |
| 62 | 2778.02 | 5.00E+00 | 4.47 | 2.18E-03 | 2.13E-04 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 8:11:31AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 1 | 76.37 | 1.01E+03 | 130.95 | | | 1.01E+03 | 1.31E+02 |
| m 2 | 87.94 | 1.83E+02 | 76.92 | 1.52E+01 | 5.37E+00 | 1.68E+02 | 7.71E+01 |

Analysis Report for 1510085-09

CP5007S13-14

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| m | 3 | 92.64 | 2.66E+02 | 78.51 | 9.04E+01 | 2.62E+01 | 1.76E+02 | 8.28E+01 |
| | 4 | 129.44 | 7.52E+01 | 73.72 | | | 7.52E+01 | 7.37E+01 |
| | 5 | 143.71 | 9.69E+01 | 69.64 | 8.84E+00 | 8.51E+00 | 8.81E+01 | 7.02E+01 |
| | 6 | 186.28 | 1.92E+02 | 77.69 | 3.93E+01 | 6.56E+00 | 1.53E+02 | 7.80E+01 |
| | 7 | 210.56 | 8.44E+01 | 86.67 | | | 8.44E+01 | 8.67E+01 |
| M | 8 | 238.85 | 8.25E+02 | 76.86 | 1.34E+01 | 2.14E+00 | 8.12E+02 | 7.69E+01 |
| m | 9 | 241.96 | 1.59E+02 | 74.21 | 2.69E+00 | 1.46E+00 | 1.56E+02 | 7.42E+01 |
| | 10 | 270.67 | 8.15E+01 | 44.67 | | | 8.15E+01 | 4.47E+01 |
| | 11 | 295.28 | 2.39E+02 | 60.76 | | | 2.39E+02 | 6.08E+01 |
| | 12 | 300.72 | 7.65E+01 | 45.69 | | | 7.65E+01 | 4.57E+01 |
| | 13 | 327.87 | 3.80E+01 | 38.37 | | | 3.80E+01 | 3.84E+01 |
| | 14 | 338.27 | 1.40E+02 | 52.69 | | | 1.40E+02 | 5.27E+01 |
| M | 15 | 349.28 | 2.00E+01 | 19.96 | | | 2.00E+01 | 2.00E+01 |
| m | 16 | 352.19 | 4.54E+02 | 50.50 | 3.99E+00 | 4.73E+00 | 4.50E+02 | 5.07E+01 |
| | 17 | 370.72 | 4.01E+01 | 41.09 | | | 4.01E+01 | 4.11E+01 |
| | 18 | 411.04 | 4.80E+01 | 50.78 | | | 4.80E+01 | 5.08E+01 |
| | 19 | 464.10 | 7.33E+01 | 43.09 | | | 7.33E+01 | 4.31E+01 |
| | 20 | 472.74 | 2.73E+01 | 30.44 | | | 2.73E+01 | 3.04E+01 |
| | 21 | 492.15 | 2.59E+01 | 29.97 | | | 2.59E+01 | 3.00E+01 |
| | 22 | 511.45 | 1.46E+02 | 45.79 | 5.78E+01 | 4.60E+00 | 8.80E+01 | 4.60E+01 |
| | 23 | 583.39 | 2.23E+02 | 51.65 | 5.96E+00 | 3.46E+00 | 2.17E+02 | 5.18E+01 |
| | 24 | 609.70 | 3.09E+02 | 52.12 | 6.71E+00 | 3.44E+00 | 3.02E+02 | 5.22E+01 |
| | 25 | 727.34 | 5.11E+01 | 30.70 | | | 5.11E+01 | 3.07E+01 |
| M | 26 | 768.44 | 4.07E+01 | 28.43 | | | 4.07E+01 | 2.84E+01 |
| m | 27 | 772.81 | 2.24E+01 | 25.43 | | | 2.24E+01 | 2.54E+01 |
| | 28 | 794.85 | 4.64E+01 | 30.35 | | | 4.64E+01 | 3.03E+01 |
| | 29 | 860.78 | 2.58E+01 | 29.37 | | | 2.58E+01 | 2.94E+01 |
| | 30 | 911.32 | 1.48E+02 | 36.51 | 2.32E+00 | 2.73E+00 | 1.46E+02 | 3.66E+01 |
| M | 31 | 964.68 | 3.49E+01 | 13.86 | | | 3.49E+01 | 1.39E+01 |
| m | 32 | 969.20 | 8.49E+01 | 26.68 | | | 8.49E+01 | 2.67E+01 |
| m | 33 | 980.69 | 1.91E+01 | 19.29 | | | 1.91E+01 | 1.93E+01 |
| m | 34 | 986.23 | 1.74E+01 | 17.74 | | | 1.74E+01 | 1.77E+01 |
| | 35 | 1014.70 | 2.87E+01 | 33.11 | | | 2.87E+01 | 3.31E+01 |
| | 36 | 1120.59 | 5.33E+01 | 26.54 | 2.00E+00 | 2.20E+00 | 5.13E+01 | 2.66E+01 |
| | 37 | 1153.79 | 2.75E+01 | 33.26 | | | 2.75E+01 | 3.33E+01 |
| | 38 | 1197.31 | 2.34E+01 | 17.29 | | | 2.34E+01 | 1.73E+01 |
| | 39 | 1211.22 | 5.39E+01 | 41.39 | | | 5.39E+01 | 4.14E+01 |
| | 40 | 1232.09 | 1.90E+01 | 17.46 | | | 1.90E+01 | 1.75E+01 |
| | 41 | 1239.00 | 3.49E+01 | 30.04 | | | 3.49E+01 | 3.00E+01 |
| | 42 | 1351.62 | 3.56E+01 | 26.38 | | | 3.56E+01 | 2.64E+01 |
| M | 43 | 1381.89 | 1.49E+01 | 5.66 | | | 1.49E+01 | 5.66E+00 |
| m | 44 | 1386.89 | 1.13E+01 | 10.82 | | | 1.13E+01 | 1.08E+01 |
| | 45 | 1392.77 | 1.13E+01 | 10.82 | | | 1.13E+01 | 1.08E+01 |
| | 46 | 1409.23 | 2.56E+01 | 13.74 | | | 2.56E+01 | 1.37E+01 |
| | 47 | 1461.01 | 5.61E+02 | 50.73 | 2.36E+00 | 1.83E+00 | 5.59E+02 | 5.08E+01 |
| | 48 | 1508.95 | 1.22E+01 | 9.75 | | | 1.22E+01 | 9.75E+00 |
| | 49 | 1579.61 | 1.21E+01 | 12.29 | | | 1.21E+01 | 1.23E+01 |
| | 50 | 1587.97 | 1.40E+01 | 10.20 | | | 1.40E+01 | 1.02E+01 |
| | 51 | 1631.74 | 1.17E+01 | 10.77 | | | 1.17E+01 | 1.08E+01 |
| | 52 | 1730.29 | 1.04E+01 | 12.53 | | | 1.04E+01 | 1.25E+01 |
| | 53 | 1765.05 | 5.13E+01 | 18.19 | 1.45E+00 | 1.16E+00 | 4.99E+01 | 1.82E+01 |
| | 54 | 1848.19 | 1.49E+01 | 10.79 | | | 1.49E+01 | 1.08E+01 |
| | 55 | 1970.48 | 8.15E+00 | 7.23 | | | 8.15E+00 | 7.23E+00 |
| | 56 | 2103.13 | 1.07E+01 | 9.59 | | | 1.07E+01 | 9.59E+00 |

Analysis Report for 1510085-09

CP5007S13-14

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 57 | 2119.77 | 1.02E+01 | 9.38 | | | 1.02E+01 | 9.38E+00 |
| 58 | 2203.90 | 2.20E+01 | 9.38 | | | 2.20E+01 | 9.38E+00 |
| 59 | 2355.64 | 5.64E+00 | 6.08 | | | 5.64E+00 | 6.08E+00 |
| 60 | 2364.62 | 1.10E+01 | 6.63 | | | 1.10E+01 | 6.63E+00 |
| 61 | 2614.97 | 6.85E+01 | 18.88 | | | 6.85E+01 | 1.89E+01 |
| 62 | 2778.02 | 5.00E+00 | 4.47 | | | 5.00E+00 | 4.47E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 8:11:31AM

Ref. Peak Energy : 0.00

Reference Date :

Peak Ratio : 0.00

Uncertainty : 0.00

Background File

: \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area is: Original * Peak Ratio - Background

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 1 | 76.37 | 1.01E+03 | 130.95 | | | 1.01E+03 | 1.31E+02 |
| m | 2 | 87.94 | 1.83E+02 | 76.92 | 1.52E+01 | 5.37E+00 | 1.68E+02 | 7.71E+01 |
| m | 3 | 92.64 | 2.66E+02 | 78.51 | 9.04E+01 | 2.62E+01 | 1.76E+02 | 8.28E+01 |
| | 4 | 129.44 | 7.52E+01 | 73.72 | | | 7.52E+01 | 7.37E+01 |
| | 5 | 143.71 | 9.69E+01 | 69.64 | 8.84E+00 | 8.51E+00 | 8.81E+01 | 7.02E+01 |
| | 6 | 186.28 | 1.92E+02 | 77.69 | 3.93E+01 | 6.56E+00 | 1.53E+02 | 7.80E+01 |
| | 7 | 210.56 | 8.44E+01 | 86.67 | | | 8.44E+01 | 8.67E+01 |
| M | 8 | 238.85 | 8.25E+02 | 76.86 | 1.34E+01 | 2.14E+00 | 8.12E+02 | 7.69E+01 |
| m | 9 | 241.96 | 1.59E+02 | 74.21 | 2.69E+00 | 1.46E+00 | 1.56E+02 | 7.42E+01 |
| | 10 | 270.67 | 8.15E+01 | 44.67 | | | 8.15E+01 | 4.47E+01 |
| | 11 | 295.28 | 2.39E+02 | 60.76 | | | 2.39E+02 | 6.08E+01 |
| | 12 | 300.72 | 7.65E+01 | 45.69 | | | 7.65E+01 | 4.57E+01 |
| | 13 | 327.87 | 3.80E+01 | 38.37 | | | 3.80E+01 | 3.84E+01 |
| | 14 | 338.27 | 1.40E+02 | 52.69 | | | 1.40E+02 | 5.27E+01 |
| M | 15 | 349.28 | 2.00E+01 | 19.96 | | | 2.00E+01 | 2.00E+01 |
| m | 16 | 352.19 | 4.54E+02 | 50.50 | 3.99E+00 | 4.73E+00 | 4.50E+02 | 5.07E+01 |
| | 17 | 370.72 | 4.01E+01 | 41.09 | | | 4.01E+01 | 4.11E+01 |
| | 18 | 411.04 | 4.80E+01 | 50.78 | | | 4.80E+01 | 5.08E+01 |
| | 19 | 464.10 | 7.33E+01 | 43.09 | | | 7.33E+01 | 4.31E+01 |
| | 20 | 472.74 | 2.73E+01 | 30.44 | | | 2.73E+01 | 3.04E+01 |
| | 21 | 492.15 | 2.59E+01 | 29.97 | | | 2.59E+01 | 3.00E+01 |
| | 22 | 511.45 | 1.46E+02 | 45.79 | 5.78E+01 | 4.60E+00 | 8.80E+01 | 4.60E+01 |

Analysis Report for 1510085-09

CP5007S13-14

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 23 | 583.39 | 2.23E+02 | 51.65 | 5.96E+00 | 3.46E+00 | 2.17E+02 | 5.18E+01 |
| | 24 | 609.70 | 3.09E+02 | 52.12 | 6.71E+00 | 3.44E+00 | 3.02E+02 | 5.22E+01 |
| | 25 | 727.34 | 5.11E+01 | 30.70 | | | 5.11E+01 | 3.07E+01 |
| M | 26 | 768.44 | 4.07E+01 | 28.43 | | | 4.07E+01 | 2.84E+01 |
| m | 27 | 772.81 | 2.24E+01 | 25.43 | | | 2.24E+01 | 2.54E+01 |
| | 28 | 794.85 | 4.64E+01 | 30.35 | | | 4.64E+01 | 3.03E+01 |
| | 29 | 860.78 | 2.58E+01 | 29.37 | | | 2.58E+01 | 2.94E+01 |
| | 30 | 911.32 | 1.48E+02 | 36.51 | 2.32E+00 | 2.73E+00 | 1.46E+02 | 3.66E+01 |
| M | 31 | 964.68 | 3.49E+01 | 13.86 | | | 3.49E+01 | 1.39E+01 |
| m | 32 | 969.20 | 8.49E+01 | 26.68 | | | 8.49E+01 | 2.67E+01 |
| m | 33 | 980.69 | 1.91E+01 | 19.29 | | | 1.91E+01 | 1.93E+01 |
| m | 34 | 986.23 | 1.74E+01 | 17.74 | | | 1.74E+01 | 1.77E+01 |
| | 35 | 1014.70 | 2.87E+01 | 33.11 | | | 2.87E+01 | 3.31E+01 |
| | 36 | 1120.59 | 5.33E+01 | 26.54 | 2.00E+00 | 2.20E+00 | 5.13E+01 | 2.66E+01 |
| | 37 | 1153.79 | 2.75E+01 | 33.26 | | | 2.75E+01 | 3.33E+01 |
| | 38 | 1197.31 | 2.34E+01 | 17.29 | | | 2.34E+01 | 1.73E+01 |
| | 39 | 1211.22 | 5.39E+01 | 41.39 | | | 5.39E+01 | 4.14E+01 |
| | 40 | 1232.09 | 1.90E+01 | 17.46 | | | 1.90E+01 | 1.75E+01 |
| | 41 | 1239.00 | 3.49E+01 | 30.04 | | | 3.49E+01 | 3.00E+01 |
| | 42 | 1351.62 | 3.56E+01 | 26.38 | | | 3.56E+01 | 2.64E+01 |
| M | 43 | 1381.89 | 1.49E+01 | 5.66 | | | 1.49E+01 | 5.66E+00 |
| m | 44 | 1386.89 | 1.13E+01 | 10.82 | | | 1.13E+01 | 1.08E+01 |
| | 45 | 1392.77 | 1.13E+01 | 10.82 | | | 1.13E+01 | 1.08E+01 |
| | 46 | 1409.23 | 2.56E+01 | 13.74 | | | 2.56E+01 | 1.37E+01 |
| | 47 | 1461.01 | 5.61E+02 | 50.73 | 2.36E+00 | 1.83E+00 | 5.59E+02 | 5.08E+01 |
| | 48 | 1508.95 | 1.22E+01 | 9.75 | | | 1.22E+01 | 9.75E+00 |
| | 49 | 1579.61 | 1.21E+01 | 12.29 | | | 1.21E+01 | 1.23E+01 |
| | 50 | 1587.97 | 1.40E+01 | 10.20 | | | 1.40E+01 | 1.02E+01 |
| | 51 | 1631.74 | 1.17E+01 | 10.77 | | | 1.17E+01 | 1.08E+01 |
| | 52 | 1730.29 | 1.04E+01 | 12.53 | | | 1.04E+01 | 1.25E+01 |
| | 53 | 1765.05 | 5.13E+01 | 18.19 | 1.45E+00 | 1.16E+00 | 4.99E+01 | 1.82E+01 |
| | 54 | 1848.19 | 1.49E+01 | 10.79 | | | 1.49E+01 | 1.08E+01 |
| | 55 | 1970.48 | 8.15E+00 | 7.23 | | | 8.15E+00 | 7.23E+00 |
| | 56 | 2103.13 | 1.07E+01 | 9.59 | | | 1.07E+01 | 9.59E+00 |
| | 57 | 2119.77 | 1.02E+01 | 9.38 | | | 1.02E+01 | 9.38E+00 |
| | 58 | 2203.90 | 2.20E+01 | 9.38 | | | 2.20E+01 | 9.38E+00 |
| | 59 | 2355.64 | 5.64E+00 | 6.08 | | | 5.64E+00 | 6.08E+00 |
| | 60 | 2364.62 | 1.10E+01 | 6.63 | | | 1.10E+01 | 6.63E+00 |
| | 61 | 2614.97 | 6.85E+01 | 18.88 | | | 6.85E+01 | 1.89E+01 |
| | 62 | 2778.02 | 5.00E+00 | 4.47 | | | 5.00E+00 | 4.47E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-09
CP5007S13-14

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|-------------------------|-------------------------|
| K-40 | 0.994 | 1460.81 * | 10.67 | 2.25E+01 | 2.79E+00 |
| GA-67 | 0.578 | 93.31 * | 35.70 | 1.68E+02 | 6.87E+02 |
| | | 208.95 | 2.24 | | |
| | | 300.22 * | 16.00 | 3.15E+02 | 1.30E+03 |
| CD-109 | 0.999 | 88.03 * | 3.72 | 2.73E+00 | 1.30E+00 |
| SN-126 | 0.979 | 87.57 * | 37.00 | 2.63E-01 | 1.24E-01 |
| TL-208 | 0.987 | 583.14 * | 30.22 | 1.43E+00 | 3.63E-01 |
| | | 860.37 * | 4.48 | 1.60E+00 | 1.82E+00 |
| | | 2614.66 * | 35.85 | 1.21E+00 | 3.52E-01 |
| BI-212 | 0.767 | 727.17 * | 11.80 | 1.04E+00 | 6.31E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.988 | 238.63 * | 44.60 | 1.69E+00 | 2.07E-01 |
| | | 300.09 * | 3.41 | 2.51E+00 | 1.51E+00 |
| BI-214 | 0.973 | 609.31 * | 46.30 | 1.34E+00 | 2.62E-01 |
| | | 1120.29 * | 15.10 | 1.18E+00 | 6.19E-01 |
| | | 1764.49 * | 15.80 | 1.56E+00 | 5.84E-01 |
| | | 2204.22 * | 4.98 | 2.54E+00 | 1.10E+00 |
| PB-214 | 0.992 | 295.21 * | 19.19 | 1.38E+00 | 3.65E-01 |
| | | 351.92 * | 37.19 | 1.55E+00 | 2.15E-01 |
| RA-224 | 0.858 | 240.98 * | 3.95 | 3.71E+00 | 1.79E+00 |
| RA-226 | 0.999 | 186.21 * | 3.28 | 3.61E+00 | 6.86E+00 |
| AC-228 | 0.994 | 338.32 * | 11.40 | 1.52E+00 | 5.84E-01 |
| | | 911.07 * | 27.70 | 1.53E+00 | 4.03E-01 |
| | | 969.11 * | 16.60 | 1.57E+00 | 5.09E-01 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-09
CP5007S13-14

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 8:11:31AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide | |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|---------|
| 1 | 76.37 | 2.80278E-01 | 6.49 | | | |
| 4 | 129.44 | 2.08752E-02 | 49.05 | | | |
| 5 | 143.71 | 2.44638E-02 | 39.83 | Tol. | U-235 | |
| 7 | 210.56 | 2.34351E-02 | 51.36 | Tol. | CM-243 | |
| 10 | 270.67 | 2.26434E-02 | 27.40 | | | |
| 13 | 327.87 | 1.05556E-02 | 50.48 | Tol. | LA-140 | |
| M | 15 | 349.28 | 5.54223E-03 | 50.01 | | |
| | 17 | 370.72 | 1.11446E-02 | 51.20 | | |
| | 18 | 411.04 | 1.33239E-02 | 52.93 | Tol. | HO-166M |
| | 19 | 464.10 | 2.03597E-02 | 29.40 | Tol. | SB-125 |
| | 20 | 472.74 | 7.59574E-03 | 55.66 | Tol. | SB-127 |
| | 21 | 492.15 | 7.19039E-03 | 57.90 | | |
| | 22 | 511.45 | 2.44504E-02 | 26.14 | | |
| M | 26 | 768.44 | 1.13137E-02 | 34.90 | | |
| m | 27 | 772.81 | 6.22971E-03 | 56.70 | | |
| | 28 | 794.85 | 1.28774E-02 | 32.73 | Tol. | CS-134 |
| M | 31 | 964.68 | 9.68901E-03 | 19.86 | Tol. | EU-152 |
| m | 33 | 980.69 | 5.31012E-03 | 50.45 | | |
| m | 34 | 986.23 | 4.82224E-03 | 51.10 | | |
| | 35 | 1014.70 | 7.97619E-03 | 57.66 | | |
| | 37 | 1153.79 | 7.64035E-03 | 60.45 | Sum | |
| | 38 | 1197.31 | 6.50407E-03 | 36.92 | | |
| | 39 | 1211.22 | 1.49833E-02 | 38.37 | Sum | |
| | 40 | 1232.09 | 5.27778E-03 | 45.96 | | |
| | 41 | 1239.00 | 9.70449E-03 | 43.00 | | |
| | 42 | 1351.62 | 9.88127E-03 | 37.08 | | |
| M | 43 | 1381.89 | 4.13874E-03 | 18.98 | | |
| m | 44 | 1386.89 | 3.12649E-03 | 48.05 | | |
| | 45 | 1392.77 | 3.12908E-03 | 48.01 | | |
| | 46 | 1409.23 | 7.11372E-03 | 26.82 | | |
| | 48 | 1508.95 | 3.39869E-03 | 39.83 | | |
| | 49 | 1579.61 | 3.34795E-03 | 50.98 | Sum | |
| | 50 | 1587.97 | 3.88889E-03 | 36.42 | Sum | |
| | 51 | 1631.74 | 3.25163E-03 | 46.00 | | |
| | 52 | 1730.29 | 2.88743E-03 | 60.27 | Sum | |
| | 54 | 1848.19 | 4.15205E-03 | 36.11 | Sum | |
| | 55 | 1970.48 | 2.26389E-03 | 44.35 | | |
| | 56 | 2103.13 | 2.98148E-03 | 44.68 | S-Esc | |
| | 57 | 2119.77 | 2.83730E-03 | 45.92 | | |
| | 59 | 2355.64 | 1.56746E-03 | 53.90 | | |
| | 60 | 2364.62 | 3.05556E-03 | 30.15 | | |
| | 62 | 2778.02 | 1.38889E-03 | 44.72 | | |

Analysis Report for 1510085-09
CP5007S13-14

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| K-40 | 0.99 | 1460.81 * | 10.67 | 2.25E+01 | 2.79E+00 |
| GA-67 | 0.57 | 93.31 * | 35.70 | 1.68E+02 | 6.87E+02 |
| | | 208.95 | 2.24 | | |
| | | 300.22 * | 16.00 | 3.15E+02 | 1.30E+03 |
| CD-109 | 0.99 | 88.03 * | 3.72 | 2.73E+00 | 1.30E+00 |
| SN-126 | 0.97 | 87.57 * | 37.00 | 2.63E-01 | 1.24E-01 |
| TL-208 | 0.98 | 583.14 * | 30.22 | 1.43E+00 | 3.63E-01 |
| | | 860.37 * | 4.48 | 1.60E+00 | 1.82E+00 |
| | | 2614.66 * | 35.85 | 1.21E+00 | 3.52E-01 |
| BI-212 | 0.76 | 727.17 * | 11.80 | 1.04E+00 | 6.31E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.98 | 238.63 * | 44.60 | 1.69E+00 | 2.07E-01 |
| | | 300.09 * | 3.41 | 2.51E+00 | 1.51E+00 |
| BI-214 | 0.97 | 609.31 * | 46.30 | 1.34E+00 | 2.62E-01 |
| | | 1120.29 * | 15.10 | 1.18E+00 | 6.19E-01 |
| | | 1764.49 * | 15.80 | 1.56E+00 | 5.84E-01 |
| | | 2204.22 * | 4.98 | 2.54E+00 | 1.10E+00 |
| PB-214 | 0.99 | 295.21 * | 19.19 | 1.38E+00 | 3.65E-01 |
| | | 351.92 * | 37.19 | 1.55E+00 | 2.15E-01 |
| RA-224 | 0.85 | 240.98 * | 3.95 | 3.71E+00 | 1.79E+00 |
| RA-226 | 0.99 | 186.21 * | 3.28 | 3.61E+00 | 6.86E+00 |
| AC-228 | 0.99 | 338.32 * | 11.40 | 1.52E+00 | 5.84E-01 |
| | | 911.07 * | 27.70 | 1.53E+00 | 4.03E-01 |
| | | 969.11 * | 16.60 | 1.57E+00 | 5.09E-01 |

Analysis Report for 1510085-09

CP5007S13-14

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-----------------|-----------------------------|------------------------------------|------------------------------------|----------|
| K-40 | 0.994 | 2.25E+01 | 2.79E+00 | |
| GA-67 | 0.578 | 1.58E+02 | 6.22E+02 | |
| ? CD-109 | 0.999 | 2.73E+00 | 1.30E+00 | |
| ? SN-126 | 0.979 | 2.63E-01 | 1.24E-01 | |
| TL-208 | 0.987 | 1.32E+00 | 2.50E-01 | |
| BI-212 | 0.767 | 1.04E+00 | 6.31E-01 | |
| PB-212 | 0.988 | 1.68E+00 | 2.06E-01 | |
| BI-214 | 0.973 | 1.40E+00 | 2.19E-01 | |
| PB-214 | 0.992 | 1.50E+00 | 1.85E-01 | |
| RA-224 | 0.858 | 3.71E+00 | 1.79E+00 | |
| RA-226 | 0.999 | 3.61E+00 | 6.86E+00 | |
| AC-228 | 0.994 | 1.54E+00 | 2.78E-01 | |

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-09
 CP5007S13-14

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 8:11:31AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| 1 | 76.37 | 2.80278E-01 | 6.49 | | |
| 4 | 129.44 | 2.08752E-02 | 49.05 | | |
| 5 | 143.71 | 2.44638E-02 | 39.83 | Tol. | U-235 |
| 7 | 210.56 | 2.34351E-02 | 51.36 | Tol. | CM-243 |
| 10 | 270.67 | 2.26434E-02 | 27.40 | | |
| 13 | 327.87 | 1.05556E-02 | 50.48 | Tol. | LA-140 |
| M 15 | 349.28 | 5.54223E-03 | 50.01 | | |
| 17 | 370.72 | 1.11446E-02 | 51.20 | | |
| 18 | 411.04 | 1.33239E-02 | 52.93 | Tol. | HO-166M |
| 19 | 464.10 | 2.03597E-02 | 29.40 | Tol. | SB-125 |
| 20 | 472.74 | 7.59574E-03 | 55.66 | Tol. | SB-127 |
| 21 | 492.15 | 7.19039E-03 | 57.90 | | |
| 22 | 511.45 | 2.44504E-02 | 26.14 | | |
| M 26 | 768.44 | 1.13137E-02 | 34.90 | | |
| m 27 | 772.81 | 6.22971E-03 | 56.70 | | |
| 28 | 794.85 | 1.28774E-02 | 32.73 | Tol. | CS-134 |
| M 31 | 964.68 | 9.68901E-03 | 19.86 | Tol. | EU-152 |
| m 33 | 980.69 | 5.31012E-03 | 50.45 | | |
| m 34 | 986.23 | 4.82224E-03 | 51.10 | | |
| 35 | 1014.70 | 7.97619E-03 | 57.66 | | |
| 37 | 1153.79 | 7.64035E-03 | 60.45 | Sum | |
| 38 | 1197.31 | 6.50407E-03 | 36.92 | | |
| 39 | 1211.22 | 1.49833E-02 | 38.37 | Sum | |
| 40 | 1232.09 | 5.27778E-03 | 45.96 | | |
| 41 | 1239.00 | 9.70449E-03 | 43.00 | | |
| 42 | 1351.62 | 9.88127E-03 | 37.08 | | |
| M 43 | 1381.89 | 4.13874E-03 | 18.98 | | |
| m 44 | 1386.89 | 3.12649E-03 | 48.05 | | |
| 45 | 1392.77 | 3.12908E-03 | 48.01 | | |
| 46 | 1409.23 | 7.11372E-03 | 26.82 | | |
| 48 | 1508.95 | 3.39869E-03 | 39.83 | | |
| 49 | 1579.61 | 3.34795E-03 | 50.98 | Sum | |
| 50 | 1587.97 | 3.88889E-03 | 36.42 | Sum | |
| 51 | 1631.74 | 3.25163E-03 | 46.00 | | |
| 52 | 1730.29 | 2.88743E-03 | 60.27 | Sum | |

Analysis Report for 1510085-09
CP5007S13-14

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 54 | 1848.19 | 4.15205E-03 | 36.11 | Sum | |
| 55 | 1970.48 | 2.26389E-03 | 44.35 | | |
| 56 | 2103.13 | 2.98148E-03 | 44.68 | S-Esc | |
| 57 | 2119.77 | 2.83730E-03 | 45.92 | | |
| 59 | 2355.64 | 1.56746E-03 | 53.90 | | |
| 60 | 2364.62 | 3.05556E-03 | 30.15 | | |
| 62 | 2778.02 | 1.38889E-03 | 44.72 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-----------------|-----------------|----------|-------------------------|----------------------------|-------------------------|
| + | BE-7 | 477.59 | 10.42 | 1.35E-01 | 1.08E+00 | 1.08E+00 |
| + | NA-22 | 1274.54 | 99.94 | -5.93E-02 | 1.36E-01 | 1.36E-01 |
| + | NA-24 | 1368.53 | 99.99 | 3.26E+12 | 4.94E+12 | 3.09E+13 |
| | | 2754.09 | 99.86 | 0.00E+00 | | 4.94E+12 |
| + | AL-26 | 1808.65 | 99.76 | -1.94E-02 | 6.06E-02 | 6.06E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.25E+01 | 1.34E+00 | 1.34E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -1.65E-02 | 8.48E-02 | 8.48E-02 |
| | | 78.34 | 96.00 | 2.59E-01 | | 1.03E-01 |
| + | SC-46 | 889.25 | 99.98 | 4.58E-02 | 1.33E-01 | 1.33E-01 |
| | | 1120.51 | 99.99 | 2.36E-01 | | 1.99E-01 |
| + | V-48 | 983.52 | 99.98 | 2.29E-01 | 4.18E-01 | 4.18E-01 |
| | | 1312.10 | 97.50 | -1.63E-01 | | 4.62E-01 |
| + | CR-51 | 320.08 | 9.83 | -2.50E-02 | 1.59E+00 | 1.59E+00 |
| + | MN-54 | 834.83 | 99.97 | 6.92E-02 | 1.15E-01 | 1.15E-01 |
| + | CO-56 | 846.75 | 99.96 | -7.42E-02 | 1.08E-01 | 1.08E-01 |
| | | 1037.75 | 14.03 | -4.58E-01 | | 9.59E-01 |
| | | 1238.25 | 67.00 | 9.56E-02 | | 3.15E-01 |
| | | 1771.40 | 15.51 | -4.17E-02 | | 7.84E-01 |
| | | 2598.48 | 16.90 | 1.94E-01 | | 5.83E-01 |
| + | CO-57 | 122.06 | 85.51 | 1.89E-02 | 7.06E-02 | 7.06E-02 |
| | | 136.48 | 10.60 | 2.63E-01 | | 5.96E-01 |

Analysis Report for 1510085-09
CP5007S13-14

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| + | CO-58 | 810.76 | 99.40 | -2.76E-02 | 1.28E-01 | 1.28E-01 |
| + | FE-59 | 1099.22 | 56.50 | 8.85E-02 | 3.40E-01 | 3.40E-01 |
| | | 1291.56 | 43.20 | -1.27E-01 | | 4.77E-01 |
| + | CO-60 | 1173.22 | 100.00 | 4.75E-02 | 1.45E-01 | 1.46E-01 |
| | | 1332.49 | 100.00 | 6.22E-02 | | 1.45E-01 |
| + | ZN-65 | 1115.52 | 50.75 | -8.28E-02 | 2.41E-01 | 2.41E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.68E+02 | 2.91E+02 | 2.91E+02 |
| | | 208.95 | 2.24 | 1.54E+03 | | 2.22E+03 |
| | | 300.22 | * 16.00 | 3.15E+02 | | 2.97E+02 |
| + | SE-75 | 121.11 | 16.70 | -3.37E-02 | 1.16E-01 | 3.89E-01 |
| | | 136.00 | 59.20 | 1.39E-02 | | 1.16E-01 |
| | | 264.65 | 59.80 | 4.46E-02 | | 1.42E-01 |
| | | 279.53 | 25.20 | -5.56E-03 | | 3.55E-01 |
| | | 400.65 | 11.40 | -2.24E-01 | | 8.19E-01 |
| + | RB-82 | 776.52 | 13.00 | 1.80E-01 | 1.68E+00 | 1.68E+00 |
| + | RB-83 | 520.41 | 46.00 | 1.08E-01 | 2.48E-01 | 2.48E-01 |
| | | 529.64 | 30.30 | 1.49E-01 | | 3.66E-01 |
| | | 552.65 | 16.40 | 1.61E-01 | | 6.43E-01 |
| + | KR-85 | 513.99 | 0.43 | 4.28E-01 | 2.86E+01 | 2.86E+01 |
| + | SR-85 | 513.99 | 99.27 | 2.57E-03 | 1.71E-01 | 1.71E-01 |
| + | Y-88 | 898.02 | 93.40 | 3.33E-02 | 1.04E-01 | 1.33E-01 |
| | | 1836.01 | 99.38 | -1.80E-02 | | 1.04E-01 |
| + | NB-93M | 16.57 | 9.43 | 3.27E+01 | 8.99E+01 | 8.99E+01 |
| + | NB-94 | 702.63 | 100.00 | 4.22E-02 | 9.89E-02 | 1.04E-01 |
| | | 871.10 | 100.00 | 1.22E-02 | | 9.89E-02 |
| + | NB-95 | 765.79 | 99.81 | 1.36E-01 | 2.11E-01 | 2.11E-01 |
| + | NB-95M | 235.69 | 25.00 | 4.00E+02 | 1.69E+02 | 1.69E+02 |
| + | ZR-95 | 724.18 | 43.70 | -1.29E-02 | 2.59E-01 | 3.26E-01 |
| | | 756.72 | 55.30 | 3.47E-02 | | 2.59E-01 |
| + | MO-99 | 181.06 | 6.20 | -4.42E+02 | 1.63E+03 | 1.88E+03 |
| | | 739.58 | 12.80 | -4.15E+02 | | 1.63E+03 |
| | | 778.00 | 4.50 | -7.31E+02 | | 3.76E+03 |
| + | RU-103 | 497.08 | 89.00 | -2.01E-03 | 1.39E-01 | 1.39E-01 |
| + | RU-106 | 621.84 | 9.80 | -5.02E-01 | 9.29E-01 | 9.29E-01 |
| + | AG-108M | 433.93 | 89.90 | -5.55E-02 | 8.23E-02 | 8.23E-02 |
| | | 614.37 | 90.40 | -2.45E-02 | | 1.03E-01 |
| | | 722.95 | 90.50 | -1.86E-02 | | 1.01E-01 |
| + | CD-109 | 88.03 | * 3.72 | 2.73E+00 | 4.91E+00 | 4.91E+00 |
| + | AG-110M | 657.75 | 93.14 | 2.09E-03 | 1.08E-01 | 1.08E-01 |
| | | 677.61 | 10.53 | 1.26E-01 | | 9.70E-01 |
| | | 706.67 | 16.46 | -2.55E-01 | | 6.08E-01 |
| | | 763.93 | 21.98 | 8.40E-02 | | 5.05E-01 |
| | | 884.67 | 71.63 | 3.03E-02 | | 1.58E-01 |
| | | 1384.27 | 23.94 | 9.64E-02 | | 5.19E-01 |
| + | CD-113M | 263.70 | 0.02 | -2.82E+01 | 3.09E+02 | 3.09E+02 |
| + | SN-113 | 255.12 | 1.93 | -6.05E-01 | 1.55E-01 | 4.53E+00 |
| | | 391.69 | 64.90 | 4.01E-02 | | 1.55E-01 |

Analysis Report for 1510085-09
CP5007S13-14

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | TE123M | 159.00 | 84.10 | -3.72E-02 | 8.08E-02 | 8.08E-02 |
| + | SB-124 | 602.71 | 97.87 | -1.19E-02 | 1.22E-01 | 1.22E-01 |
| | | 645.85 | 7.26 | 2.88E-01 | | 1.77E+00 |
| | | 722.78 | 11.10 | -2.14E-01 | | 1.16E+00 |
| | | 1691.02 | 49.00 | 4.10E-02 | | 2.31E-01 |
| + | I-125 | 35.49 | 6.49 | -1.13E-01 | 3.63E+00 | 3.63E+00 |
| + | SB-125 | 176.33 | 6.89 | 4.84E-01 | 2.98E-01 | 9.13E-01 |
| | | 427.89 | 29.33 | 1.19E-01 | | 2.98E-01 |
| | | 463.38 | 10.35 | 4.78E-01 | | 9.17E-01 |
| | | 600.56 | 17.80 | 6.47E-03 | | 4.92E-01 |
| | | 635.90 | 11.32 | 3.24E-01 | | 7.64E-01 |
| + | SB-126 | 414.70 | 83.30 | -3.57E-01 | 5.05E-01 | 5.05E-01 |
| | | 666.33 | 99.60 | 2.64E-01 | | 5.20E-01 |
| | | 695.00 | 99.60 | -9.80E-03 | | 5.68E-01 |
| | | 720.50 | 53.80 | -2.89E-01 | | 8.96E-01 |
| + | SN-126 | 87.57 | * 37.00 | 2.63E-01 | 4.72E-01 | 4.72E-01 |
| + | SB-127 | 473.00 | 25.00 | 3.41E+01 | 6.16E+01 | 7.31E+01 |
| | | 685.20 | 35.70 | 1.22E+01 | | 6.16E+01 |
| | | 783.80 | 14.70 | 1.02E+02 | | 1.55E+02 |
| + | I-129 | 29.78 | 57.00 | -3.58E-01 | 5.09E-01 | 5.09E-01 |
| | | 33.60 | 13.20 | 3.04E-01 | | 1.51E+00 |
| | | 39.58 | 7.52 | -1.57E+00 | | 1.64E+00 |
| + | I-131 | 284.30 | 6.05 | -8.77E+00 | 1.21E+00 | 1.57E+01 |
| | | 364.48 | 81.20 | -6.06E-01 | | 1.21E+00 |
| | | 636.97 | 7.26 | 6.06E+00 | | 1.53E+01 |
| | | 722.89 | 1.80 | -1.24E+01 | | 6.72E+01 |
| + | TE-132 | 49.72 | 13.10 | -6.61E+02 | 5.11E+01 | 4.00E+02 |
| | | 228.16 | 88.00 | 4.83E+00 | | 5.11E+01 |
| + | BA-133 | 81.00 | 33.00 | -1.24E+00 | 1.77E-01 | 2.09E-01 |
| | | 302.84 | 17.80 | 2.42E-01 | | 4.56E-01 |
| | | 356.01 | 60.00 | -1.74E-01 | | 1.77E-01 |
| + | I-133 | 529.87 | 86.30 | 1.08E+09 | 2.66E+09 | 2.66E+09 |
| + | XE-133 | 81.00 | 38.00 | -5.65E+01 | 9.54E+00 | 9.54E+00 |
| + | CS-134 | 563.23 | 8.38 | 2.63E-01 | 9.93E-02 | 1.12E+00 |
| | | 569.32 | 15.43 | 2.19E-01 | | 6.12E-01 |
| | | 604.70 | 97.60 | 1.08E-03 | | 9.93E-02 |
| | | 795.84 | 85.40 | 1.02E-01 | | 1.39E-01 |
| | | 801.93 | 8.73 | -4.77E-01 | | 9.88E-01 |
| + | CS-135 | 268.24 | 16.00 | 6.30E-03 | 5.04E-01 | 5.04E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 8.54E-01 | 4.48E-01 | 3.88E+00 |
| | | 163.89 | 4.61 | 2.12E+00 | | 6.39E+00 |
| | | 176.55 | 13.56 | 3.38E-01 | | 2.16E+00 |
| | | 273.65 | 12.66 | -1.40E+00 | | 3.08E+00 |
| | | 340.57 | 48.50 | -1.23E-02 | | 1.03E+00 |
| | | 818.50 | 99.70 | 3.17E-03 | | 4.48E-01 |
| | | 1048.07 | 79.60 | 3.11E-02 | | 6.36E-01 |

Analysis Report for 1510085-09

CP5007S13-14

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | CS-136 | 1235.34 | 19.70 | 1.71E+00 | 4.48E-01 | 4.06E+00 |
| + | CS-137 | 661.65 | 85.12 | 1.61E-03 | 1.13E-01 | 1.13E-01 |
| + | LA-138 | 788.74 | 34.00 | 8.69E-02 | 1.92E-01 | 2.79E-01 |
| | | 1435.80 | 66.00 | 1.17E-01 | | 1.92E-01 |
| + | CE-139 | 165.85 | 80.35 | 2.20E-02 | 8.68E-02 | 8.68E-02 |
| + | BA-140 | 162.64 | 6.70 | 8.24E-01 | 1.61E+00 | 4.53E+00 |
| | | 304.84 | 4.50 | -6.22E-01 | | 8.06E+00 |
| | | 423.70 | 3.20 | -2.18E+00 | | 1.31E+01 |
| | | 437.55 | 2.00 | 1.34E+00 | | 1.96E+01 |
| | | 537.32 | 25.00 | -4.46E-01 | | 1.61E+00 |
| + | LA-140 | 328.77 | 20.50 | -1.13E-01 | 6.12E-01 | 2.03E+00 |
| | | 487.03 | 45.50 | 2.81E-02 | | 9.18E-01 |
| | | 815.85 | 23.50 | 3.43E-01 | | 2.06E+00 |
| | | 1596.49 | 95.49 | 2.77E-01 | | 6.12E-01 |
| + | CE-141 | 145.44 | 48.40 | -6.80E-02 | 2.29E-01 | 2.29E-01 |
| + | CE-143 | 57.36 | 11.80 | 4.61E+05 | 9.52E+05 | 2.66E+06 |
| | | 293.26 | 42.00 | 2.06E+06 | | 9.52E+05 |
| | | 664.55 | 5.20 | -2.33E+06 | | 6.75E+06 |
| + | CE-144 | 133.54 | 10.80 | 1.15E-01 | 5.72E-01 | 5.72E-01 |
| + | PM-144 | 476.78 | 42.00 | 4.96E-02 | 8.87E-02 | 2.04E-01 |
| | | 618.01 | 98.60 | -2.80E-02 | | 8.87E-02 |
| | | 696.49 | 99.49 | 1.97E-02 | | 1.14E-01 |
| + | PM-145 | 36.85 | 21.70 | -2.73E-01 | 3.66E-01 | 6.93E-01 |
| | | 37.36 | 39.70 | 4.12E-02 | | 3.66E-01 |
| | | 42.30 | 15.10 | -1.44E+00 | | 7.04E-01 |
| | | 72.40 | 2.31 | 5.85E-02 | | 4.03E+00 |
| + | PM-146 | 453.90 | 39.94 | 1.24E-01 | 2.18E-01 | 2.18E-01 |
| | | 735.90 | 14.01 | 2.39E-01 | | 7.57E-01 |
| | | 747.13 | 13.10 | -1.12E-01 | | 7.51E-01 |
| + | ND-147 | 91.11 | 28.90 | -4.29E-01 | 1.79E+00 | 1.79E+00 |
| | | 531.02 | 13.10 | 1.16E+00 | | 4.36E+00 |
| + | PM-149 | 285.90 | 3.10 | 5.91E+03 | 2.90E+04 | 2.90E+04 |
| + | EU-152 | 121.78 | 20.50 | 7.32E-02 | 2.74E-01 | 2.74E-01 |
| | | 244.69 | 5.40 | -1.99E+00 | | 1.65E+00 |
| | | 344.27 | 19.13 | 2.36E-02 | | 4.01E-01 |
| | | 778.89 | 9.20 | -2.29E-01 | | 1.01E+00 |
| | | 964.01 | 10.40 | -2.36E+00 | | 1.13E+00 |
| | | 1085.78 | 7.22 | 6.15E-02 | | 1.49E+00 |
| | | 1112.02 | 9.60 | 3.78E-01 | | 1.34E+00 |
| | | 1407.95 | 14.94 | 5.75E-01 | | 8.37E-01 |
| + | GD-153 | 97.43 | 31.30 | 9.10E-02 | 2.03E-01 | 2.03E-01 |
| | | 103.18 | 22.20 | -3.22E-01 | | 2.59E-01 |
| + | EU-154 | 123.07 | 40.50 | 3.21E-02 | 1.39E-01 | 1.39E-01 |
| | | 723.30 | 19.70 | -8.60E-02 | | 4.66E-01 |
| | | 873.19 | 11.50 | 1.83E-01 | | 8.17E-01 |
| | | 996.32 | 10.30 | -4.97E-02 | | 8.26E-01 |
| | | 1004.76 | 17.90 | 6.17E-02 | | 6.63E-01 |
| | | 1274.45 | 35.50 | -1.64E-01 | | 3.78E-01 |
| + | EU-155 | 86.50 | 30.90 | 9.42E-02 | 2.52E-01 | 2.52E-01 |

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| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | EU-155 | 105.30 | 20.70 | 8.77E-02 | 2.52E-01 | 2.74E-01 |
| + | EU-156 | 811.77 | 10.40 | -1.14E+00 | 3.55E+00 | 3.55E+00 |
| | | 1153.47 | 7.20 | 6.96E+00 | | 8.13E+00 |
| | | 1230.71 | 8.90 | -1.30E+00 | | 6.21E+00 |
| + | HO-166M | 184.41 | 72.60 | 1.75E-01 | 1.08E-01 | 1.08E-01 |
| | | 280.45 | 29.60 | 2.60E-02 | | 2.53E-01 |
| | | 410.94 | 11.10 | 7.31E-01 | | 8.05E-01 |
| | | 711.69 | 54.10 | 3.40E-02 | | 1.75E-01 |
| + | TM-171 | 66.72 | 0.14 | -7.86E+01 | 5.92E+01 | 5.92E+01 |
| + | HF-172 | 81.75 | 4.52 | -4.54E+00 | 5.10E-01 | 1.58E+00 |
| | | 125.81 | 11.30 | 6.78E-02 | | 5.10E-01 |
| + | LU-172 | 181.53 | 20.60 | -7.64E-01 | 4.07E+00 | 6.66E+00 |
| | | 810.06 | 16.63 | 2.42E+00 | | 1.28E+01 |
| | | 912.12 | 15.25 | 5.79E+01 | | 2.76E+01 |
| | | 1093.66 | 62.50 | 1.23E+00 | | 4.07E+00 |
| + | LU-173 | 100.72 | 5.24 | 1.25E-01 | 4.16E-01 | 1.10E+00 |
| | | 272.11 | 21.20 | 4.61E-02 | | 4.16E-01 |
| + | HF-175 | 343.40 | 84.00 | 5.17E-02 | 1.26E-01 | 1.26E-01 |
| + | LU-176 | 88.34 | 13.30 | -2.18E-01 | 7.66E-02 | 5.93E-01 |
| | | 201.83 | 86.00 | -1.77E-02 | | 8.83E-02 |
| | | 306.78 | 94.00 | 1.99E-02 | | 7.66E-02 |
| + | TA-182 | 67.75 | 41.20 | -4.55E-02 | 2.33E-01 | 2.33E-01 |
| | | 1121.30 | 34.90 | 4.84E-01 | | 5.22E-01 |
| | | 1189.05 | 16.23 | -3.56E-01 | | 8.55E-01 |
| | | 1221.41 | 26.98 | -8.78E-02 | | 4.94E-01 |
| | | 1231.02 | 11.44 | -3.54E-01 | | 1.44E+00 |
| + | IR-192 | 308.46 | 29.68 | -6.38E-04 | 2.12E-01 | 3.22E-01 |
| | | 468.07 | 48.10 | -3.19E-01 | | 2.12E-01 |
| + | HG-203 | 279.19 | 77.30 | 2.67E-02 | 1.51E-01 | 1.51E-01 |
| + | BI-207 | 569.67 | 97.72 | 2.87E-03 | 9.07E-02 | 9.07E-02 |
| | | 1063.62 | 74.90 | -3.57E-02 | | 1.29E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.43E+00 | 3.11E-01 | 4.77E-01 |
| | | 860.37 | * 4.48 | 1.60E+00 | | 2.98E+00 |
| | | 2614.66 | * 35.85 | 1.21E+00 | | 3.11E-01 |
| + | BI-210M | 262.00 | 45.00 | 3.31E-03 | 1.62E-01 | 1.62E-01 |
| | | 300.00 | 23.00 | -1.21E+00 | | 3.74E-01 |
| + | PB-210 | 46.50 | 4.25 | 3.28E+00 | 2.49E+00 | 2.49E+00 |
| + | PB-211 | 404.84 | 2.90 | 9.71E-01 | 2.75E+00 | 2.75E+00 |
| | | 831.96 | 2.90 | -1.41E+00 | | 3.40E+00 |
| + | BI-212 | 727.17 | * 11.80 | 1.04E+00 | 9.64E-01 | 9.64E-01 |
| | | 1620.62 | 2.75 | -6.37E-01 | | 3.29E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.69E+00 | 3.19E-01 | 3.19E-01 |
| | | 300.09 | * 3.41 | 2.51E+00 | | 2.37E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.34E+00 | 2.97E-01 | 2.97E-01 |
| | | 1120.29 | * 15.10 | 1.18E+00 | | 9.11E-01 |
| | | 1764.49 | * 15.80 | 1.56E+00 | | 6.78E-01 |
| | | 2204.22 | * 4.98 | 2.54E+00 | | 3.12E-01 |
| + | PB-214 | 295.21 | * 19.19 | 1.38E+00 | 4.34E-01 | 5.10E-01 |

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| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | PB-214 | 351.92 | * | 37.19 | 1.55E+00 | 4.34E-01 | 4.34E-01 |
| + | RN-219 | 401.80 | | 6.50 | 3.30E-01 | 1.21E+00 | 1.21E+00 |
| + | RA-223 | 323.87 | | 3.88 | -3.63E-01 | 1.86E+00 | 1.86E+00 |
| + | RA-224 | 240.98 | * | 3.95 | 3.71E+00 | 3.62E+00 | 3.62E+00 |
| + | RA-225 | 40.00 | | 31.00 | -1.52E+00 | 1.58E+00 | 1.58E+00 |
| + | RA-226 | 186.21 | * | 3.28 | 3.61E+00 | 2.93E+00 | 2.93E+00 |
| + | TH-227 | 50.10 | | 8.40 | -1.73E+00 | 1.04E+00 | 1.04E+00 |
| | | 236.00 | | 11.50 | 2.74E+00 | | 1.16E+00 |
| | | 256.20 | | 6.30 | 7.77E-02 | | 1.15E+00 |
| + | AC-228 | 338.32 | * | 11.40 | 1.52E+00 | 5.05E-01 | 8.69E-01 |
| | | 911.07 | * | 27.70 | 1.53E+00 | | 5.05E-01 |
| | | 969.11 | * | 16.60 | 1.57E+00 | | 1.79E+00 |
| + | TH-230 | 48.44 | | 16.90 | -4.72E-02 | 5.80E-01 | 5.80E-01 |
| | | 62.85 | | 4.60 | 1.42E+00 | | 1.91E+00 |
| | | 67.67 | | 0.37 | -4.22E+00 | | 2.17E+01 |
| + | PA-231 | 283.67 | | 1.60 | -2.49E+00 | 3.51E+00 | 4.47E+00 |
| | | 302.67 | | 2.30 | 1.86E+00 | | 3.51E+00 |
| + | TH-231 | 25.64 | | 14.70 | 1.03E+00 | 1.10E+00 | 3.90E+00 |
| | | 84.21 | | 6.40 | -1.83E+00 | | 1.10E+00 |
| + | PA-233 | 311.98 | | 38.60 | 7.27E-02 | 4.21E-01 | 4.21E-01 |
| + | PA-234 | 131.20 | | 20.40 | 1.09E-01 | 2.97E-01 | 2.97E-01 |
| | | 733.99 | | 8.80 | 2.15E-01 | | 1.13E+00 |
| | | 946.00 | | 12.00 | 3.82E-01 | | 9.49E-01 |
| + | PA-234M | 1001.03 | | 0.92 | 5.04E-01 | 1.18E+01 | 1.18E+01 |
| + | TH-234 | 63.29 | | 3.80 | 2.15E+00 | 2.30E+00 | 2.30E+00 |
| + | U-235 | 143.76 | | 10.50 | 6.01E-01 | 5.89E-01 | 5.89E-01 |
| | | 163.35 | | 4.70 | 4.28E-01 | | 1.29E+00 |
| | | 205.31 | | 4.70 | -4.12E-01 | | 1.61E+00 |
| + | NP-237 | 86.50 | | 12.60 | 2.28E-01 | 6.11E-01 | 6.11E-01 |
| + | NP-239 | 106.10 | | 22.70 | 1.10E+03 | 1.71E+03 | 1.71E+03 |
| | | 228.18 | | 10.70 | 4.60E+02 | | 4.86E+03 |
| | | 277.60 | | 14.10 | 2.04E+03 | | 3.72E+03 |
| + | AM-241 | 59.54 | | 35.90 | -1.61E-01 | 2.32E-01 | 2.32E-01 |
| + | AM-243 | 74.67 | | 66.00 | 3.51E-01 | 1.64E-01 | 1.64E-01 |
| + | CM-243 | 209.75 | | 3.29 | 1.90E+00 | 5.49E-01 | 2.57E+00 |
| | | 228.14 | | 10.60 | 6.80E-02 | | 7.19E-01 |
| | | 277.60 | | 14.00 | 3.01E-01 | | 5.49E-01 |

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510085-09
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NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 1.08E+00 | 1.08E+00 | 1.35E-01 | 5.08E-01 |
| NA-22 | 1274.54 | 99.94 | 1.36E-01 | 1.36E-01 | -5.93E-02 | 6.29E-02 |
| NA-24 | 1368.53 | 99.99 | 3.09E+13 | 4.94E+12 | 3.26E+12 | 1.39E+13 |
| | 2754.09 | 99.86 | 4.94E+12 | | 0.00E+00 | 0.00E+00 |
| AL-26 | 1808.65 | 99.76 | 6.06E-02 | 6.06E-02 | -1.94E-02 | 2.35E-02 |
| + K-40 | 1460.81 | * 10.67 | 1.34E+00 | 1.34E+00 | 2.25E+01 | 6.13E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 8.48E-02 | 8.48E-02 | -1.65E-02 | 4.15E-02 |
| | 78.34 | 96.00 | 1.03E-01 | | 2.59E-01 | 5.07E-02 |
| SC-46 | 889.25 | 99.98 | 1.33E-01 | 1.33E-01 | 4.58E-02 | 6.14E-02 |
| | 1120.51 | 99.99 | 1.99E-01 | | 2.36E-01 | 9.37E-02 |
| V-48 | 983.52 | 99.98 | 4.18E-01 | 4.18E-01 | 2.29E-01 | 1.94E-01 |
| | 1312.10 | 97.50 | 4.62E-01 | | -1.63E-01 | 2.11E-01 |
| CR-51 | 320.08 | 9.83 | 1.59E+00 | 1.59E+00 | -2.50E-02 | 7.62E-01 |
| MN-54 | 834.83 | 99.97 | 1.15E-01 | 1.15E-01 | 6.92E-02 | 5.38E-02 |
| CO-56 | 846.75 | 99.96 | 1.08E-01 | 1.08E-01 | -7.42E-02 | 4.91E-02 |
| | 1037.75 | 14.03 | 9.59E-01 | | -4.58E-01 | 4.39E-01 |
| | 1238.25 | 67.00 | 3.15E-01 | | 9.56E-02 | 1.47E-01 |
| | 1771.40 | 15.51 | 7.84E-01 | | -4.17E-02 | 3.36E-01 |
| | 2598.48 | 16.90 | 5.83E-01 | | 1.94E-01 | 2.26E-01 |
| CO-57 | 122.06 | 85.51 | 7.06E-02 | 7.06E-02 | 1.89E-02 | 3.43E-02 |
| | 136.48 | 10.60 | 5.96E-01 | | 2.63E-01 | 2.89E-01 |
| CO-58 | 810.76 | 99.40 | 1.28E-01 | 1.28E-01 | -2.76E-02 | 5.91E-02 |
| FE-59 | 1099.22 | 56.50 | 3.40E-01 | 3.40E-01 | 8.85E-02 | 1.57E-01 |
| | 1291.56 | 43.20 | 4.77E-01 | | -1.27E-01 | 2.19E-01 |
| CO-60 | 1173.22 | 100.00 | 1.46E-01 | 1.45E-01 | 4.75E-02 | 6.83E-02 |
| | 1332.49 | 100.00 | 1.45E-01 | | 6.22E-02 | 6.71E-02 |
| ZN-65 | 1115.52 | 50.75 | 2.41E-01 | 2.41E-01 | -8.28E-02 | 1.10E-01 |
| + GA-67 | 93.31 | * 35.70 | 2.91E+02 | 2.91E+02 | 1.68E+02 | 1.44E+02 |
| | 208.95 | 2.24 | 2.22E+03 | | 1.54E+03 | 1.08E+03 |
| | 300.22 | * 16.00 | 2.97E+02 | | 3.15E+02 | 1.43E+02 |
| SE-75 | 121.11 | 16.70 | 3.89E-01 | 1.16E-01 | -3.37E-02 | 1.89E-01 |
| | 136.00 | 59.20 | 1.16E-01 | | 1.39E-02 | 5.63E-02 |
| | 264.65 | 59.80 | 1.42E-01 | | 4.46E-02 | 6.84E-02 |
| | 279.53 | 25.20 | 3.55E-01 | | -5.56E-03 | 1.71E-01 |
| | 400.65 | 11.40 | 8.19E-01 | | -2.24E-01 | 3.89E-01 |
| RB-82 | 776.52 | 13.00 | 1.68E+00 | 1.68E+00 | 1.80E-01 | 7.81E-01 |
| RB-83 | 520.41 | 46.00 | 2.48E-01 | 2.48E-01 | 1.08E-01 | 1.17E-01 |
| | 529.64 | 30.30 | 3.66E-01 | | 1.49E-01 | 1.73E-01 |
| | 552.65 | 16.40 | 6.43E-01 | | 1.61E-01 | 3.01E-01 |

Analysis Report for 1510085-09

CP5007S13-14

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| KR-85 | 513.99 | 0.43 | 2.86E+01 | 2.86E+01 | 4.28E-01 | 1.37E+01 |
| SR-85 | 513.99 | 99.27 | 1.71E-01 | 1.71E-01 | 2.57E-03 | 8.22E-02 |
| Y-88 | 898.02 | 93.40 | 1.33E-01 | 1.04E-01 | 3.33E-02 | 6.16E-02 |
| | 1836.01 | 99.38 | 1.04E-01 | | -1.80E-02 | 4.34E-02 |
| NB-93M | 16.57 | 9.43 | 8.99E+01 | 8.99E+01 | 3.27E+01 | 4.38E+01 |
| NB-94 | 702.63 | 100.00 | 1.04E-01 | 9.89E-02 | 4.22E-02 | 4.88E-02 |
| | 871.10 | 100.00 | 9.89E-02 | | 1.22E-02 | 4.57E-02 |
| NB-95 | 765.79 | 99.81 | 2.11E-01 | 2.11E-01 | 1.36E-01 | 9.93E-02 |
| NB-95M | 235.69 | 25.00 | 1.69E+02 | 1.69E+02 | 4.00E+02 | 8.29E+01 |
| ZR-95 | 724.18 | 43.70 | 3.26E-01 | 2.59E-01 | -1.29E-02 | 1.53E-01 |
| | 756.72 | 55.30 | 2.59E-01 | | 3.47E-02 | 1.21E-01 |
| MO-99 | 181.06 | 6.20 | 1.88E+03 | 1.63E+03 | -4.42E+02 | 9.10E+02 |
| | 739.58 | 12.80 | 1.63E+03 | | -4.15E+02 | 7.65E+02 |
| | 778.00 | 4.50 | 3.76E+03 | | -7.31E+02 | 1.73E+03 |
| RU-103 | 497.08 | 89.00 | 1.39E-01 | 1.39E-01 | -2.01E-03 | 6.48E-02 |
| RU-106 | 621.84 | 9.80 | 9.29E-01 | 9.29E-01 | -5.02E-01 | 4.34E-01 |
| AG-108M | 433.93 | 89.90 | 8.23E-02 | 8.23E-02 | -5.55E-02 | 3.88E-02 |
| | 614.37 | 90.40 | 1.03E-01 | | -2.45E-02 | 4.83E-02 |
| | 722.95 | 90.50 | 1.01E-01 | | -1.86E-02 | 4.68E-02 |
| + CD-109 | 88.03 | * | 4.91E+00 | 4.91E+00 | 2.73E+00 | 2.43E+00 |
| AG-110M | 657.75 | 93.14 | 1.08E-01 | 1.08E-01 | 2.09E-03 | 5.07E-02 |
| | 677.61 | 10.53 | 9.70E-01 | | 1.26E-01 | 4.54E-01 |
| | 706.67 | 16.46 | 6.08E-01 | | -2.55E-01 | 2.83E-01 |
| | 763.93 | 21.98 | 5.05E-01 | | 8.40E-02 | 2.36E-01 |
| | 884.67 | 71.63 | 1.58E-01 | | 3.03E-02 | 7.30E-02 |
| | 1384.27 | 23.94 | 5.19E-01 | | 9.64E-02 | 2.34E-01 |
| CD-113M | 263.70 | 0.02 | 3.09E+02 | 3.09E+02 | -2.82E+01 | 1.48E+02 |
| SN-113 | 255.12 | 1.93 | 4.53E+00 | 1.55E-01 | -6.05E-01 | 2.18E+00 |
| | 391.69 | 64.90 | 1.55E-01 | | 4.01E-02 | 7.40E-02 |
| TE123M | 159.00 | 84.10 | 8.08E-02 | 8.08E-02 | -3.72E-02 | 3.91E-02 |
| SB-124 | 602.71 | 97.87 | 1.22E-01 | 1.22E-01 | -1.19E-02 | 5.69E-02 |
| | 645.85 | 7.26 | 1.77E+00 | | 2.88E-01 | 8.26E-01 |
| | 722.78 | 11.10 | 1.16E+00 | | -2.14E-01 | 5.38E-01 |
| | 1691.02 | 49.00 | 2.31E-01 | | 4.10E-02 | 9.65E-02 |
| I-125 | 35.49 | 6.49 | 3.63E+00 | 3.63E+00 | -1.13E-01 | 1.76E+00 |
| SB-125 | 176.33 | 6.89 | 9.13E-01 | 2.98E-01 | 4.84E-01 | 4.42E-01 |
| | 427.89 | 29.33 | 2.98E-01 | | 1.19E-01 | 1.42E-01 |
| | 463.38 | 10.35 | 9.17E-01 | | 4.78E-01 | 4.37E-01 |
| | 600.56 | 17.80 | 4.92E-01 | | 6.47E-03 | 2.30E-01 |
| | 635.90 | 11.32 | 7.64E-01 | | 3.24E-01 | 3.56E-01 |
| SB-126 | 414.70 | 83.30 | 5.05E-01 | 5.05E-01 | -3.57E-01 | 2.40E-01 |
| | 666.33 | 99.60 | 5.20E-01 | | 2.64E-01 | 2.44E-01 |
| | 695.00 | 99.60 | 5.68E-01 | | -9.80E-03 | 2.67E-01 |
| | 720.50 | 53.80 | 8.96E-01 | | -2.89E-01 | 4.16E-01 |
| + SN-126 | 87.57 | * | 4.72E-01 | 4.72E-01 | 2.63E-01 | 2.34E-01 |
| SB-127 | 473.00 | 25.00 | 7.31E+01 | 6.16E+01 | 3.41E+01 | 3.46E+01 |
| | 685.20 | 35.70 | 6.16E+01 | | 1.22E+01 | 2.89E+01 |
| | 783.80 | 14.70 | 1.55E+02 | | 1.02E+02 | 7.25E+01 |
| I-129 | 29.78 | 57.00 | 5.09E-01 | 5.09E-01 | -3.58E-01 | 2.47E-01 |
| | 33.60 | 13.20 | 1.51E+00 | | 3.04E-01 | 7.33E-01 |
| | 39.58 | 7.52 | 1.64E+00 | | -1.57E+00 | 7.94E-01 |
| I-131 | 284.30 | 6.05 | 1.57E+01 | 1.21E+00 | -8.77E+00 | 7.55E+00 |
| | 364.48 | 81.20 | 1.21E+00 | | -6.06E-01 | 5.74E-01 |

Analysis Report for 1510085-09

CP5007S13-14

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| I-131 | 636.97 | 7.26 | 1.53E+01 | 1.21E+00 | 6.06E+00 | 7.11E+00 |
| | 722.89 | 1.80 | 6.72E+01 | | -1.24E+01 | 3.12E+01 |
| TE-132 | 49.72 | 13.10 | 4.00E+02 | 5.11E+01 | -6.61E+02 | 1.95E+02 |
| | 228.16 | 88.00 | 5.11E+01 | | 4.83E+00 | 2.47E+01 |
| BA-133 | 81.00 | 33.00 | 2.09E-01 | 1.77E-01 | -1.24E+00 | 1.02E-01 |
| | 302.84 | 17.80 | 4.56E-01 | | 2.42E-01 | 2.20E-01 |
| | 356.01 | 60.00 | 1.77E-01 | | -1.74E-01 | 8.56E-02 |
| I-133 | 529.87 | 86.30 | 2.66E+09 | 2.66E+09 | 1.08E+09 | 1.25E+09 |
| XE-133 | 81.00 | 38.00 | 9.54E+00 | 9.54E+00 | -5.65E+01 | 4.66E+00 |
| CS-134 | 563.23 | 8.38 | 1.12E+00 | 9.93E-02 | 2.63E-01 | 5.26E-01 |
| | 569.32 | 15.43 | 6.12E-01 | | 2.19E-01 | 2.88E-01 |
| | 604.70 | 97.60 | 9.93E-02 | | 1.08E-03 | 4.67E-02 |
| | 795.84 | 85.40 | 1.39E-01 | | 1.02E-01 | 6.54E-02 |
| | 801.93 | 8.73 | 9.88E-01 | | -4.77E-01 | 4.53E-01 |
| CS-135 | 268.24 | 16.00 | 5.04E-01 | 5.04E-01 | 6.30E-03 | 2.44E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.88E+00 | 4.48E-01 | 8.54E-01 | 1.88E+00 |
| | 163.89 | 4.61 | 6.39E+00 | | 2.12E+00 | 3.09E+00 |
| | 176.55 | 13.56 | 2.16E+00 | | 3.38E-01 | 1.04E+00 |
| | 273.65 | 12.66 | 3.08E+00 | | -1.40E+00 | 1.49E+00 |
| | 340.57 | 48.50 | 1.03E+00 | | -1.23E-02 | 4.96E-01 |
| | 818.50 | 99.70 | 4.48E-01 | | 3.17E-03 | 2.07E-01 |
| | 1048.07 | 79.60 | 6.36E-01 | | 3.11E-02 | 2.91E-01 |
| | 1235.34 | 19.70 | 4.06E+00 | | 1.71E+00 | 1.90E+00 |
| CS-137 | 661.65 | 85.12 | 1.13E-01 | 1.13E-01 | 1.61E-03 | 5.31E-02 |
| LA-138 | 788.74 | 34.00 | 2.79E-01 | 1.92E-01 | 8.69E-02 | 1.29E-01 |
| | 1435.80 | 66.00 | 1.92E-01 | | 1.17E-01 | 8.71E-02 |
| CE-139 | 165.85 | 80.35 | 8.68E-02 | 8.68E-02 | 2.20E-02 | 4.20E-02 |
| BA-140 | 162.64 | 6.70 | 4.53E+00 | 1.61E+00 | 8.24E-01 | 2.19E+00 |
| | 304.84 | 4.50 | 8.06E+00 | | -6.22E-01 | 3.86E+00 |
| | 423.70 | 3.20 | 1.31E+01 | | -2.18E+00 | 6.25E+00 |
| | 437.55 | 2.00 | 1.96E+01 | | 1.34E+00 | 9.26E+00 |
| | 537.32 | 25.00 | 1.61E+00 | | -4.46E-01 | 7.56E-01 |
| LA-140 | 328.77 | 20.50 | 2.03E+00 | 6.12E-01 | -1.13E-01 | 9.72E-01 |
| | 487.03 | 45.50 | 9.18E-01 | | 2.81E-02 | 4.33E-01 |
| | 815.85 | 23.50 | 2.06E+00 | | 3.43E-01 | 9.53E-01 |
| | 1596.49 | 95.49 | 6.12E-01 | | 2.77E-01 | 2.73E-01 |
| CE-141 | 145.44 | 48.40 | 2.29E-01 | 2.29E-01 | -6.80E-02 | 1.11E-01 |
| CE-143 | 57.36 | 11.80 | 2.66E+06 | 9.52E+05 | 4.61E+05 | 1.30E+06 |
| | 293.26 | 42.00 | 9.52E+05 | | 2.06E+06 | 4.63E+05 |
| | 664.55 | 5.20 | 6.75E+06 | | -2.33E+06 | 3.16E+06 |
| CE-144 | 133.54 | 10.80 | 5.72E-01 | 5.72E-01 | 1.15E-01 | 2.78E-01 |
| PM-144 | 476.78 | 42.00 | 2.04E-01 | 8.87E-02 | 4.96E-02 | 9.65E-02 |
| | 618.01 | 98.60 | 8.87E-02 | | -2.80E-02 | 4.13E-02 |
| | 696.49 | 99.49 | 1.14E-01 | | 1.97E-02 | 5.37E-02 |
| PM-145 | 36.85 | 21.70 | 6.93E-01 | 3.66E-01 | -2.73E-01 | 3.37E-01 |
| | 37.36 | 39.70 | 3.66E-01 | | 4.12E-02 | 1.78E-01 |
| | 42.30 | 15.10 | 7.04E-01 | | -1.44E+00 | 3.42E-01 |
| | 72.40 | 2.31 | 4.03E+00 | | 5.85E-02 | 1.98E+00 |
| PM-146 | 453.90 | 39.94 | 2.18E-01 | 2.18E-01 | 1.24E-01 | 1.03E-01 |
| | 735.90 | 14.01 | 7.57E-01 | | 2.39E-01 | 3.55E-01 |

Analysis Report for 1510085-09

CP5007S13-14

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| PM-146 | 747.13 | 13.10 | 7.51E-01 | 2.18E-01 | -1.12E-01 | 3.50E-01 |
| ND-147 | 91.11 | 28.90 | 1.79E+00 | 1.79E+00 | -4.29E-01 | 8.77E-01 |
| | 531.02 | 13.10 | 4.36E+00 | | 1.16E+00 | 2.06E+00 |
| PM-149 | 285.90 | 3.10 | 2.90E+04 | 2.90E+04 | 5.91E+03 | 1.39E+04 |
| EU-152 | 121.78 | 20.50 | 2.74E-01 | 2.74E-01 | 7.32E-02 | 1.33E-01 |
| | 244.69 | 5.40 | 1.65E+00 | | -1.99E+00 | 8.01E-01 |
| | 344.27 | 19.13 | 4.01E-01 | | 2.36E-02 | 1.91E-01 |
| | 778.89 | 9.20 | 1.01E+00 | | -2.29E-01 | 4.67E-01 |
| | 964.01 | 10.40 | 1.13E+00 | | -2.36E+00 | 5.23E-01 |
| | 1085.78 | 7.22 | 1.49E+00 | | 6.15E-02 | 6.83E-01 |
| | 1112.02 | 9.60 | 1.34E+00 | | 3.78E-01 | 6.22E-01 |
| | 1407.95 | 14.94 | 8.37E-01 | | 5.75E-01 | 3.81E-01 |
| GD-153 | 97.43 | 31.30 | 2.03E-01 | 2.03E-01 | 9.10E-02 | 9.88E-02 |
| | 103.18 | 22.20 | 2.59E-01 | | -3.22E-01 | 1.26E-01 |
| EU-154 | 123.07 | 40.50 | 1.39E-01 | 1.39E-01 | 3.21E-02 | 6.74E-02 |
| | 723.30 | 19.70 | 4.66E-01 | | -8.60E-02 | 2.16E-01 |
| | 873.19 | 11.50 | 8.17E-01 | | 1.83E-01 | 3.75E-01 |
| | 996.32 | 10.30 | 8.26E-01 | | -4.97E-02 | 3.71E-01 |
| | 1004.76 | 17.90 | 6.63E-01 | | 6.17E-02 | 3.07E-01 |
| | 1274.45 | 35.50 | 3.78E-01 | | -1.64E-01 | 1.74E-01 |
| EU-155 | 86.50 | 30.90 | 2.52E-01 | 2.52E-01 | 9.42E-02 | 1.23E-01 |
| | 105.30 | 20.70 | 2.74E-01 | | 8.77E-02 | 1.33E-01 |
| EU-156 | 811.77 | 10.40 | 3.55E+00 | 3.55E+00 | -1.14E+00 | 1.64E+00 |
| | 1153.47 | 7.20 | 8.13E+00 | | 6.96E+00 | 3.80E+00 |
| | 1230.71 | 8.90 | 6.21E+00 | | -1.30E+00 | 2.88E+00 |
| HO-166M | 184.41 | 72.60 | 1.08E-01 | 1.08E-01 | 1.75E-01 | 5.26E-02 |
| | 280.45 | 29.60 | 2.53E-01 | | 2.60E-02 | 1.22E-01 |
| | 410.94 | 11.10 | 8.05E-01 | | 7.31E-01 | 3.85E-01 |
| | 711.69 | 54.10 | 1.75E-01 | | 3.40E-02 | 8.17E-02 |
| TM-171 | 66.72 | 0.14 | 5.92E+01 | 5.92E+01 | -7.86E+01 | 2.89E+01 |
| HF-172 | 81.75 | 4.52 | 1.58E+00 | 5.10E-01 | -4.54E+00 | 7.70E-01 |
| | 125.81 | 11.30 | 5.10E-01 | | 6.78E-02 | 2.47E-01 |
| LU-172 | 181.53 | 20.60 | 6.66E+00 | 4.07E+00 | -7.64E-01 | 3.22E+00 |
| | 810.06 | 16.63 | 1.28E+01 | | 2.42E+00 | 5.92E+00 |
| | 912.12 | 15.25 | 2.76E+01 | | 5.79E+01 | 1.32E+01 |
| | 1093.66 | 62.50 | 4.07E+00 | | 1.23E+00 | 1.87E+00 |
| LU-173 | 100.72 | 5.24 | 1.10E+00 | 4.16E-01 | 1.25E-01 | 5.35E-01 |
| | 272.11 | 21.20 | 4.16E-01 | | 4.61E-02 | 2.01E-01 |
| HF-175 | 343.40 | 84.00 | 1.26E-01 | 1.26E-01 | 5.17E-02 | 6.03E-02 |
| LU-176 | 88.34 | 13.30 | 5.93E-01 | 7.66E-02 | -2.18E-01 | 2.91E-01 |
| | 201.83 | 86.00 | 8.83E-02 | | -1.77E-02 | 4.29E-02 |
| | 306.78 | 94.00 | 7.66E-02 | | 1.99E-02 | 3.66E-02 |
| TA-182 | 67.75 | 41.20 | 2.33E-01 | 2.33E-01 | -4.55E-02 | 1.14E-01 |
| | 1121.30 | 34.90 | 5.22E-01 | | 4.84E-01 | 2.45E-01 |
| | 1189.05 | 16.23 | 8.55E-01 | | -3.56E-01 | 3.91E-01 |
| | 1221.41 | 26.98 | 4.94E-01 | | -8.78E-02 | 2.25E-01 |
| | 1231.02 | 11.44 | 1.44E+00 | | -3.54E-01 | 6.65E-01 |
| IR-192 | 308.46 | 29.68 | 3.22E-01 | 2.12E-01 | -6.38E-04 | 1.54E-01 |
| | 468.07 | 48.10 | 2.12E-01 | | -3.19E-01 | 9.99E-02 |
| HG-203 | 279.19 | 77.30 | 1.51E-01 | 1.51E-01 | 2.67E-02 | 7.28E-02 |
| BI-207 | 569.67 | 97.72 | 9.07E-02 | 9.07E-02 | 2.87E-03 | 4.27E-02 |
| | 1063.62 | 74.90 | 1.29E-01 | | -3.57E-02 | 5.85E-02 |
| + TL-208 | 583.14 | * 30.22 | 4.77E-01 | 3.11E-01 | 1.43E+00 | 2.29E-01 |

Analysis Report for 1510085-09

CP5007S13-14

| Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|---|----------|----------------------|-------------------------|----------------------|------------------------|
| TL-208 | 860.37 | * | 4.48 | 2.98E+00 | 3.11E-01 | 1.60E+00 | 1.40E+00 |
| | 2614.66 | * | 35.85 | 3.11E-01 | | 1.21E+00 | 1.32E-01 |
| BI-210M | 262.00 | | 45.00 | 1.62E-01 | 1.62E-01 | 3.31E-03 | 7.78E-02 |
| | 300.00 | | 23.00 | 3.74E-01 | | -1.21E+00 | 1.80E-01 |
| PB-210 | 46.50 | | 4.25 | 2.49E+00 | 2.49E+00 | 3.28E+00 | 1.21E+00 |
| PB-211 | 404.84 | | 2.90 | 2.75E+00 | 2.75E+00 | 9.71E-01 | 1.31E+00 |
| | 831.96 | | 2.90 | 3.40E+00 | | -1.41E+00 | 1.57E+00 |
| + BI-212 | 727.17 | * | 11.80 | 9.64E-01 | 9.64E-01 | 1.04E+00 | 4.55E-01 |
| | 1620.62 | | 2.75 | 3.29E+00 | | -6.37E-01 | 1.42E+00 |
| + PB-212 | 238.63 | * | 44.60 | 3.19E-01 | 3.19E-01 | 1.69E+00 | 1.57E-01 |
| | 300.09 | * | 3.41 | 2.37E+00 | | 2.51E+00 | 1.14E+00 |
| + BI-214 | 609.31 | * | 46.30 | 2.97E-01 | 2.97E-01 | 1.34E+00 | 1.43E-01 |
| | 1120.29 | * | 15.10 | 9.11E-01 | | 1.18E+00 | 4.24E-01 |
| | 1764.49 | * | 15.80 | 6.78E-01 | | 1.56E+00 | 2.97E-01 |
| | 2204.22 | * | 4.98 | 3.12E-01 | | 2.54E+00 | 0.00E+00 |
| + PB-214 | 295.21 | * | 19.19 | 5.10E-01 | 4.34E-01 | 1.38E+00 | 2.47E-01 |
| | 351.92 | * | 37.19 | 4.34E-01 | | 1.55E+00 | 2.12E-01 |
| RN-219 | 401.80 | | 6.50 | 1.21E+00 | 1.21E+00 | 3.30E-01 | 5.73E-01 |
| RA-223 | 323.87 | | 3.88 | 1.86E+00 | 1.86E+00 | -3.63E-01 | 8.87E-01 |
| + RA-224 | 240.98 | * | 3.95 | 3.62E+00 | 3.62E+00 | 3.71E+00 | 1.78E+00 |
| RA-225 | 40.00 | | 31.00 | 1.58E+00 | 1.58E+00 | -1.52E+00 | 7.67E-01 |
| + RA-226 | 186.21 | * | 3.28 | 2.93E+00 | 2.93E+00 | 3.61E+00 | 1.44E+00 |
| TH-227 | 50.10 | | 8.40 | 1.04E+00 | 1.04E+00 | -1.73E+00 | 5.08E-01 |
| | 236.00 | | 11.50 | 1.16E+00 | | 2.74E+00 | 5.68E-01 |
| | 256.20 | | 6.30 | 1.15E+00 | | 7.77E-02 | 5.53E-01 |
| + AC-228 | 338.32 | * | 11.40 | 8.69E-01 | 5.05E-01 | 1.52E+00 | 4.20E-01 |
| | 911.07 | * | 27.70 | 5.05E-01 | | 1.53E+00 | 2.38E-01 |
| | 969.11 | * | 16.60 | 1.79E+00 | | 1.57E+00 | 8.70E-01 |
| TH-230 | 48.44 | | 16.90 | 5.80E-01 | 5.80E-01 | -4.72E-02 | 2.83E-01 |
| | 62.85 | | 4.60 | 1.91E+00 | | 1.42E+00 | 9.33E-01 |
| | 67.67 | | 0.37 | 2.17E+01 | | -4.22E+00 | 1.06E+01 |
| PA-231 | 283.67 | | 1.60 | 4.47E+00 | 3.51E+00 | -2.49E+00 | 2.14E+00 |
| | 302.67 | | 2.30 | 3.51E+00 | | 1.86E+00 | 1.69E+00 |
| TH-231 | 25.64 | | 14.70 | 3.90E+00 | 1.10E+00 | 1.03E+00 | 1.90E+00 |
| | 84.21 | | 6.40 | 1.10E+00 | | -1.83E+00 | 5.39E-01 |
| PA-233 | 311.98 | | 38.60 | 4.21E-01 | 4.21E-01 | 7.27E-02 | 2.02E-01 |
| PA-234 | 131.20 | | 20.40 | 2.97E-01 | 2.97E-01 | 1.09E-01 | 1.44E-01 |
| | 733.99 | | 8.80 | 1.13E+00 | | 2.15E-01 | 5.28E-01 |
| | 946.00 | | 12.00 | 9.49E-01 | | 3.82E-01 | 4.40E-01 |
| PA-234M | 1001.03 | | 0.92 | 1.18E+01 | 1.18E+01 | 5.04E-01 | 5.41E+00 |
| TH-234 | 63.29 | | 3.80 | 2.30E+00 | 2.30E+00 | 2.15E+00 | 1.13E+00 |
| U-235 | 143.76 | | 10.50 | 5.89E-01 | 5.89E-01 | 6.01E-01 | 2.86E-01 |
| | 163.35 | | 4.70 | 1.29E+00 | | 4.28E-01 | 6.23E-01 |
| | 205.31 | | 4.70 | 1.61E+00 | | -4.12E-01 | 7.83E-01 |
| NP-237 | 86.50 | | 12.60 | 6.11E-01 | 6.11E-01 | 2.28E-01 | 2.99E-01 |
| NP-239 | 106.10 | | 22.70 | 1.71E+03 | 1.71E+03 | 1.10E+03 | 8.30E+02 |
| | 228.18 | | 10.70 | 4.86E+03 | | 4.60E+02 | 2.35E+03 |
| | 277.60 | | 14.10 | 3.72E+03 | | 2.04E+03 | 1.79E+03 |
| AM-241 | 59.54 | | 35.90 | 2.32E-01 | 2.32E-01 | -1.61E-01 | 1.13E-01 |
| AM-243 | 74.67 | | 66.00 | 1.64E-01 | 1.64E-01 | 3.51E-01 | 8.08E-02 |
| CM-243 | 209.75 | | 3.29 | 2.57E+00 | 5.49E-01 | 1.90E+00 | 1.25E+00 |
| | 228.14 | | 10.60 | 7.19E-01 | | 6.80E-02 | 3.48E-01 |
| | 277.60 | | 14.00 | 5.49E-01 | | 3.01E-01 | 2.64E-01 |

Analysis Report for 1510085-09
CP5007S13-14

-
- + = Nuclide identified during the nuclide identification
 - * = Energy line found in the spectrum
 - > = MDA value not calculated
 - @ = Half-life too short to be able to perform the decay correction
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5007S13-14

Elapsed Live time: 3600

Elapsed Real Time: 3617

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 12 | 162 | 159 | 155 | 131 | 104 | 95 | 110 |
| 17: | 89 | 87 | 72 | 71 | 73 | 86 | 85 | 88 |
| 25: | 86 | 108 | 97 | 82 | 88 | 75 | 81 | 79 |
| 33: | 93 | 82 | 94 | 83 | 83 | 74 | 78 | 95 |
| 41: | 71 | 75 | 106 | 75 | 62 | 130 | 164 | 113 |
| 49: | 83 | 85 | 97 | 100 | 108 | 116 | 95 | 120 |
| 57: | 129 | 114 | 128 | 132 | 138 | 134 | 158 | 206 |
| 65: | 149 | 141 | 129 | 140 | 156 | 157 | 150 | 174 |
| 73: | 136 | 189 | 393 | 264 | 482 | 400 | 140 | 107 |
| 81: | 127 | 115 | 117 | 151 | 140 | 127 | 202 | 214 |
| 89: | 98 | 174 | 135 | 143 | 252 | 173 | 88 | 92 |
| 97: | 76 | 84 | 99 | 90 | 71 | 68 | 65 | 79 |
| 105: | 70 | 100 | 84 | 72 | 81 | 59 | 71 | 71 |
| 113: | 79 | 68 | 71 | 74 | 59 | 73 | 58 | 78 |
| 121: | 68 | 78 | 64 | 73 | 75 | 62 | 72 | 70 |
| 129: | 93 | 101 | 76 | 67 | 63 | 67 | 81 | 75 |
| 137: | 57 | 71 | 75 | 65 | 61 | 84 | 69 | 84 |
| 145: | 87 | 57 | 57 | 50 | 72 | 68 | 62 | 59 |
| 153: | 60 | 70 | 78 | 51 | 61 | 58 | 62 | 62 |
| 161: | 45 | 64 | 67 | 52 | 79 | 52 | 59 | 60 |
| 169: | 52 | 48 | 60 | 61 | 45 | 66 | 49 | 68 |
| 177: | 64 | 48 | 52 | 45 | 60 | 60 | 60 | 58 |
| 185: | 78 | 125 | 135 | 69 | 44 | 56 | 59 | 52 |
| 193: | 56 | 62 | 63 | 41 | 48 | 63 | 62 | 56 |
| 201: | 55 | 43 | 50 | 40 | 68 | 59 | 54 | 50 |
| 209: | 74 | 97 | 54 | 54 | 55 | 50 | 37 | 43 |
| 217: | 37 | 40 | 45 | 52 | 38 | 55 | 41 | 41 |
| 225: | 51 | 36 | 43 | 41 | 58 | 35 | 47 | 49 |
| 233: | 41 | 40 | 40 | 51 | 49 | 230 | 479 | 224 |
| 241: | 104 | 122 | 70 | 38 | 41 | 41 | 33 | 37 |
| 249: | 21 | 38 | 34 | 43 | 34 | 32 | 27 | 26 |
| 257: | 38 | 38 | 37 | 33 | 22 | 32 | 29 | 38 |
| 265: | 35 | 28 | 27 | 26 | 30 | 55 | 69 | 43 |
| 273: | 26 | 32 | 35 | 27 | 27 | 42 | 41 | 33 |
| 281: | 24 | 22 | 29 | 23 | 40 | 22 | 31 | 30 |
| 289: | 28 | 21 | 39 | 23 | 26 | 33 | 150 | 132 |
| 297: | 44 | 20 | 34 | 46 | 57 | 28 | 25 | 24 |
| 305: | 20 | 20 | 29 | 22 | 24 | 30 | 25 | 18 |
| 313: | 23 | 28 | 32 | 21 | 25 | 22 | 29 | 26 |
| 321: | 18 | 27 | 19 | 19 | 25 | 18 | 28 | 46 |
| 329: | 35 | 18 | 26 | 24 | 33 | 21 | 21 | 25 |
| 337: | 34 | 86 | 89 | 27 | 22 | 22 | 28 | 19 |
| 345: | 26 | 23 | 16 | 14 | 29 | 20 | 69 | 258 |
| 353: | 156 | 33 | 15 | 21 | 20 | 19 | 25 | 23 |
| 361: | 19 | 18 | 20 | 23 | 14 | 21 | 15 | 20 |

369: 20 28 30 19 21 13 15 13

Sample Title: CP5007S13-14

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|-----|-----|----|----|----|----|-----|----|
| 377: | 20 | 22 | 15 | 18 | 25 | 15 | 15 | 19 |
| 385: | 21 | 24 | 12 | 21 | 22 | 24 | 19 | 24 |
| 393: | 18 | 17 | 27 | 27 | 16 | 16 | 13 | 20 |
| 401: | 16 | 21 | 20 | 20 | 15 | 23 | 8 | 21 |
| 409: | 20 | 27 | 26 | 25 | 19 | 20 | 15 | 13 |
| 417: | 12 | 15 | 21 | 19 | 17 | 15 | 15 | 18 |
| 425: | 24 | 22 | 16 | 12 | 26 | 19 | 15 | 14 |
| 433: | 17 | 12 | 11 | 15 | 12 | 19 | 12 | 21 |
| 441: | 13 | 12 | 16 | 13 | 20 | 17 | 16 | 14 |
| 449: | 14 | 9 | 24 | 22 | 13 | 15 | 17 | 14 |
| 457: | 17 | 16 | 12 | 13 | 16 | 21 | 33 | 29 |
| 465: | 19 | 7 | 23 | 10 | 7 | 10 | 15 | 15 |
| 473: | 21 | 23 | 9 | 10 | 15 | 12 | 13 | 16 |
| 481: | 11 | 13 | 15 | 13 | 13 | 15 | 17 | 12 |
| 489: | 14 | 13 | 14 | 18 | 18 | 10 | 9 | 7 |
| 497: | 16 | 14 | 5 | 11 | 12 | 11 | 11 | 10 |
| 505: | 13 | 14 | 17 | 14 | 11 | 37 | 80 | 44 |
| 513: | 29 | 13 | 16 | 5 | 19 | 6 | 13 | 19 |
| 521: | 19 | 8 | 19 | 14 | 11 | 8 | 12 | 13 |
| 529: | 19 | 13 | 11 | 11 | 15 | 9 | 14 | 10 |
| 537: | 14 | 7 | 14 | 7 | 10 | 14 | 18 | 16 |
| 545: | 13 | 10 | 15 | 12 | 14 | 10 | 11 | 12 |
| 553: | 12 | 12 | 11 | 10 | 8 | 6 | 16 | 9 |
| 561: | 11 | 12 | 23 | 12 | 10 | 15 | 11 | 13 |
| 569: | 10 | 10 | 16 | 17 | 8 | 13 | 10 | 14 |
| 577: | 9 | 10 | 16 | 13 | 13 | 31 | 106 | 90 |
| 585: | 18 | 12 | 10 | 6 | 8 | 3 | 12 | 13 |
| 593: | 9 | 14 | 7 | 12 | 9 | 12 | 11 | 10 |
| 601: | 9 | 9 | 12 | 9 | 10 | 10 | 7 | 30 |
| 609: | 127 | 150 | 30 | 11 | 9 | 12 | 11 | 6 |
| 617: | 3 | 14 | 5 | 9 | 15 | 9 | 11 | 9 |
| 625: | 10 | 15 | 18 | 9 | 8 | 10 | 6 | 9 |
| 633: | 10 | 10 | 9 | 7 | 14 | 7 | 6 | 8 |
| 641: | 4 | 5 | 9 | 11 | 11 | 12 | 10 | 10 |
| 649: | 8 | 13 | 12 | 12 | 12 | 10 | 9 | 10 |
| 657: | 7 | 10 | 17 | 11 | 8 | 12 | 7 | 9 |
| 665: | 13 | 11 | 14 | 13 | 10 | 7 | 5 | 8 |
| 673: | 9 | 7 | 15 | 11 | 7 | 13 | 5 | 9 |
| 681: | 10 | 7 | 13 | 11 | 11 | 10 | 10 | 15 |
| 689: | 7 | 13 | 5 | 11 | 10 | 15 | 11 | 18 |
| 697: | 10 | 11 | 13 | 17 | 11 | 12 | 11 | 7 |
| 705: | 9 | 14 | 6 | 8 | 10 | 8 | 10 | 12 |
| 713: | 10 | 5 | 10 | 8 | 10 | 11 | 5 | 6 |
| 721: | 8 | 10 | 7 | 3 | 18 | 6 | 23 | 21 |
| 729: | 13 | 11 | 7 | 7 | 8 | 14 | 8 | 7 |
| 737: | 17 | 8 | 14 | 8 | 13 | 14 | 14 | 16 |
| 745: | 9 | 10 | 7 | 4 | 9 | 8 | 7 | 8 |
| 753: | 11 | 8 | 12 | 17 | 8 | 8 | 6 | 11 |
| 761: | 12 | 6 | 9 | 6 | 6 | 12 | 16 | 19 |
| 769: | 20 | 9 | 6 | 18 | 10 | 14 | 2 | 10 |
| 777: | 10 | 5 | 7 | 4 | 9 | 7 | 11 | 7 |
| 785: | 6 | 13 | 12 | 7 | 4 | 3 | 9 | 6 |
| 793: | 10 | 11 | 16 | 19 | 7 | 9 | 9 | 5 |

801: 8 5 5 3 5 5 9 8

Sample Title: CP5007S13-14

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 809: | 4 | 8 | 8 | 9 | 6 | 8 | 7 | 12 |
| 817: | 6 | 8 | 4 | 6 | 4 | 8 | 5 | 5 |
| 825: | 9 | 11 | 6 | 8 | 8 | 8 | 6 | 6 |
| 833: | 5 | 10 | 10 | 10 | 14 | 9 | 4 | 5 |
| 841: | 7 | 7 | 10 | 2 | 7 | 4 | 6 | 1 |
| 849: | 11 | 4 | 9 | 6 | 3 | 9 | 6 | 8 |
| 857: | 5 | 7 | 6 | 17 | 18 | 10 | 7 | 6 |
| 865: | 6 | 10 | 8 | 6 | 9 | 8 | 6 | 8 |
| 873: | 4 | 8 | 1 | 8 | 4 | 3 | 4 | 7 |
| 881: | 3 | 8 | 13 | 3 | 10 | 6 | 10 | 6 |
| 889: | 9 | 7 | 6 | 8 | 5 | 5 | 9 | 9 |
| 897: | 7 | 4 | 4 | 7 | 10 | 7 | 6 | 8 |
| 905: | 5 | 5 | 12 | 6 | 10 | 22 | 75 | 47 |
| 913: | 16 | 4 | 4 | 5 | 4 | 7 | 6 | 8 |
| 921: | 5 | 9 | 5 | 4 | 5 | 6 | 4 | 8 |
| 929: | 9 | 6 | 9 | 4 | 6 | 13 | 6 | 10 |
| 937: | 5 | 5 | 7 | 9 | 3 | 5 | 6 | 4 |
| 945: | 7 | 8 | 11 | 9 | 12 | 7 | 9 | 6 |
| 953: | 8 | 7 | 5 | 6 | 7 | 6 | 10 | 5 |
| 961: | 5 | 1 | 3 | 16 | 17 | 11 | 5 | 25 |
| 969: | 40 | 22 | 8 | 6 | 6 | 10 | 6 | 6 |
| 977: | 4 | 7 | 3 | 11 | 8 | 3 | 7 | 10 |
| 985: | 4 | 10 | 2 | 7 | 5 | 9 | 4 | 7 |
| 993: | 7 | 2 | 1 | 4 | 4 | 2 | 7 | 7 |
| 1001: | 7 | 10 | 7 | 6 | 10 | 7 | 7 | 8 |
| 1009: | 5 | 4 | 3 | 9 | 11 | 5 | 12 | 5 |
| 1017: | 4 | 9 | 2 | 2 | 6 | 7 | 5 | 4 |
| 1025: | 4 | 3 | 10 | 1 | 5 | 10 | 4 | 4 |
| 1033: | 8 | 5 | 4 | 11 | 2 | 9 | 5 | 6 |
| 1041: | 2 | 8 | 9 | 4 | 6 | 7 | 2 | 8 |
| 1049: | 6 | 3 | 7 | 4 | 5 | 9 | 3 | 7 |
| 1057: | 4 | 3 | 9 | 4 | 5 | 5 | 3 | 5 |
| 1065: | 5 | 5 | 8 | 3 | 6 | 7 | 5 | 4 |
| 1073: | 9 | 5 | 7 | 4 | 7 | 5 | 6 | 7 |
| 1081: | 3 | 9 | 6 | 6 | 7 | 6 | 7 | 3 |
| 1089: | 4 | 5 | 5 | 5 | 9 | 6 | 7 | 7 |
| 1097: | 4 | 8 | 6 | 8 | 9 | 7 | 5 | 5 |
| 1105: | 9 | 7 | 4 | 10 | 8 | 9 | 16 | 5 |
| 1113: | 7 | 6 | 4 | 7 | 5 | 7 | 10 | 24 |
| 1121: | 24 | 8 | 4 | 1 | 5 | 5 | 5 | 10 |
| 1129: | 4 | 7 | 7 | 4 | 4 | 8 | 2 | 4 |
| 1137: | 7 | 9 | 9 | 4 | 6 | 11 | 5 | 6 |
| 1145: | 5 | 9 | 8 | 3 | 5 | 7 | 10 | 8 |
| 1153: | 8 | 9 | 16 | 13 | 6 | 6 | 7 | 9 |
| 1161: | 8 | 6 | 4 | 9 | 10 | 3 | 5 | 10 |
| 1169: | 7 | 8 | 11 | 7 | 10 | 6 | 7 | 16 |
| 1177: | 5 | 8 | 3 | 6 | 7 | 9 | 6 | 8 |
| 1185: | 8 | 5 | 5 | 7 | 4 | 3 | 8 | 7 |
| 1193: | 7 | 7 | 6 | 8 | 10 | 10 | 0 | 1 |
| 1201: | 10 | 11 | 3 | 7 | 8 | 6 | 6 | 13 |
| 1209: | 7 | 14 | 14 | 11 | 8 | 11 | 9 | 11 |
| 1217: | 5 | 3 | 8 | 3 | 4 | 5 | 4 | 7 |
| 1225: | 7 | 8 | 9 | 5 | 3 | 5 | 12 | 12 |

1233: 10 6 6 6 13 25 12 5

Sample Title: CP5007S13-14

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|-----|-----|----|----|---|
| 1241: | 8 | 10 | 9 | 5 | 7 | 6 | 7 | 6 |
| 1249: | 8 | 4 | 4 | 5 | 3 | 5 | 5 | 5 |
| 1257: | 3 | 5 | 4 | 1 | 4 | 7 | 7 | 7 |
| 1265: | 7 | 7 | 7 | 9 | 6 | 10 | 3 | 5 |
| 1273: | 6 | 7 | 4 | 1 | 7 | 4 | 4 | 9 |
| 1281: | 4 | 8 | 4 | 2 | 4 | 7 | 3 | 3 |
| 1289: | 5 | 4 | 7 | 8 | 3 | 7 | 3 | 4 |
| 1297: | 8 | 3 | 5 | 5 | 5 | 10 | 6 | 4 |
| 1305: | 6 | 5 | 4 | 6 | 3 | 3 | 5 | 4 |
| 1313: | 1 | 5 | 5 | 5 | 6 | 6 | 8 | 3 |
| 1321: | 4 | 4 | 5 | 4 | 3 | 4 | 5 | 5 |
| 1329: | 6 | 5 | 1 | 9 | 8 | 9 | 4 | 4 |
| 1337: | 5 | 2 | 4 | 4 | 5 | 2 | 5 | 0 |
| 1345: | 4 | 7 | 7 | 5 | 3 | 2 | 5 | 8 |
| 1353: | 2 | 3 | 4 | 4 | 6 | 2 | 0 | 2 |
| 1361: | 3 | 3 | 4 | 2 | 2 | 6 | 3 | 1 |
| 1369: | 4 | 3 | 2 | 4 | 2 | 2 | 5 | 4 |
| 1377: | 3 | 7 | 1 | 0 | 7 | 5 | 0 | 1 |
| 1385: | 5 | 4 | 6 | 1 | 0 | 3 | 2 | 5 |
| 1393: | 4 | 1 | 2 | 0 | 1 | 2 | 3 | 2 |
| 1401: | 4 | 2 | 3 | 2 | 0 | 2 | 4 | 7 |
| 1409: | 11 | 4 | 2 | 2 | 0 | 1 | 1 | 3 |
| 1417: | 3 | 2 | 4 | 2 | 2 | 0 | 7 | 3 |
| 1425: | 1 | 1 | 7 | 4 | 2 | 1 | 4 | 4 |
| 1433: | 3 | 1 | 3 | 3 | 4 | 9 | 3 | 2 |
| 1441: | 2 | 6 | 3 | 0 | 5 | 3 | 1 | 4 |
| 1449: | 2 | 2 | 4 | 5 | 4 | 2 | 3 | 3 |
| 1457: | 5 | 13 | 50 | 196 | 216 | 80 | 14 | 2 |
| 1465: | 1 | 2 | 1 | 1 | 4 | 4 | 1 | 3 |
| 1473: | 2 | 3 | 2 | 1 | 3 | 0 | 0 | 0 |
| 1481: | 2 | 2 | 1 | 5 | 0 | 2 | 2 | 2 |
| 1489: | 5 | 0 | 3 | 0 | 0 | 3 | 2 | 2 |
| 1497: | 3 | 1 | 1 | 0 | 3 | 2 | 4 | 2 |
| 1505: | 0 | 1 | 3 | 4 | 5 | 4 | 0 | 2 |
| 1513: | 2 | 0 | 3 | 2 | 1 | 0 | 3 | 1 |
| 1521: | 2 | 0 | 2 | 1 | 3 | 2 | 3 | 2 |
| 1529: | 4 | 1 | 2 | 2 | 1 | 1 | 1 | 1 |
| 1537: | 1 | 2 | 1 | 5 | 3 | 0 | 1 | 6 |
| 1545: | 1 | 3 | 0 | 3 | 1 | 2 | 1 | 0 |
| 1553: | 2 | 0 | 4 | 1 | 1 | 0 | 2 | 1 |
| 1561: | 1 | 4 | 0 | 1 | 1 | 1 | 0 | 0 |
| 1569: | 3 | 1 | 3 | 3 | 2 | 1 | 1 | 2 |
| 1577: | 3 | 1 | 5 | 2 | 3 | 1 | 1 | 0 |
| 1585: | 1 | 3 | 6 | 3 | 4 | 1 | 0 | 1 |
| 1593: | 3 | 2 | 3 | 4 | 2 | 3 | 3 | 2 |
| 1601: | 2 | 2 | 3 | 1 | 3 | 1 | 2 | 0 |
| 1609: | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 3 |
| 1617: | 2 | 2 | 1 | 3 | 1 | 1 | 0 | 0 |
| 1625: | 3 | 1 | 2 | 1 | 1 | 2 | 6 | 3 |
| 1633: | 2 | 0 | 0 | 1 | 0 | 4 | 3 | 1 |
| 1641: | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 1 |
| 1649: | 2 | 1 | 0 | 1 | 1 | 0 | 2 | 0 |
| 1657: | 1 | 1 | 0 | 3 | 2 | 3 | 1 | 2 |

1665: 0 1 2 0 0 2 3 2

Sample Title: CP5007S13-14

| Channel | 0 | 1 | 2 | 0 | 0 | 2 | 3 | 2 |
|---------|---|---|---|----|----|---|---|---|
| 1673: | 0 | 1 | 2 | 1 | 0 | 2 | 1 | 2 |
| 1681: | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 2 |
| 1689: | 0 | 0 | 1 | 0 | 2 | 2 | 1 | 0 |
| 1697: | 2 | 1 | 1 | 0 | 2 | 2 | 0 | 0 |
| 1705: | 2 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 1713: | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 2 |
| 1721: | 0 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| 1729: | 5 | 5 | 3 | 1 | 0 | 1 | 1 | 0 |
| 1737: | 0 | 2 | 2 | 0 | 1 | 1 | 0 | 1 |
| 1745: | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 0 |
| 1753: | 2 | 1 | 2 | 4 | 1 | 1 | 0 | 1 |
| 1761: | 1 | 1 | 8 | 22 | 14 | 5 | 2 | 2 |
| 1769: | 3 | 1 | 1 | 0 | 0 | 2 | 1 | 0 |
| 1777: | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 0 |
| 1785: | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1793: | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |
| 1801: | 0 | 1 | 3 | 0 | 1 | 2 | 0 | 0 |
| 1809: | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 2 |
| 1817: | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1825: | 1 | 1 | 0 | 3 | 0 | 2 | 1 | 0 |
| 1833: | 2 | 1 | 0 | 1 | 2 | 1 | 1 | 1 |
| 1841: | 1 | 1 | 1 | 1 | 1 | 4 | 3 | 5 |
| 1849: | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1857: | 3 | 1 | 1 | 1 | 0 | 2 | 0 | 3 |
| 1865: | 2 | 2 | 2 | 0 | 1 | 0 | 0 | 1 |
| 1873: | 1 | 1 | 0 | 1 | 0 | 3 | 1 | 1 |
| 1881: | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 1889: | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 1897: | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 2 |
| 1905: | 0 | 2 | 2 | 1 | 1 | 0 | 0 | 2 |
| 1913: | 1 | 0 | 1 | 0 | 1 | 3 | 3 | 1 |
| 1921: | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 |
| 1929: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 3 |
| 1937: | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 3 |
| 1945: | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 0 |
| 1953: | 0 | 0 | 2 | 0 | 0 | 1 | 4 | 1 |
| 1961: | 1 | 1 | 0 | 1 | 1 | 0 | 2 | 1 |
| 1969: | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 1 |
| 1977: | 1 | 1 | 2 | 0 | 0 | 1 | 2 | 0 |
| 1985: | 2 | 2 | 2 | 0 | 0 | 0 | 1 | 0 |
| 1993: | 2 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| 2001: | 2 | 1 | 0 | 1 | 1 | 0 | 2 | 0 |
| 2009: | 1 | 0 | 3 | 2 | 0 | 3 | 0 | 0 |
| 2017: | 1 | 3 | 0 | 2 | 0 | 2 | 0 | 2 |
| 2025: | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| 2033: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 2041: | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| 2049: | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 |
| 2057: | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 1 |
| 2065: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2073: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2081: | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 1 |
| 2089: | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |

2097: 0 0 0 1 1 5 3 4

Sample Title: CP5007S13-14

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2105: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 2113: | 0 | 2 | 0 | 2 | 2 | 1 | 4 | 2 |
| 2121: | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| 2129: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| 2137: | 0 | 1 | 2 | 1 | 3 | 1 | 1 | 2 |
| 2145: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2153: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2161: | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 0 |
| 2169: | 1 | 1 | 0 | 2 | 0 | 2 | 0 | 1 |
| 2177: | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 1 |
| 2185: | 2 | 0 | 2 | 1 | 0 | 0 | 2 | 1 |
| 2193: | 2 | 1 | 0 | 2 | 1 | 0 | 0 | 2 |
| 2201: | 1 | 4 | 5 | 5 | 3 | 2 | 0 | 0 |
| 2209: | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 2 |
| 2217: | 1 | 0 | 2 | 2 | 2 | 2 | 1 | 1 |
| 2225: | 0 | 1 | 0 | 0 | 2 | 0 | 2 | 2 |
| 2233: | 3 | 2 | 1 | 0 | 3 | 1 | 2 | 2 |
| 2241: | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 2 |
| 2249: | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2257: | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 |
| 2265: | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 2 |
| 2273: | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 2 |
| 2281: | 1 | 2 | 0 | 1 | 0 | 0 | 2 | 0 |
| 2289: | 2 | 0 | 3 | 0 | 1 | 0 | 2 | 0 |
| 2297: | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2305: | 1 | 0 | 2 | 0 | 1 | 2 | 0 | 0 |
| 2313: | 1 | 0 | 0 | 2 | 2 | 1 | 0 | 1 |
| 2321: | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 0 |
| 2329: | 2 | 3 | 1 | 2 | 2 | 0 | 1 | 0 |
| 2337: | 3 | 1 | 1 | 1 | 2 | 0 | 2 | 1 |
| 2345: | 1 | 2 | 2 | 0 | 0 | 2 | 0 | 1 |
| 2353: | 0 | 2 | 1 | 3 | 0 | 0 | 0 | 2 |
| 2361: | 1 | 0 | 2 | 0 | 2 | 2 | 2 | 0 |
| 2369: | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 1 |
| 2377: | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2385: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 2393: | 2 | 2 | 0 | 3 | 0 | 0 | 2 | 0 |
| 2401: | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 1 |
| 2409: | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 2417: | 2 | 0 | 2 | 0 | 0 | 1 | 1 | 0 |
| 2425: | 2 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2433: | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 2441: | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 6 |
| 2449: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2457: | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| 2465: | 2 | 0 | 1 | 0 | 2 | 2 | 1 | 0 |
| 2473: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2481: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2489: | 0 | 0 | 0 | 1 | 2 | 2 | 1 | 1 |
| 2497: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2505: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2513: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 2521: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |

2529: 0 0 1 0 1 0 1 1

Sample Title: CP5007S13-14

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|----|----|----|---|
| 2537: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2545: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2553: | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2561: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2569: | 0 | 0 | 1 | 2 | 0 | 0 | 1 | 0 |
| 2577: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2593: | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 2601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2609: | 0 | 1 | 1 | 7 | 13 | 20 | 22 | 6 |
| 2617: | 3 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 2625: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2633: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2641: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2649: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2681: | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 2689: | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| 2697: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2705: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2713: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2721: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2729: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2753: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2769: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2777: | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2793: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2825: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2833: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2841: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2849: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2865: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2873: | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2881: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2889: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2897: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2913: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2929: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 2945: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2953: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |

2961: 1 0 0 0 0 0 1 0

Sample Title: CP5007S13-14

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2969: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2977: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2985: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2993: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3001: | 0 | 2 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3049: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 3057: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3065: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3081: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3089: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3097: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3137: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3145: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3153: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3169: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3233: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3241: | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3257: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3297: | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 1 |
| 3305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| 3321: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3345: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3377: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3385: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

3393: 1 0 0 0 0 0 0 0 0

Sample Title: CP5007S13-14

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 3425: | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3465: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3489: | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3505: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3537: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 3553: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 3561: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3585: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3601: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3665: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3721: | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 3729: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3737: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3777: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3785: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3809: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

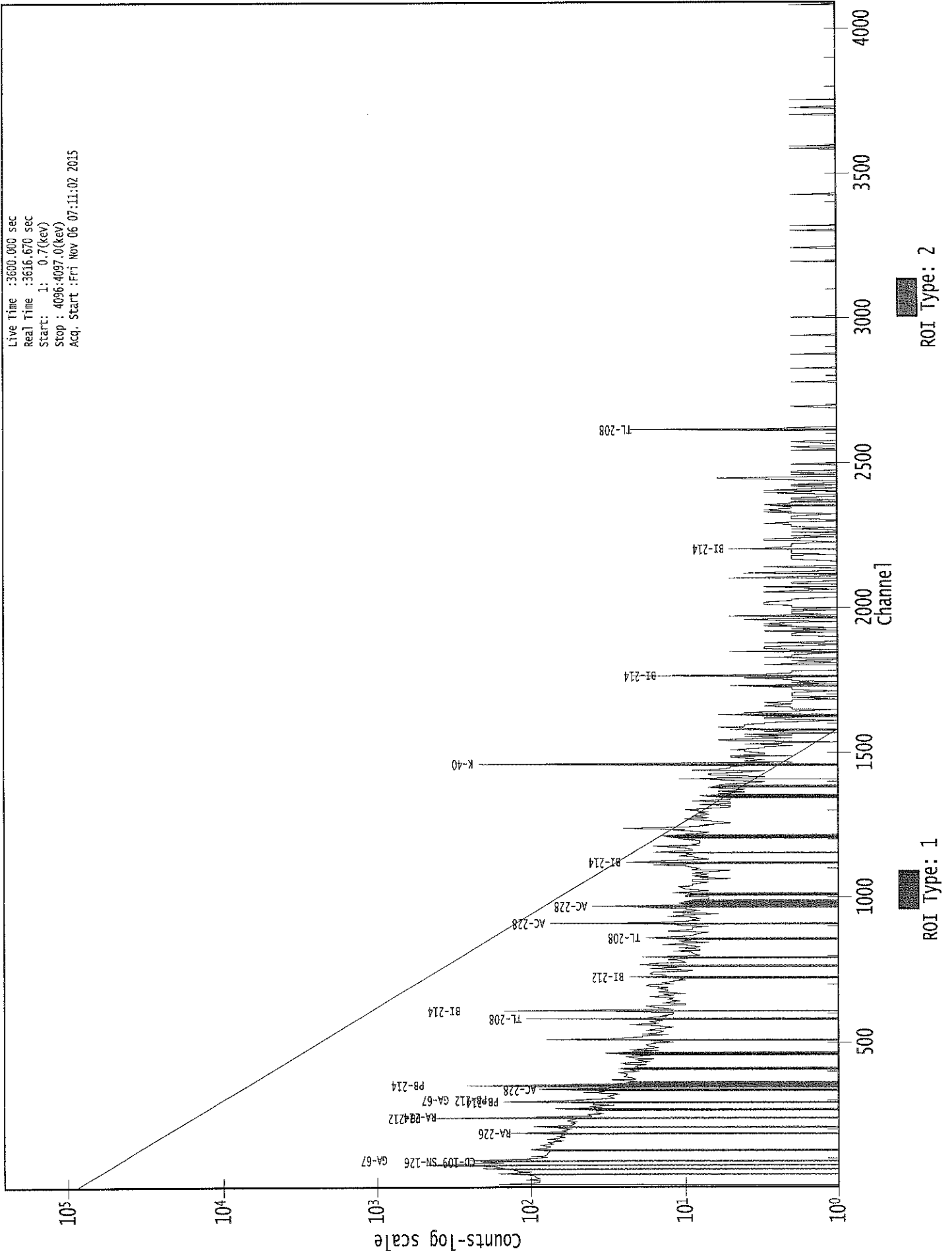
3825: 1 0 0 0 0 0 0 0 0

Sample Title: CP5007S13-14

| Channel | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3881: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3897: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 4017: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029240.CNF

Live Time : 3600.000 sec
Real Time : 3616.670 sec
Start: 1: 0.7(keV)
Stop : 4096.4097.0(keV)
Acq. Start : Fri Nov 06 07:11:02 2015



Analysis Report for 1510085-10
CP5007S16-17

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11/4

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-10
Sample Description : CP5007S16-17
Sample Type : SOIL

Sample Size : 5.458E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:40:03AM
Acquisition Started : 11/6/2015 7:11:10AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3641.1 seconds

Dead Time : 1.13 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 15 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 29241

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-10
CP5007S16-17

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 8:11:52AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096
 Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 45.95 | 45.21 | 0.0000 | 0.00 |
| 2 | 76.09 | 75.36 | 0.0000 | 0.00 |
| 3 | 130.20 | 129.49 | 0.0000 | 0.00 |
| 4 | 186.05 | 185.37 | 0.0000 | 0.00 |
| 5 | 239.20 | 238.54 | 0.0000 | 0.00 |
| 6 | 270.00 | 269.35 | 0.0000 | 0.00 |
| 7 | 287.61 | 286.96 | 0.0000 | 0.00 |
| 8 | 295.90 | 295.26 | 0.0000 | 0.00 |
| 9 | 340.53 | 339.92 | 0.0000 | 0.00 |
| 10 | 352.14 | 351.53 | 0.0000 | 0.00 |
| 11 | 360.24 | 359.63 | 0.0000 | 0.00 |
| 12 | 462.12 | 461.56 | 0.0000 | 0.00 |
| 13 | 510.78 | 510.24 | 0.0000 | 0.00 |
| 14 | 583.36 | 582.85 | 0.0000 | 0.00 |
| 15 | 609.48 | 608.99 | 0.0000 | 0.00 |
| 16 | 620.42 | 619.93 | 0.0000 | 0.00 |
| 17 | 912.13 | 911.79 | 0.0000 | 0.00 |
| 18 | 935.23 | 934.90 | 0.0000 | 0.00 |
| 19 | 951.04 | 950.72 | 0.0000 | 0.00 |
| 20 | 963.50 | 963.19 | 0.0000 | 0.00 |
| 21 | 969.60 | 969.29 | 0.0000 | 0.00 |
| 22 | 1119.35 | 1119.12 | 0.0000 | 0.00 |
| 23 | 1133.28 | 1133.06 | 0.0000 | 0.00 |
| 24 | 1376.90 | 1376.82 | 0.0000 | 0.00 |
| 25 | 1461.14 | 1461.11 | 0.0000 | 0.00 |
| 26 | 1528.07 | 1528.08 | 0.0000 | 0.00 |
| 27 | 1590.80 | 1590.86 | 0.0000 | 0.00 |
| 28 | 1764.32 | 1764.49 | 0.0000 | 0.00 |
| 29 | 1846.16 | 1846.38 | 0.0000 | 0.00 |
| 30 | 2087.45 | 2087.83 | 0.0000 | 0.00 |
| 31 | 2231.52 | 2232.00 | 0.0000 | 0.00 |
| 32 | 2324.63 | 2325.18 | 0.0000 | 0.00 |
| 33 | 2614.88 | 2615.66 | 0.0000 | 0.00 |

? = Adjacent peak noted
 Errors quoted at 2.000sigma

Analysis Report for 1510085-10
CP5007S16-17

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 8:11:52AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) | |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|------|
| 1 | 45.95 | 41 - | 48 | 45.21 | 1.03E+02 | 80.32 | 1.01E+03 | 3.01 | |
| 2 | 76.09 | 69 - | 81 | 75.36 | 7.54E+02 | 154.37 | 2.42E+03 | 4.38 | |
| 3 | 130.20 | 126 - | 133 | 129.49 | 6.12E+01 | 72.42 | 8.36E+02 | 2.22 | |
| 4 | 186.05 | 182 - | 190 | 185.37 | 9.87E+01 | 73.59 | 7.69E+02 | 2.04 | |
| 5 | 239.20 | 232 - | 244 | 238.54 | 5.77E+02 | 97.92 | 8.53E+02 | 2.42 | |
| 6 | 270.00 | 267 - | 273 | 269.35 | 3.60E+01 | 43.43 | 3.20E+02 | 1.27 | |
| 7 | 287.61 | 283 - | 291 | 286.96 | 6.75E+01 | 42.54 | 2.33E+02 | 5.75 | |
| 8 | 295.90 | 291 - | 302 | 295.26 | 1.79E+02 | 63.66 | 4.27E+02 | 2.73 | |
| 9 | 340.53 | 333 - | 346 | 339.92 | 7.71E+01 | 64.38 | 4.24E+02 | 8.72 | |
| 10 | 352.14 | 347 - | 356 | 351.53 | 2.85E+02 | 52.33 | 2.24E+02 | 2.51 | |
| 11 | 360.24 | 357 - | 364 | 359.63 | 2.82E+01 | 33.23 | 1.68E+02 | 4.05 | |
| 12 | 462.12 | 458 - | 465 | 461.56 | 2.92E+01 | 32.56 | 1.60E+02 | 1.39 | |
| 13 | 510.78 | 504 - | 518 | 510.24 | 1.26E+02 | 49.34 | 2.07E+02 | 3.22 | |
| 14 | 583.36 | 578 - | 587 | 582.85 | 9.75E+01 | 42.24 | 1.97E+02 | 2.46 | |
| 15 | 609.48 | 604 - | 614 | 608.99 | 1.86E+02 | 39.02 | 1.01E+02 | 2.35 | |
| 16 | 620.42 | 614 - | 624 | 619.93 | 3.05E+01 | 28.67 | 9.30E+01 | 7.60 | |
| 17 | 912.13 | 905 - | 919 | 911.79 | 8.12E+01 | 33.39 | 8.56E+01 | 3.68 | |
| 18 | 935.23 | 929 - | 940 | 934.90 | 4.79E+01 | 20.69 | 2.83E+01 | 4.69 | |
| 19 | 951.04 | 948 - | 953 | 950.72 | 1.71E+01 | 15.20 | 3.17E+01 | 2.72 | |
| M | 20 | 963.50 | 957 - | 974 | 963.19 | 1.56E+01 | 24.99 | 8.84E+01 | 3.15 |
| m | 21 | 969.60 | 957 - | 974 | 969.29 | 3.63E+01 | 25.62 | 7.20E+01 | 3.15 |
| 22 | 1119.35 | 1113 - | 1126 | 1119.12 | 6.06E+01 | 34.51 | 1.07E+02 | 1.53 | |
| 23 | 1133.28 | 1130 - | 1136 | 1133.06 | 1.48E+01 | 13.77 | 2.23E+01 | 1.20 | |
| 24 | 1376.90 | 1373 - | 1380 | 1376.82 | 1.70E+01 | 12.81 | 1.60E+01 | 3.12 | |
| 25 | 1461.14 | 1456 - | 1469 | 1461.11 | 2.32E+02 | 36.97 | 4.72E+01 | 3.13 | |
| 26 | 1528.07 | 1524 - | 1531 | 1528.08 | 9.09E+00 | 7.75 | 3.82E+00 | 4.36 | |
| 27 | 1590.80 | 1586 - | 1596 | 1590.86 | 1.29E+01 | 14.59 | 2.02E+01 | 5.45 | |
| 28 | 1764.32 | 1759 - | 1768 | 1764.49 | 2.75E+01 | 14.66 | 1.51E+01 | 2.14 | |
| 29 | 1846.16 | 1842 - | 1849 | 1846.38 | 9.00E+00 | 9.17 | 8.00E+00 | 1.96 | |
| 30 | 2087.45 | 2083 - | 2090 | 2087.83 | 1.20E+01 | 6.93 | 0.00E+00 | 1.10 | |
| 31 | 2231.52 | 2229 - | 2234 | 2232.00 | 5.00E+00 | 4.47 | 0.00E+00 | 2.98 | |
| 32 | 2324.63 | 2321 - | 2328 | 2325.18 | 1.10E+01 | 6.63 | 0.00E+00 | 4.75 | |
| 33 | 2614.88 | 2611 - | 2619 | 2615.66 | 2.90E+01 | 10.77 | 0.00E+00 | 3.51 | |

Analysis Report for 1510085-10
CP5007S16-17

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 8:11:52AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 1 | 45.95 | 41 - | 48 | 1.03E+02 | 80.32 | 1.01E+03 | 6.39E+01 |
| 2 | 76.09 | 69 - | 81 | 7.54E+02 | 154.37 | 2.42E+03 | 1.19E+02 |
| 3 | 130.20 | 126 - | 133 | 6.12E+01 | 72.42 | 8.36E+02 | 5.81E+01 |
| 4 | 186.05 | 182 - | 190 | 9.87E+01 | 73.59 | 7.69E+02 | 5.82E+01 |
| 5 | 239.20 | 232 - | 244 | 5.77E+02 | 97.92 | 8.53E+02 | 7.01E+01 |
| 6 | 270.00 | 267 - | 273 | 3.60E+01 | 43.43 | 3.20E+02 | 3.43E+01 |
| 7 | 287.61 | 283 - | 291 | 6.75E+01 | 42.54 | 2.33E+02 | 3.23E+01 |
| 8 | 295.90 | 291 - | 302 | 1.79E+02 | 63.66 | 4.27E+02 | 4.75E+01 |
| 9 | 340.53 | 333 - | 346 | 7.71E+01 | 64.38 | 4.24E+02 | 5.09E+01 |
| 10 | 352.14 | 347 - | 356 | 2.85E+02 | 52.33 | 2.24E+02 | 3.29E+01 |
| 11 | 360.24 | 357 - | 364 | 2.82E+01 | 33.23 | 1.68E+02 | 2.59E+01 |
| 12 | 462.12 | 458 - | 465 | 2.92E+01 | 32.56 | 1.60E+02 | 2.52E+01 |
| 13 | 510.78 | 504 - | 518 | 1.26E+02 | 49.34 | 2.07E+02 | 3.61E+01 |
| 14 | 583.36 | 578 - | 587 | 9.75E+01 | 42.24 | 1.97E+02 | 3.07E+01 |
| 15 | 609.48 | 604 - | 614 | 1.86E+02 | 39.02 | 1.01E+02 | 2.29E+01 |
| 16 | 620.42 | 614 - | 624 | 3.05E+01 | 28.67 | 9.30E+01 | 2.18E+01 |
| 17 | 912.13 | 905 - | 919 | 8.12E+01 | 33.39 | 8.56E+01 | 3.08E+01 |
| 18 | 935.23 | 929 - | 940 | 4.79E+01 | 20.69 | 2.83E+01 | 1.26E+01 |
| 19 | 951.04 | 948 - | 953 | 1.71E+01 | 15.20 | 3.17E+01 | 1.05E+01 |
| M 20 | 963.50 | 957 - | 974 | 1.56E+01 | 24.99 | 8.84E+01 | 1.55E+01 |
| m 21 | 969.60 | 957 - | 974 | 3.63E+01 | 25.62 | 7.20E+01 | 1.40E+01 |
| 22 | 1119.35 | 1113 - | 1126 | 6.06E+01 | 34.51 | 1.07E+02 | 2.53E+01 |
| 23 | 1133.28 | 1130 - | 1136 | 1.48E+01 | 13.77 | 2.23E+01 | 9.39E+00 |
| 24 | 1376.90 | 1373 - | 1380 | 1.70E+01 | 12.81 | 1.60E+01 | 8.05E+00 |
| 25 | 1461.14 | 1456 - | 1469 | 2.32E+02 | 36.97 | 4.72E+01 | 1.72E+01 |
| 26 | 1528.07 | 1524 - | 1531 | 9.09E+00 | 7.75 | 3.82E+00 | 4.00E+00 |
| 27 | 1590.80 | 1586 - | 1596 | 1.29E+01 | 14.59 | 2.02E+01 | 1.04E+01 |
| 28 | 1764.32 | 1759 - | 1768 | 2.75E+01 | 14.66 | 1.51E+01 | 8.43E+00 |
| 29 | 1846.16 | 1842 - | 1849 | 9.00E+00 | 9.17 | 8.00E+00 | 5.70E+00 |
| 30 | 2087.45 | 2083 - | 2090 | 1.20E+01 | 6.93 | 0.00E+00 | 0.00E+00 |
| 31 | 2231.52 | 2229 - | 2234 | 5.00E+00 | 4.47 | 0.00E+00 | 0.00E+00 |

Analysis Report for 1510085-10
 CP5007S16-17

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 32 | 2324.63 | 2321 - | 2328 | 1.10E+01 | 6.63 | 0.00E+00 | 0.00E+00 |
| 33 | 2614.88 | 2611 - | 2619 | 2.90E+01 | 10.77 | 0.00E+00 | 0.00E+00 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 8:11:52AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
 Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 1 | 45.95 | 41 - | 48 | 45.21 | 1.03E+02 | 80.32 | 1.01E+03 | PB-210 |
| 2 | 76.09 | 69 - | 81 | 75.36 | 7.54E+02 | 154.37 | 2.42E+03 | ..... |
| 3 | 130.20 | 126 - | 133 | 129.49 | 6.12E+01 | 72.42 | 8.36E+02 | PA-234 |
| 4 | 186.05 | 182 - | 190 | 185.37 | 9.87E+01 | 73.59 | 7.69E+02 | RA-226 |
| 5 | 239.20 | 232 - | 244 | 238.54 | 5.77E+02 | 97.92 | 8.53E+02 | PB-212 |
| 6 | 270.00 | 267 - | 273 | 269.35 | 3.60E+01 | 43.43 | 3.20E+02 | ..... |
| 7 | 287.61 | 283 - | 291 | 286.96 | 6.75E+01 | 42.54 | 2.33E+02 | ..... |
| 8 | 295.90 | 291 - | 302 | 295.26 | 1.79E+02 | 63.66 | 4.27E+02 | PB-214 |
| 9 | 340.53 | 333 - | 346 | 339.92 | 7.71E+01 | 64.38 | 4.24E+02 | CS-136 |
| 10 | 352.14 | 347 - | 356 | 351.53 | 2.85E+02 | 52.33 | 2.24E+02 | PB-214 |
| 11 | 360.24 | 357 - | 364 | 359.63 | 2.82E+01 | 33.23 | 1.68E+02 | ..... |
| 12 | 462.12 | 458 - | 465 | 461.56 | 2.92E+01 | 32.56 | 1.60E+02 | ..... |
| 13 | 510.78 | 504 - | 518 | 510.24 | 1.26E+02 | 49.34 | 2.07E+02 | ..... |
| 14 | 583.36 | 578 - | 587 | 582.85 | 9.75E+01 | 42.24 | 1.97E+02 | TL-208 |
| 15 | 609.48 | 604 - | 614 | 608.99 | 1.86E+02 | 39.02 | 1.01E+02 | BI-214 |
| 16 | 620.42 | 614 - | 624 | 619.93 | 3.05E+01 | 28.67 | 9.30E+01 | ..... |
| 17 | 912.13 | 905 - | 919 | 911.79 | 8.12E+01 | 33.39 | 8.56E+01 | LU-172 |
| 18 | 935.23 | 929 - | 940 | 934.90 | 4.79E+01 | 20.69 | 2.83E+01 | ..... |
| 19 | 951.04 | 948 - | 953 | 950.72 | 1.71E+01 | 15.20 | 3.17E+01 | ..... |
| M 20 | 963.50 | 957 - | 974 | 963.19 | 1.56E+01 | 24.99 | 8.84E+01 | EU-152 |
| m 21 | 969.60 | 957 - | 974 | 969.29 | 3.63E+01 | 25.62 | 7.20E+01 | AC-228 |
| 22 | 1119.35 | 1113 - | 1126 | 1119.12 | 6.06E+01 | 34.51 | 1.07E+02 | BI-214 |
| 23 | 1133.28 | 1130 - | 1136 | 1133.06 | 1.48E+01 | 13.77 | 2.23E+01 | ..... |
| 24 | 1376.90 | 1373 - | 1380 | 1376.82 | 1.70E+01 | 12.81 | 1.60E+01 | ..... |

Analysis Report for 1510085-10
CP5007S16-17

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 25 | 1461.14 | 1456 - | 1469 | 1461.11 | 2.32E+02 | 36.97 | 4.72E+01 | K-40 |
| 26 | 1528.07 | 1524 - | 1531 | 1528.08 | 9.09E+00 | 7.75 | 3.82E+00 | ..... |
| 27 | 1590.80 | 1586 - | 1596 | 1590.86 | 1.29E+01 | 14.59 | 2.02E+01 | ..... |
| 28 | 1764.32 | 1759 - | 1768 | 1764.49 | 2.75E+01 | 14.66 | 1.51E+01 | BI-214 |
| 29 | 1846.16 | 1842 - | 1849 | 1846.38 | 9.00E+00 | 9.17 | 8.00E+00 | ..... |
| 30 | 2087.45 | 2083 - | 2090 | 2087.83 | 1.20E+01 | 6.93 | 0.00E+00 | ..... |
| 31 | 2231.52 | 2229 - | 2234 | 2232.00 | 5.00E+00 | 4.47 | 0.00E+00 | ..... |
| 32 | 2324.63 | 2321 - | 2328 | 2325.18 | 1.10E+01 | 6.63 | 0.00E+00 | ..... |
| 33 | 2614.88 | 2611 - | 2619 | 2615.66 | 2.90E+01 | 10.77 | 0.00E+00 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 8:11:52AM

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 1 | 45.95 | 1.03E+02 | 80.32 | 2.64E-02 | 1.78E-03 |
| 2 | 76.09 | 7.54E+02 | 154.37 | 2.13E-02 | 1.69E-03 |
| 3 | 130.20 | 6.12E+01 | 72.42 | 1.52E-02 | 1.47E-03 |
| 4 | 186.05 | 9.87E+01 | 73.59 | 1.16E-02 | 1.15E-03 |
| 5 | 239.20 | 5.77E+02 | 97.92 | 9.40E-03 | 9.85E-04 |
| 6 | 270.00 | 3.60E+01 | 43.43 | 8.44E-03 | 8.90E-04 |
| 7 | 287.61 | 6.75E+01 | 42.54 | 7.97E-03 | 8.52E-04 |
| 8 | 295.90 | 1.79E+02 | 63.66 | 7.77E-03 | 8.42E-04 |
| 9 | 340.53 | 7.71E+01 | 64.38 | 6.82E-03 | 7.93E-04 |
| 10 | 352.14 | 2.85E+02 | 52.33 | 6.61E-03 | 7.80E-04 |
| 11 | 360.24 | 2.82E+01 | 33.23 | 6.46E-03 | 7.71E-04 |
| 12 | 462.12 | 2.92E+01 | 32.56 | 5.09E-03 | 6.33E-04 |
| 13 | 510.78 | 1.26E+02 | 49.34 | 4.61E-03 | 5.61E-04 |
| 14 | 583.36 | 9.75E+01 | 42.24 | 4.05E-03 | 4.55E-04 |
| 15 | 609.48 | 1.86E+02 | 39.02 | 3.87E-03 | 4.17E-04 |
| 16 | 620.42 | 3.05E+01 | 28.67 | 3.81E-03 | 4.01E-04 |
| 17 | 912.13 | 8.12E+01 | 33.39 | 2.61E-03 | 2.06E-04 |
| 18 | 935.23 | 4.79E+01 | 20.69 | 2.55E-03 | 2.03E-04 |
| 19 | 951.04 | 1.71E+01 | 15.20 | 2.50E-03 | 2.01E-04 |
| M | 20 | 963.50 | 1.56E+01 | 2.47E-03 | 2.00E-04 |
| m | 21 | 969.60 | 3.63E+01 | 2.46E-03 | 1.99E-04 |

Analysis Report for 1510085-10
CP5007S16-17

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 22 | 1119.35 | 6.06E+01 | 34.51 | 2.15E-03 | 1.80E-04 |
| 23 | 1133.28 | 1.48E+01 | 13.77 | 2.12E-03 | 1.78E-04 |
| 24 | 1376.90 | 1.70E+01 | 12.81 | 1.77E-03 | 2.06E-04 |
| 25 | 1461.14 | 2.32E+02 | 36.97 | 1.68E-03 | 1.89E-04 |
| 26 | 1528.07 | 9.09E+00 | 7.75 | 1.62E-03 | 1.75E-04 |
| 27 | 1590.80 | 1.29E+01 | 14.59 | 1.56E-03 | 1.62E-04 |
| 28 | 1764.32 | 2.75E+01 | 14.66 | 1.43E-03 | 1.26E-04 |
| 29 | 1846.16 | 9.00E+00 | 9.17 | 1.38E-03 | 1.11E-04 |
| 30 | 2087.45 | 1.20E+01 | 6.93 | 1.26E-03 | 1.11E-04 |
| 31 | 2231.52 | 5.00E+00 | 4.47 | 1.20E-03 | 1.11E-04 |
| 32 | 2324.63 | 1.10E+01 | 6.63 | 1.16E-03 | 1.11E-04 |
| 33 | 2614.88 | 2.90E+01 | 10.77 | 1.07E-03 | 1.11E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 8:11:52AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 1 | 45.95 | 1.03E+02 | 80.32 | 2.00E+01 | 7.38E+00 | 8.29E+01 | 8.07E+01 |
| 2 | 76.09 | 7.54E+02 | 154.37 | | | 7.54E+02 | 1.54E+02 |
| 3 | 130.20 | 6.12E+01 | 72.42 | | | 6.12E+01 | 7.24E+01 |
| 4 | 186.05 | 9.87E+01 | 73.59 | 1.43E+01 | 7.33E+00 | 8.44E+01 | 7.40E+01 |
| 5 | 239.20 | 5.77E+02 | 97.92 | 1.09E+01 | 6.39E+00 | 5.66E+02 | 9.81E+01 |
| 6 | 270.00 | 3.60E+01 | 43.43 | | | 3.60E+01 | 4.34E+01 |
| 7 | 287.61 | 6.75E+01 | 42.54 | | | 6.75E+01 | 4.25E+01 |
| 8 | 295.90 | 1.79E+02 | 63.66 | | | 1.79E+02 | 6.37E+01 |
| 9 | 340.53 | 7.71E+01 | 64.38 | | | 7.71E+01 | 6.44E+01 |
| 10 | 352.14 | 2.85E+02 | 52.33 | 8.07E+00 | 5.01E+00 | 2.77E+02 | 5.26E+01 |
| 11 | 360.24 | 2.82E+01 | 33.23 | | | 2.82E+01 | 3.32E+01 |
| 12 | 462.12 | 2.92E+01 | 32.56 | | | 2.92E+01 | 3.26E+01 |
| 13 | 510.78 | 1.26E+02 | 49.34 | 4.21E+01 | 4.92E+00 | 8.35E+01 | 4.96E+01 |
| 14 | 583.36 | 9.75E+01 | 42.24 | | | 9.75E+01 | 4.22E+01 |
| 15 | 609.48 | 1.86E+02 | 39.02 | 5.16E+00 | 1.63E+00 | 1.81E+02 | 3.91E+01 |
| 16 | 620.42 | 3.05E+01 | 28.67 | | | 3.05E+01 | 2.87E+01 |
| 17 | 912.13 | 8.12E+01 | 33.39 | | | 8.12E+01 | 3.34E+01 |
| 18 | 935.23 | 4.79E+01 | 20.69 | | | 4.79E+01 | 2.07E+01 |

Analysis Report for 1510085-10

CP5007S16-17

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| M 19 | 951.04 | 1.71E+01 | 15.20 | | | 1.71E+01 | 1.52E+01 |
| m 20 | 963.50 | 1.56E+01 | 24.99 | | | 1.56E+01 | 2.50E+01 |
| m 21 | 969.60 | 3.63E+01 | 25.62 | | | 3.63E+01 | 2.56E+01 |
| 22 | 1119.35 | 6.06E+01 | 34.51 | | | 6.06E+01 | 3.45E+01 |
| 23 | 1133.28 | 1.48E+01 | 13.77 | | | 1.48E+01 | 1.38E+01 |
| 24 | 1376.90 | 1.70E+01 | 12.81 | | | 1.70E+01 | 1.28E+01 |
| 25 | 1461.14 | 2.32E+02 | 36.97 | | | 2.32E+02 | 3.70E+01 |
| 26 | 1528.07 | 9.09E+00 | 7.75 | | | 9.09E+00 | 7.75E+00 |
| 27 | 1590.80 | 1.29E+01 | 14.59 | | | 1.29E+01 | 1.46E+01 |
| 28 | 1764.32 | 2.75E+01 | 14.66 | 1.11E-01 | 9.77E-01 | 2.73E+01 | 1.47E+01 |
| 29 | 1846.16 | 9.00E+00 | 9.17 | | | 9.00E+00 | 9.17E+00 |
| 30 | 2087.45 | 1.20E+01 | 6.93 | | | 1.20E+01 | 6.93E+00 |
| 31 | 2231.52 | 5.00E+00 | 4.47 | | | 5.00E+00 | 4.47E+00 |
| 32 | 2324.63 | 1.10E+01 | 6.63 | | | 1.10E+01 | 6.63E+00 |
| 33 | 2614.88 | 2.90E+01 | 10.77 | 1.20E+00 | 1.02E+00 | 2.78E+01 | 1.08E+01 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 8:11:52AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 1 | 45.95 | 1.03E+02 | 80.32 | 2.00E+01 | 7.38E+00 | 8.29E+01 | 8.07E+01 |
| 2 | 76.09 | 7.54E+02 | 154.37 | | | 7.54E+02 | 1.54E+02 |
| 3 | 130.20 | 6.12E+01 | 72.42 | | | 6.12E+01 | 7.24E+01 |
| 4 | 186.05 | 9.87E+01 | 73.59 | 1.43E+01 | 7.33E+00 | 8.44E+01 | 7.40E+01 |
| 5 | 239.20 | 5.77E+02 | 97.92 | 1.09E+01 | 6.39E+00 | 5.66E+02 | 9.81E+01 |
| 6 | 270.00 | 3.60E+01 | 43.43 | | | 3.60E+01 | 4.34E+01 |
| 7 | 287.61 | 6.75E+01 | 42.54 | | | 6.75E+01 | 4.25E+01 |
| 8 | 295.90 | 1.79E+02 | 63.66 | | | 1.79E+02 | 6.37E+01 |
| 9 | 340.53 | 7.71E+01 | 64.38 | | | 7.71E+01 | 6.44E+01 |
| 10 | 352.14 | 2.85E+02 | 52.33 | 8.07E+00 | 5.01E+00 | 2.77E+02 | 5.26E+01 |
| 11 | 360.24 | 2.82E+01 | 33.23 | | | 2.82E+01 | 3.32E+01 |
| 12 | 462.12 | 2.92E+01 | 32.56 | | | 2.92E+01 | 3.26E+01 |
| 13 | 510.78 | 1.26E+02 | 49.34 | 4.21E+01 | 4.92E+00 | 8.35E+01 | 4.96E+01 |

Analysis Report for 1510085-10
CP5007S16-17

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 14 | 583.36 | 9.75E+01 | 42.24 | | | 9.75E+01 | 4.22E+01 |
| 15 | 609.48 | 1.86E+02 | 39.02 | 5.16E+00 | 1.63E+00 | 1.81E+02 | 3.91E+01 |
| 16 | 620.42 | 3.05E+01 | 28.67 | | | 3.05E+01 | 2.87E+01 |
| 17 | 912.13 | 8.12E+01 | 33.39 | | | 8.12E+01 | 3.34E+01 |
| 18 | 935.23 | 4.79E+01 | 20.69 | | | 4.79E+01 | 2.07E+01 |
| 19 | 951.04 | 1.71E+01 | 15.20 | | | 1.71E+01 | 1.52E+01 |
| M 20 | 963.50 | 1.56E+01 | 24.99 | | | 1.56E+01 | 2.50E+01 |
| m 21 | 969.60 | 3.63E+01 | 25.62 | | | 3.63E+01 | 2.56E+01 |
| 22 | 1119.35 | 6.06E+01 | 34.51 | | | 6.06E+01 | 3.45E+01 |
| 23 | 1133.28 | 1.48E+01 | 13.77 | | | 1.48E+01 | 1.38E+01 |
| 24 | 1376.90 | 1.70E+01 | 12.81 | | | 1.70E+01 | 1.28E+01 |
| 25 | 1461.14 | 2.32E+02 | 36.97 | | | 2.32E+02 | 3.70E+01 |
| 26 | 1528.07 | 9.09E+00 | 7.75 | | | 9.09E+00 | 7.75E+00 |
| 27 | 1590.80 | 1.29E+01 | 14.59 | | | 1.29E+01 | 1.46E+01 |
| 28 | 1764.32 | 2.75E+01 | 14.66 | 1.11E-01 | 9.77E-01 | 2.73E+01 | 1.47E+01 |
| 29 | 1846.16 | 9.00E+00 | 9.17 | | | 9.00E+00 | 9.17E+00 |
| 30 | 2087.45 | 1.20E+01 | 6.93 | | | 1.20E+01 | 6.93E+00 |
| 31 | 2231.52 | 5.00E+00 | 4.47 | | | 5.00E+00 | 4.47E+00 |
| 32 | 2324.63 | 1.10E+01 | 6.63 | | | 1.10E+01 | 6.63E+00 |
| 33 | 2614.88 | 2.90E+01 | 10.77 | 1.20E+00 | 1.02E+00 | 2.78E+01 | 1.08E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.983 | 1460.81 * | 10.67 | 1.78E+01 | 3.48E+00 |
| TL-208 | 0.880 | 583.14 * | 30.22 | 1.10E+00 | 4.91E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 9.95E-01 | 4.01E-01 |
| PB-210 | 0.953 | 46.50 * | 4.25 | 1.02E+00 | 9.93E-01 |
| PB-212 | 0.850 | 238.63 * | 44.60 | 1.86E+00 | 3.76E-01 |
| | | 300.09 | 3.41 | | |
| BI-214 | 0.908 | 609.31 * | 46.30 | 1.39E+00 | 3.35E-01 |
| | | 1120.29 * | 15.10 | 2.57E+00 | 1.48E+00 |
| | | 1764.49 * | 15.80 | 1.66E+00 | 9.04E-01 |
| | | 2204.22 | 4.98 | | |

Analysis Report for 1510085-10
CP5007S16-17

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| PB-214 | 0.970 | 295.21 * | 19.19 | 1.65E+00 | 6.14E-01 |
| | | 351.92 * | 37.19 | 1.55E+00 | 3.47E-01 |
| RA-226 | 0.996 | 186.21 * | 3.28 | 3.05E+00 | 6.19E+00 |
| PA-234 | 0.436 | 131.20 * | 20.40 | 2.71E-01 | 3.21E-01 |
| | | 733.99 | 8.80 | | |
| | | 946.00 | 12.00 | | |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 8:11:52AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide | |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|--------|
| 2 | 76.09 | 2.09387E-01 | 10.24 | | | |
| 6 | 270.00 | 1.00085E-02 | 60.27 | | | |
| 7 | 287.61 | 1.87364E-02 | 31.53 | | | |
| 9 | 340.53 | 2.14264E-02 | 41.73 | Tol. | CS-136 | |
| 11 | 360.24 | 7.82490E-03 | 58.98 | | | |
| 12 | 462.12 | 8.10652E-03 | 55.78 | | | |
| 13 | 510.78 | 2.32055E-02 | 29.68 | | | |
| 16 | 620.42 | 8.47042E-03 | 47.02 | | | |
| 17 | 912.13 | 2.25530E-02 | 20.56 | Tol. | LU-172 | |
| 18 | 935.23 | 1.32975E-02 | 21.61 | Sum | | |
| 19 | 951.04 | 4.76010E-03 | 44.35 | S-Esc | | |
| M | 20 | 963.50 | 4.33151E-03 | 80.13 | Tol. | EU-152 |
| m | 21 | 969.60 | 1.00695E-02 | 35.34 | Tol. | AC-228 |
| 23 | 1133.28 | 4.12393E-03 | 46.39 | | | |
| 24 | 1376.90 | 4.72222E-03 | 37.67 | | | |
| 26 | 1528.07 | 2.52525E-03 | 42.60 | | | |
| 27 | 1590.80 | 3.58092E-03 | 56.61 | Sum | | |
| 29 | 1846.16 | 2.50000E-03 | 50.92 | | | |
| 30 | 2087.45 | 3.33333E-03 | 28.87 | | | |
| 31 | 2231.52 | 1.38889E-03 | 44.72 | | | |
| 32 | 2324.63 | 3.05556E-03 | 30.15 | | | |

Analysis Report for 1510085-10
CP5007S16-17

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| K-40 | 0.98 | 1460.81 * | 10.67 | 1.78E+01 | 3.48E+00 |
| TL-208 | 0.88 | 583.14 * | 30.22 | 1.10E+00 | 4.91E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 9.95E-01 | 4.01E-01 |
| PB-210 | 0.95 | 46.50 * | 4.25 | 1.02E+00 | 9.93E-01 |
| PB-212 | 0.85 | 238.63 * | 44.60 | 1.86E+00 | 3.76E-01 |
| | | 300.09 | 3.41 | | |
| BI-214 | 0.90 | 609.31 * | 46.30 | 1.39E+00 | 3.35E-01 |
| | | 1120.29 * | 15.10 | 2.57E+00 | 1.48E+00 |
| | | 1764.49 * | 15.80 | 1.66E+00 | 9.04E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.97 | 295.21 * | 19.19 | 1.65E+00 | 6.14E-01 |
| | | 351.92 * | 37.19 | 1.55E+00 | 3.47E-01 |
| RA-226 | 0.99 | 186.21 * | 3.28 | 3.05E+00 | 6.19E+00 |
| PA-234 | 0.43 | 131.20 * | 20.40 | 2.71E-01 | 3.21E-01 |
| | | 733.99 | 8.80 | | |
| | | 946.00 | 12.00 | | |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-10

CP5007S16-17

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-----------------|-----------------------------|------------------------------------|------------------------------------|----------|
| K-40 | 0.983 | 1.78E+01 | 3.48E+00 | |
| TL-208 | 0.880 | 1.04E+00 | 3.10E-01 | |
| PB-210 | 0.953 | 1.02E+00 | 9.93E-01 | |
| PB-212 | 0.850 | 1.86E+00 | 3.76E-01 | |
| BI-214 | 0.908 | 1.47E+00 | 3.07E-01 | |
| PB-214 | 0.970 | 1.57E+00 | 3.02E-01 | |
| RA-226 | 0.996 | 3.05E+00 | 6.19E+00 | |
| PA-234 | 0.436 | 2.71E-01 | 3.21E-01 | |

- ? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-10
CP5007S16-17

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 8:11:52AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 2 | 76.09 | 2.09387E-01 | 10.24 | | |
| 6 | 270.00 | 1.00085E-02 | 60.27 | | |
| 7 | 287.61 | 1.87364E-02 | 31.53 | | |
| 9 | 340.53 | 2.14264E-02 | 41.73 | Tol. | CS-136 |
| 11 | 360.24 | 7.82490E-03 | 58.98 | | |
| 12 | 462.12 | 8.10652E-03 | 55.78 | | |
| 13 | 510.78 | 2.32055E-02 | 29.68 | | |
| 16 | 620.42 | 8.47042E-03 | 47.02 | | |
| 17 | 912.13 | 2.25530E-02 | 20.56 | Tol. | LU-172 |
| 18 | 935.23 | 1.32975E-02 | 21.61 | Sum | |
| 19 | 951.04 | 4.76010E-03 | 44.35 | S-Esc | |
| M 20 | 963.50 | 4.33151E-03 | 80.13 | Tol. | EU-152 |
| m 21 | 969.60 | 1.00695E-02 | 35.34 | Tol. | AC-228 |
| 23 | 1133.28 | 4.12393E-03 | 46.39 | | |
| 24 | 1376.90 | 4.72222E-03 | 37.67 | | |
| 26 | 1528.07 | 2.52525E-03 | 42.60 | | |
| 27 | 1590.80 | 3.58092E-03 | 56.61 | Sum | |
| 29 | 1846.16 | 2.50000E-03 | 50.92 | | |
| 30 | 2087.45 | 3.33333E-03 | 28.87 | | |
| 31 | 2231.52 | 1.38889E-03 | 44.72 | | |
| 32 | 2324.63 | 3.05556E-03 | 30.15 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510085-10
CP5007S16-17

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | BE-7 | 477.59 | 10.42 | -3.81E-01 | 1.86E+00 | 1.86E+00 |
| + | NA-22 | 1274.54 | 99.94 | 5.72E-02 | 2.24E-01 | 2.24E-01 |
| + | NA-24 | 1368.53 | 99.99 | 1.35E+13 | 4.91E+13 | 4.99E+13 |
| | | 2754.09 | 99.86 | 1.87E+13 | | 4.91E+13 |
| + | AL-26 | 1808.65 | 99.76 | 1.09E-02 | 1.63E-01 | 1.63E-01 |
| + | K-40 | 1460.81 | * 10.67 | 1.78E+01 | 2.84E+00 | 2.84E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | 1.17E-02 | 9.62E-02 | 9.62E-02 |
| | | 78.34 | 96.00 | 2.73E-01 | | 1.22E-01 |
| + | SC-46 | 889.25 | 99.98 | -3.49E-02 | 2.19E-01 | 2.19E-01 |
| | | 1120.51 | 99.99 | 4.50E-01 | | 3.91E-01 |
| + | V-48 | 983.52 | 99.98 | -1.06E-01 | 6.14E-01 | 6.14E-01 |
| | | 1312.10 | 97.50 | -4.20E-02 | | 7.14E-01 |
| + | CR-51 | 320.08 | 9.83 | 3.99E-01 | 2.46E+00 | 2.46E+00 |
| + | MN-54 | 834.83 | 99.97 | 2.66E-02 | 1.72E-01 | 1.72E-01 |
| + | CO-56 | 846.75 | 99.96 | -3.27E-03 | 2.17E-01 | 2.17E-01 |
| | | 1037.75 | 14.03 | -2.68E-02 | | 1.58E+00 |
| | | 1238.25 | 67.00 | 2.90E-01 | | 5.66E-01 |
| | | 1771.40 | 15.51 | -9.42E-02 | | 1.41E+00 |
| | | 2598.48 | 16.90 | 3.83E-01 | | 1.39E+00 |
| + | CO-57 | 122.06 | 85.51 | -1.65E-03 | 1.15E-01 | 1.15E-01 |
| | | 136.48 | 10.60 | 7.29E-03 | | 1.02E+00 |
| + | CO-58 | 810.76 | 99.40 | 4.22E-02 | 2.22E-01 | 2.22E-01 |
| + | FE-59 | 1099.22 | 56.50 | -5.72E-02 | 5.30E-01 | 5.30E-01 |
| | | 1291.56 | 43.20 | 1.96E-01 | | 7.61E-01 |
| + | CO-60 | 1173.22 | 100.00 | 4.06E-02 | 2.08E-01 | 2.30E-01 |
| | | 1332.49 | 100.00 | 5.96E-02 | | 2.08E-01 |
| + | ZN-65 | 1115.52 | 50.75 | -7.18E-03 | 5.10E-01 | 5.10E-01 |
| + | GA-67 | 93.31 | 35.70 | 1.67E+02 | 1.74E+02 | 1.74E+02 |
| | | 208.95 | 2.24 | 2.30E+03 | | 3.18E+03 |
| | | 300.22 | 16.00 | 5.48E+01 | | 4.91E+02 |
| + | SE-75 | 121.11 | 16.70 | 3.48E-02 | 2.00E-01 | 6.47E-01 |
| | | 136.00 | 59.20 | -4.78E-02 | | 2.00E-01 |
| | | 264.65 | 59.80 | -2.24E-02 | | 2.30E-01 |
| | | 279.53 | 25.20 | 9.93E-02 | | 5.50E-01 |
| | | 400.65 | 11.40 | 2.05E-01 | | 1.46E+00 |
| + | RB-82 | 776.52 | 13.00 | -2.95E-01 | 2.86E+00 | 2.86E+00 |
| + | RB-83 | 520.41 | 46.00 | -4.79E-02 | 3.81E-01 | 3.81E-01 |
| | | 529.64 | 30.30 | -2.15E-01 | | 5.48E-01 |
| | | 552.65 | 16.40 | -3.19E-01 | | 1.10E+00 |
| + | KR-85 | 513.99 | 0.43 | 5.31E+01 | 4.37E+01 | 4.37E+01 |
| + | SR-85 | 513.99 | 99.27 | 3.18E-01 | 2.62E-01 | 2.62E-01 |
| + | Y-88 | 898.02 | 93.40 | 6.27E-02 | 1.92E-01 | 2.36E-01 |
| | | 1836.01 | 99.38 | 4.84E-02 | | 1.92E-01 |
| + | NB-93M | 16.57 | 9.43 | 9.20E-01 | 4.68E-01 | 4.68E-01 |
| + | NB-94 | 702.63 | 100.00 | 7.59E-03 | 1.62E-01 | 1.62E-01 |
| | | 871.10 | 100.00 | 3.52E-03 | | 1.68E-01 |

Analysis Report for 1510085-10
CP5007S16-17

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | NB-95 | 765.79 | 99.81 | -4.41E-02 | 3.24E-01 | 3.24E-01 |
| + | NB-95M | 235.69 | 25.00 | 6.31E+02 | 2.42E+02 | 2.42E+02 |
| + | ZR-95 | 724.18 | 43.70 | 2.08E-01 | 4.02E-01 | 5.84E-01 |
| | | 756.72 | 55.30 | -6.13E-02 | | 4.02E-01 |
| + | MO-99 | 181.06 | 6.20 | 4.24E+02 | 2.38E+03 | 3.52E+03 |
| | | 739.58 | 12.80 | 5.56E+02 | | 2.38E+03 |
| | | 778.00 | 4.50 | 5.85E+02 | | 7.29E+03 |
| + | RU-103 | 497.08 | 89.00 | 5.05E-02 | 2.52E-01 | 2.52E-01 |
| + | RU-106 | 621.84 | 9.80 | -3.25E-01 | 1.55E+00 | 1.55E+00 |
| + | AG-108M | 433.93 | 89.90 | -4.33E-02 | 1.51E-01 | 1.51E-01 |
| | | 614.37 | 90.40 | -1.16E-01 | | 2.05E-01 |
| | | 722.95 | 90.50 | 6.99E-02 | | 2.05E-01 |
| + | CD-109 | 88.03 | 3.72 | 2.43E+00 | 3.04E+00 | 3.04E+00 |
| + | AG-110M | 657.75 | 93.14 | -5.62E-02 | 1.73E-01 | 1.73E-01 |
| | | 677.61 | 10.53 | -5.01E-01 | | 1.54E+00 |
| | | 706.67 | 16.46 | -3.73E-02 | | 1.07E+00 |
| | | 763.93 | 21.98 | 1.10E-01 | | 8.82E-01 |
| | | 884.67 | 71.63 | 4.34E-02 | | 2.71E-01 |
| | | 1384.27 | 23.94 | -9.68E-02 | | 7.33E-01 |
| + | CD-113M | 263.70 | 0.02 | -2.17E+02 | 4.86E+02 | 4.86E+02 |
| + | SN-113 | 255.12 | 1.93 | 3.86E+00 | 2.27E-01 | 7.07E+00 |
| | | 391.69 | 64.90 | -1.28E-01 | | 2.27E-01 |
| + | TE123M | 159.00 | 84.10 | 7.63E-02 | 1.55E-01 | 1.55E-01 |
| + | SB-124 | 602.71 | 97.87 | 4.50E-02 | 2.22E-01 | 2.22E-01 |
| | | 645.85 | 7.26 | 7.11E-01 | | 2.86E+00 |
| | | 722.78 | 11.10 | 6.61E-01 | | 2.28E+00 |
| | | 1691.02 | 49.00 | -9.79E-02 | | 3.21E-01 |
| + | I-125 | 35.49 | 6.49 | -2.07E-01 | 1.13E+00 | 1.13E+00 |
| + | SB-125 | 176.33 | 6.89 | -6.50E-01 | 4.80E-01 | 1.57E+00 |
| | | 427.89 | 29.33 | 4.69E-02 | | 4.80E-01 |
| | | 463.38 | 10.35 | 1.53E-01 | | 1.49E+00 |
| | | 600.56 | 17.80 | 1.27E-01 | | 8.57E-01 |
| | | 635.90 | 11.32 | -4.59E-01 | | 1.41E+00 |
| + | SB-126 | 414.70 | 83.30 | 2.63E-02 | 8.49E-01 | 8.62E-01 |
| | | 666.33 | 99.60 | -2.41E-01 | | 8.49E-01 |
| | | 695.00 | 99.60 | 1.79E-01 | | 8.79E-01 |
| | | 720.50 | 53.80 | -1.68E+00 | | 1.58E+00 |
| + | SN-126 | 87.57 | 37.00 | 2.33E-01 | 2.92E-01 | 2.92E-01 |
| + | SB-127 | 473.00 | 25.00 | -2.02E+01 | 1.04E+02 | 1.20E+02 |
| | | 685.20 | 35.70 | 3.13E+01 | | 1.04E+02 |
| | | 783.80 | 14.70 | 2.93E+01 | | 2.66E+02 |
| + | I-129 | 29.78 | 57.00 | -3.33E-02 | 9.01E-02 | 9.01E-02 |
| | | 33.60 | 13.20 | -3.66E-02 | | 3.90E-01 |
| | | 39.58 | 7.52 | -1.98E-01 | | 7.19E-01 |
| + | I-131 | 284.30 | 6.05 | -8.58E-01 | 1.95E+00 | 2.57E+01 |
| | | 364.48 | 81.20 | 2.18E-01 | | 1.95E+00 |
| | | 636.97 | 7.26 | 3.71E+00 | | 2.97E+01 |
| | | 722.89 | 1.80 | 3.83E+01 | | 1.32E+02 |

Analysis Report for 1510085-10

CP5007S16-17

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | TE-132 | 49.72 | 13.10 | -3.28E+01 | 7.80E+01 | 3.10E+02 |
| | | 228.16 | 88.00 | -1.05E+01 | | 7.80E+01 |
| + | BA-133 | 81.00 | 33.00 | -6.07E-02 | 3.10E-01 | 3.31E-01 |
| | | 302.84 | 17.80 | -5.02E-02 | | 7.07E-01 |
| | | 356.01 | 60.00 | 5.70E-01 | | 3.10E-01 |
| + | I-133 | 529.87 | 86.30 | -1.57E+09 | 3.98E+09 | 3.98E+09 |
| + | XE-133 | 81.00 | 38.00 | -2.77E+00 | 1.51E+01 | 1.51E+01 |
| + | CS-134 | 563.23 | 8.38 | -7.36E-01 | 1.97E-01 | 1.68E+00 |
| | | 569.32 | 15.43 | -1.18E-01 | | 9.33E-01 |
| | | 604.70 | 97.60 | -1.16E-02 | | 1.97E-01 |
| | | 795.84 | 85.40 | 6.84E-02 | | 2.02E-01 |
| | | 801.93 | 8.73 | -1.02E+00 | | 1.63E+00 |
| + | CS-135 | 268.24 | 16.00 | -7.25E-02 | 7.71E-01 | 7.71E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 3.23E+00 | 8.53E-01 | 7.09E+00 |
| | | 163.89 | 4.61 | -2.32E+00 | | 1.10E+01 |
| | | 176.55 | 13.56 | -1.57E+00 | | 3.81E+00 |
| | | 273.65 | 12.66 | 6.99E-01 | | 4.79E+00 |
| | | 340.57 | 48.50 | 5.76E-01 | | 1.37E+00 |
| | | 818.50 | 99.70 | 3.61E-01 | | 8.53E-01 |
| | | 1048.07 | 79.60 | 2.48E-01 | | 1.02E+00 |
| | | 1235.34 | 19.70 | -6.23E-01 | | 6.71E+00 |
| + | CS-137 | 661.65 | 85.12 | 1.15E-01 | 1.95E-01 | 1.95E-01 |
| + | LA-138 | 788.74 | 34.00 | -1.16E-01 | 2.21E-01 | 5.18E-01 |
| | | 1435.80 | 66.00 | -5.98E-02 | | 2.21E-01 |
| + | CE-139 | 165.85 | 80.35 | -9.65E-03 | 1.50E-01 | 1.50E-01 |
| + | BA-140 | 162.64 | 6.70 | -1.38E+00 | 3.02E+00 | 7.94E+00 |
| | | 304.84 | 4.50 | -1.41E+00 | | 1.39E+01 |
| | | 423.70 | 3.20 | -8.17E+00 | | 2.14E+01 |
| | | 437.55 | 2.00 | 6.95E+00 | | 3.54E+01 |
| | | 537.32 | 25.00 | 6.63E-01 | | 3.02E+00 |
| + | LA-140 | 328.77 | 20.50 | 1.05E+00 | 9.15E-01 | 3.09E+00 |
| | | 487.03 | 45.50 | 1.66E-01 | | 1.49E+00 |
| | | 815.85 | 23.50 | 6.14E-01 | | 3.78E+00 |
| | | 1596.49 | 95.49 | 1.70E-01 | | 9.15E-01 |
| + | CE-141 | 145.44 | 48.40 | -1.42E-01 | 4.02E-01 | 4.02E-01 |
| + | CE-143 | 57.36 | 11.80 | -2.26E+06 | 1.31E+06 | 2.35E+06 |
| | | 293.26 | 42.00 | 1.14E+06 | | 1.31E+06 |
| | | 664.55 | 5.20 | 3.26E+06 | | 1.17E+07 |
| + | CE-144 | 133.54 | 10.80 | -3.33E-01 | 9.92E-01 | 9.92E-01 |
| + | PM-144 | 476.78 | 42.00 | -6.77E-02 | 1.51E-01 | 3.29E-01 |
| | | 618.01 | 98.60 | -4.63E-02 | | 1.51E-01 |
| | | 696.49 | 99.49 | 4.74E-02 | | 1.77E-01 |
| + | PM-145 | 36.85 | 21.70 | -9.45E-02 | 1.32E-01 | 2.41E-01 |
| | | 37.36 | 39.70 | -4.55E-02 | | 1.32E-01 |
| | | 42.30 | 15.10 | -7.24E-02 | | 4.01E-01 |
| | | 72.40 | 2.31 | 9.65E+00 | | 4.96E+00 |

Analysis Report for 1510085-10
CP5007S16-17

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | PM-146 | 453.90 | 39.94 | -6.40E-02 | 3.17E-01 | 3.17E-01 |
| | | 735.90 | 14.01 | -5.30E-01 | | 1.10E+00 |
| | | 747.13 | 13.10 | -8.27E-02 | | 1.22E+00 |
| + | ND-147 | 91.11 | 28.90 | 6.34E+00 | 2.62E+00 | 2.62E+00 |
| | | 531.02 | 13.10 | -1.53E+00 | | 6.80E+00 |
| + | PM-149 | 285.90 | 3.10 | 2.09E+03 | 4.61E+04 | 4.61E+04 |
| + | EU-152 | 121.78 | 20.50 | -6.40E-03 | 4.47E-01 | 4.47E-01 |
| | | 244.69 | 5.40 | -1.39E-01 | | 2.62E+00 |
| | | 344.27 | 19.13 | -2.92E+00 | | 6.59E-01 |
| | | 778.89 | 9.20 | 1.50E-01 | | 1.87E+00 |
| | | 964.01 | 10.40 | -1.69E-01 | | 2.27E+00 |
| | | 1085.78 | 7.22 | 5.20E-02 | | 2.62E+00 |
| | | 1112.02 | 9.60 | 1.54E-01 | | 2.09E+00 |
| | | 1407.95 | 14.94 | -3.58E-01 | | 1.13E+00 |
| + | GD-153 | 97.43 | 31.30 | -3.20E-01 | 3.23E-01 | 3.23E-01 |
| | | 103.18 | 22.20 | 1.58E-01 | | 4.36E-01 |
| + | EU-154 | 123.07 | 40.50 | -1.63E-02 | 2.27E-01 | 2.27E-01 |
| | | 723.30 | 19.70 | 3.23E-01 | | 9.46E-01 |
| | | 873.19 | 11.50 | 8.85E-03 | | 1.50E+00 |
| | | 996.32 | 10.30 | -1.08E-01 | | 1.90E+00 |
| | | 1004.76 | 17.90 | 2.48E-01 | | 1.05E+00 |
| | | 1274.45 | 35.50 | 1.59E-01 | | 6.20E-01 |
| + | EU-155 | 86.50 | 30.90 | 2.75E-03 | 3.44E-01 | 3.44E-01 |
| | | 105.30 | 20.70 | 4.07E-02 | | 4.29E-01 |
| + | EU-156 | 811.77 | 10.40 | -2.21E+00 | 6.04E+00 | 6.04E+00 |
| | | 1153.47 | 7.20 | -7.11E-01 | | 1.13E+01 |
| | | 1230.71 | 8.90 | -5.20E+00 | | 1.07E+01 |
| + | HO-166M | 184.41 | 72.60 | 4.93E-03 | 1.73E-01 | 1.73E-01 |
| | | 280.45 | 29.60 | 6.75E-02 | | 3.91E-01 |
| | | 410.94 | 11.10 | -6.54E-01 | | 1.18E+00 |
| | | 711.69 | 54.10 | -2.05E-02 | | 2.99E-01 |
| + | TM-171 | 66.72 | 0.14 | 2.07E+01 | 6.65E+01 | 6.65E+01 |
| + | HF-172 | 81.75 | 4.52 | -8.81E-01 | 8.68E-01 | 2.31E+00 |
| | | 125.81 | 11.30 | -7.50E-02 | | 8.68E-01 |
| + | LU-172 | 181.53 | 20.60 | -1.44E+00 | 6.58E+00 | 1.29E+01 |
| | | 810.06 | 16.63 | 4.18E+00 | | 2.20E+01 |
| | | 912.12 | 15.25 | 6.13E+01 | | 3.90E+01 |
| | | 1093.66 | 62.50 | -2.03E-02 | | 6.58E+00 |
| + | LU-173 | 100.72 | 5.24 | -1.42E+00 | 6.14E-01 | 1.75E+00 |
| | | 272.11 | 21.20 | 4.16E-02 | | 6.14E-01 |
| + | HF-175 | 343.40 | 84.00 | -3.10E-01 | 2.06E-01 | 2.06E-01 |
| + | LU-176 | 88.34 | 13.30 | 1.18E+00 | 1.29E-01 | 8.25E-01 |
| | | 201.83 | 86.00 | 2.89E-02 | | 1.39E-01 |
| | | 306.78 | 94.00 | 3.26E-02 | | 1.29E-01 |
| + | TA-182 | 67.75 | 41.20 | 3.20E-02 | 2.64E-01 | 2.64E-01 |
| | | 1121.30 | 34.90 | 9.05E-01 | | 1.03E+00 |
| | | 1189.05 | 16.23 | 2.07E-01 | | 1.66E+00 |
| | | 1221.41 | 26.98 | 1.21E-01 | | 1.05E+00 |
| | | 1231.02 | 11.44 | -1.23E+00 | | 2.54E+00 |

Analysis Report for 1510085-10
CP5007S16-17

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | IR-192 | 308.46 | 29.68 | 1.18E-01 | 3.95E-01 | 5.33E-01 |
| | | 468.07 | 48.10 | 1.31E-01 | | 3.95E-01 |
| + | HG-203 | 279.19 | 77.30 | 4.25E-02 | 2.35E-01 | 2.35E-01 |
| + | BI-207 | 569.67 | 97.72 | -1.82E-02 | 1.44E-01 | 1.44E-01 |
| | | 1063.62 | 74.90 | 6.13E-02 | | 2.44E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.10E+00 | 2.39E-01 | 7.21E-01 |
| | | 860.37 | 4.48 | 1.88E+00 | | 4.07E+00 |
| | | 2614.66 | * 35.85 | 9.95E-01 | | 2.39E-01 |
| + | BI-210M | 262.00 | 45.00 | -1.54E-02 | 2.53E-01 | 2.53E-01 |
| | | 300.00 | 23.00 | 4.24E-01 | | 6.40E-01 |
| + | PB-210 | 46.50 | * 4.25 | 1.02E+00 | 1.62E+00 | 1.62E+00 |
| + | PB-211 | 404.84 | 2.90 | -2.39E-01 | 4.82E+00 | 4.82E+00 |
| | | 831.96 | 2.90 | 3.94E-01 | | 5.34E+00 |
| + | BI-212 | 727.17 | 11.80 | 1.05E+00 | 1.61E+00 | 1.61E+00 |
| | | 1620.62 | 2.75 | -5.14E-01 | | 6.11E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.86E+00 | 4.72E-01 | 4.72E-01 |
| | | 300.09 | 3.41 | 2.86E+00 | | 4.32E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.39E+00 | 3.78E-01 | 3.78E-01 |
| | | 1120.29 | * 15.10 | 2.57E+00 | | 2.27E+00 |
| | | 1764.49 | * 15.80 | 1.66E+00 | | 1.19E+00 |
| | | 2204.22 | 4.98 | -3.05E-01 | | 2.46E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.65E+00 | 3.90E-01 | 9.02E-01 |
| | | 351.92 | * 37.19 | 1.55E+00 | | 3.90E-01 |
| + | RN-219 | 401.80 | 6.50 | 7.27E-01 | 2.18E+00 | 2.18E+00 |
| + | RA-223 | 323.87 | 3.88 | 4.84E-03 | 3.09E+00 | 3.09E+00 |
| + | RA-224 | 240.98 | 3.95 | 2.00E+01 | 5.15E+00 | 5.15E+00 |
| + | RA-225 | 40.00 | 31.00 | -1.96E-01 | 7.13E-01 | 7.13E-01 |
| + | RA-226 | 186.21 | * 3.28 | 3.05E+00 | 4.35E+00 | 4.35E+00 |
| + | TH-227 | 50.10 | 8.40 | -8.68E-02 | 8.19E-01 | 8.19E-01 |
| | | 236.00 | 11.50 | 4.33E+00 | | 1.66E+00 |
| | | 256.20 | 6.30 | 9.17E-02 | | 1.78E+00 |
| + | AC-228 | 338.32 | 11.40 | 5.37E-01 | 9.54E-01 | 1.21E+00 |
| | | 911.07 | 27.70 | 1.26E+00 | | 9.54E-01 |
| | | 969.11 | 16.60 | 6.39E-01 | | 1.43E+00 |
| + | TH-230 | 48.44 | 16.90 | -4.71E-02 | 4.03E-01 | 4.03E-01 |
| | | 62.85 | 4.60 | 1.34E+00 | | 1.87E+00 |
| | | 67.67 | 0.37 | 2.97E+00 | | 2.45E+01 |
| + | PA-231 | 283.67 | 1.60 | 7.27E-01 | 5.44E+00 | 7.38E+00 |
| | | 302.67 | 2.30 | -3.86E-01 | | 5.44E+00 |
| + | TH-231 | 25.64 | 14.70 | 3.92E-02 | 3.53E-01 | 3.53E-01 |
| | | 84.21 | 6.40 | 6.46E-01 | | 1.55E+00 |
| + | PA-233 | 311.98 | 38.60 | 1.11E-01 | 6.56E-01 | 6.56E-01 |
| + | PA-234 | 131.20 | * 20.40 | 2.71E-01 | 5.26E-01 | 5.26E-01 |
| | | 733.99 | 8.80 | 9.37E-02 | | 1.88E+00 |
| | | 946.00 | 12.00 | 7.92E-03 | | 1.43E+00 |
| + | PA-234M | 1001.03 | 0.92 | 3.67E+00 | 2.08E+01 | 2.08E+01 |
| + | TH-234 | 63.29 | 3.80 | 1.28E+00 | 2.28E+00 | 2.28E+00 |

Analysis Report for 1510085-10
CP5007S16-17

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | U-235 | 143.76 | 10.50 | 4.31E-01 | 9.95E-01 | 9.95E-01 |
| | | 163.35 | 4.70 | -4.68E-01 | | 2.21E+00 |
| | | 205.31 | 4.70 | 1.16E+00 | | 2.61E+00 |
| + | NP-237 | 86.50 | 12.60 | 6.67E-03 | 8.34E-01 | 8.34E-01 |
| + | NP-239 | 106.10 | 22.70 | 2.52E+02 | 2.66E+03 | 2.66E+03 |
| | | 228.18 | 10.70 | -3.52E+03 | | 7.32E+03 |
| | | 277.60 | 14.10 | 3.76E+03 | | 5.86E+03 |
| + | AM-241 | 59.54 | 35.90 | 5.74E-02 | 2.24E-01 | 2.24E-01 |
| + | AM-243 | 74.67 | 66.00 | 7.05E-01 | 1.84E-01 | 1.84E-01 |
| + | CM-243 | 209.75 | 3.29 | 4.00E-01 | 8.65E-01 | 3.57E+00 |
| | | 228.14 | 10.60 | -1.48E-01 | | 1.10E+00 |
| | | 277.60 | 14.00 | 5.55E-01 | | 8.65E-01 |

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction
- ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| | BE-7 | 477.59 | 10.42 | 1.86E+00 | 1.86E+00 | -3.81E-01 | 8.78E-01 |
| | NA-22 | 1274.54 | 99.94 | 2.24E-01 | 2.24E-01 | 5.72E-02 | 1.02E-01 |
| | NA-24 | 1368.53 | 99.99 | 4.99E+13 | 4.91E+13 | 1.35E+13 | 2.20E+13 |
| | | 2754.09 | 99.86 | 4.91E+13 | | 1.87E+13 | 1.95E+13 |
| | AL-26 | 1808.65 | 99.76 | 1.63E-01 | 1.63E-01 | 1.09E-02 | 6.84E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.84E+00 | 2.84E+00 | 1.78E+01 | 1.32E+00 |
| @ | AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| | TI-44 | 67.88 | 94.40 | 9.62E-02 | 9.62E-02 | 1.17E-02 | 4.72E-02 |
| | | 78.34 | 96.00 | 1.22E-01 | | 2.73E-01 | 6.02E-02 |
| | SC-46 | 889.25 | 99.98 | 2.19E-01 | 2.19E-01 | -3.49E-02 | 1.01E-01 |

Analysis Report for 1510085-10
CP5007S16-17

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| SC-46 | 1120.51 | 99.99 | 3.91E-01 | 2.19E-01 | 4.50E-01 | 1.85E-01 |
| V-48 | 983.52 | 99.98 | 6.14E-01 | 6.14E-01 | -1.06E-01 | 2.79E-01 |
| | 1312.10 | 97.50 | 7.14E-01 | | -4.20E-02 | 3.19E-01 |
| CR-51 | 320.08 | 9.83 | 2.46E+00 | 2.46E+00 | 3.99E-01 | 1.17E+00 |
| MN-54 | 834.83 | 99.97 | 1.72E-01 | 1.72E-01 | 2.66E-02 | 7.89E-02 |
| CO-56 | 846.75 | 99.96 | 2.17E-01 | 2.17E-01 | -3.27E-03 | 9.97E-02 |
| | 1037.75 | 14.03 | 1.58E+00 | | -2.68E-02 | 7.18E-01 |
| | 1238.25 | 67.00 | 5.66E-01 | | 2.90E-01 | 2.64E-01 |
| | 1771.40 | 15.51 | 1.41E+00 | | -9.42E-02 | 5.94E-01 |
| | 2598.48 | 16.90 | 1.39E+00 | | 3.83E-01 | 5.61E-01 |
| CO-57 | 122.06 | 85.51 | 1.15E-01 | 1.15E-01 | -1.65E-03 | 5.62E-02 |
| | 136.48 | 10.60 | 1.02E+00 | | 7.29E-03 | 4.97E-01 |
| CO-58 | 810.76 | 99.40 | 2.22E-01 | 2.22E-01 | 4.22E-02 | 1.02E-01 |
| FE-59 | 1099.22 | 56.50 | 5.30E-01 | 5.30E-01 | -5.72E-02 | 2.41E-01 |
| | 1291.56 | 43.20 | 7.61E-01 | | 1.96E-01 | 3.44E-01 |
| CO-60 | 1173.22 | 100.00 | 2.30E-01 | 2.08E-01 | 4.06E-02 | 1.06E-01 |
| | 1332.49 | 100.00 | 2.08E-01 | | 5.96E-02 | 9.36E-02 |
| ZN-65 | 1115.52 | 50.75 | 5.10E-01 | 5.10E-01 | -7.18E-03 | 2.37E-01 |
| GA-67 | 93.31 | 35.70 | 1.74E+02 | 1.74E+02 | 1.67E+02 | 8.54E+01 |
| | 208.95 | 2.24 | 3.18E+03 | | 2.30E+03 | 1.55E+03 |
| | 300.22 | 16.00 | 4.91E+02 | | 5.48E+01 | 2.37E+02 |
| SE-75 | 121.11 | 16.70 | 6.47E-01 | 2.00E-01 | 3.48E-02 | 3.15E-01 |
| | 136.00 | 59.20 | 2.00E-01 | | -4.78E-02 | 9.74E-02 |
| | 264.65 | 59.80 | 2.30E-01 | | -2.24E-02 | 1.11E-01 |
| | 279.53 | 25.20 | 5.50E-01 | | 9.93E-02 | 2.64E-01 |
| | 400.65 | 11.40 | 1.46E+00 | | 2.05E-01 | 6.98E-01 |
| RB-82 | 776.52 | 13.00 | 2.86E+00 | 2.86E+00 | -2.95E-01 | 1.33E+00 |
| RB-83 | 520.41 | 46.00 | 3.81E-01 | 3.81E-01 | -4.79E-02 | 1.79E-01 |
| | 529.64 | 30.30 | 5.48E-01 | | -2.15E-01 | 2.56E-01 |
| | 552.65 | 16.40 | 1.10E+00 | | -3.19E-01 | 5.14E-01 |
| KR-85 | 513.99 | 0.43 | 4.37E+01 | 4.37E+01 | 5.31E+01 | 2.09E+01 |
| SR-85 | 513.99 | 99.27 | 2.62E-01 | 2.62E-01 | 3.18E-01 | 1.25E-01 |
| Y-88 | 898.02 | 93.40 | 2.36E-01 | 1.92E-01 | 6.27E-02 | 1.09E-01 |
| | 1836.01 | 99.38 | 1.92E-01 | | 4.84E-02 | 7.97E-02 |
| NB-93M | 16.57 | 9.43 | 4.68E-01 | 4.68E-01 | 9.20E-01 | 2.27E-01 |
| NB-94 | 702.63 | 100.00 | 1.62E-01 | 1.62E-01 | 7.59E-03 | 7.54E-02 |
| | 871.10 | 100.00 | 1.68E-01 | | 3.52E-03 | 7.69E-02 |
| NB-95 | 765.79 | 99.81 | 3.24E-01 | 3.24E-01 | -4.41E-02 | 1.51E-01 |
| NB-95M | 235.69 | 25.00 | 2.42E+02 | 2.42E+02 | 6.31E+02 | 1.19E+02 |
| ZR-95 | 724.18 | 43.70 | 5.84E-01 | 4.02E-01 | 2.08E-01 | 2.74E-01 |
| | 756.72 | 55.30 | 4.02E-01 | | -6.13E-02 | 1.86E-01 |
| MO-99 | 181.06 | 6.20 | 3.52E+03 | 2.38E+03 | 4.24E+02 | 1.71E+03 |
| | 739.58 | 12.80 | 2.38E+03 | | 5.56E+02 | 1.10E+03 |
| | 778.00 | 4.50 | 7.29E+03 | | 5.85E+02 | 3.38E+03 |
| RU-103 | 497.08 | 89.00 | 2.52E-01 | 2.52E-01 | 5.05E-02 | 1.19E-01 |
| RU-106 | 621.84 | 9.80 | 1.55E+00 | 1.55E+00 | -3.25E-01 | 7.22E-01 |
| AG-108M | 433.93 | 89.90 | 1.51E-01 | 1.51E-01 | -4.33E-02 | 7.18E-02 |
| | 614.37 | 90.40 | 2.05E-01 | | -1.16E-01 | 9.71E-02 |
| | 722.95 | 90.50 | 2.05E-01 | | 6.99E-02 | 9.60E-02 |
| CD-109 | 88.03 | 3.72 | 3.04E+00 | 3.04E+00 | 2.43E+00 | 1.49E+00 |
| AG-110M | 657.75 | 93.14 | 1.73E-01 | 1.73E-01 | -5.62E-02 | 8.05E-02 |
| | 677.61 | 10.53 | 1.54E+00 | | -5.01E-01 | 7.15E-01 |
| | 706.67 | 16.46 | 1.07E+00 | | -3.73E-02 | 4.97E-01 |

Analysis Report for 1510085-10
CP5007S16-17

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| AG-110M | 763.93 | 21.98 | 8.82E-01 | 1.73E-01 | 1.10E-01 | 4.11E-01 |
| | 884.67 | 71.63 | 2.71E-01 | | 4.34E-02 | 1.25E-01 |
| | 1384.27 | 23.94 | 7.33E-01 | | -9.68E-02 | 3.19E-01 |
| CD-113M | 263.70 | 0.02 | 4.86E+02 | 4.86E+02 | -2.17E+02 | 2.34E+02 |
| SN-113 | 255.12 | 1.93 | 7.07E+00 | 2.27E-01 | 3.86E+00 | 3.41E+00 |
| | 391.69 | 64.90 | 2.27E-01 | | -1.28E-01 | 1.08E-01 |
| TE123M | 159.00 | 84.10 | 1.55E-01 | 1.55E-01 | 7.63E-02 | 7.54E-02 |
| SB-124 | 602.71 | 97.87 | 2.22E-01 | 2.22E-01 | 4.50E-02 | 1.04E-01 |
| | 645.85 | 7.26 | 2.86E+00 | | 7.11E-01 | 1.33E+00 |
| | 722.78 | 11.10 | 2.28E+00 | | 6.61E-01 | 1.07E+00 |
| | 1691.02 | 49.00 | 3.21E-01 | | -9.79E-02 | 1.24E-01 |
| I-125 | 35.49 | 6.49 | 1.13E+00 | 1.13E+00 | -2.07E-01 | 5.50E-01 |
| SB-125 | 176.33 | 6.89 | 1.57E+00 | 4.80E-01 | -6.50E-01 | 7.64E-01 |
| | 427.89 | 29.33 | 4.80E-01 | | 4.69E-02 | 2.28E-01 |
| | 463.38 | 10.35 | 1.49E+00 | | 1.53E-01 | 7.07E-01 |
| | 600.56 | 17.80 | 8.57E-01 | | 1.27E-01 | 4.02E-01 |
| | 635.90 | 11.32 | 1.41E+00 | | -4.59E-01 | 6.59E-01 |
| SB-126 | 414.70 | 83.30 | 8.62E-01 | 8.49E-01 | 2.63E-02 | 4.10E-01 |
| | 666.33 | 99.60 | 8.49E-01 | | -2.41E-01 | 3.97E-01 |
| | 695.00 | 99.60 | 8.79E-01 | | 1.79E-01 | 4.10E-01 |
| | 720.50 | 53.80 | 1.58E+00 | | -1.68E+00 | 7.31E-01 |
| SN-126 | 87.57 | 37.00 | 2.92E-01 | 2.92E-01 | 2.33E-01 | 1.43E-01 |
| SB-127 | 473.00 | 25.00 | 1.20E+02 | 1.04E+02 | -2.02E+01 | 5.68E+01 |
| | 685.20 | 35.70 | 1.04E+02 | | 3.13E+01 | 4.85E+01 |
| | 783.80 | 14.70 | 2.66E+02 | | 2.93E+01 | 1.24E+02 |
| I-129 | 29.78 | 57.00 | 9.01E-02 | 9.01E-02 | -3.33E-02 | 4.39E-02 |
| | 33.60 | 13.20 | 3.90E-01 | | -3.66E-02 | 1.90E-01 |
| | 39.58 | 7.52 | 7.19E-01 | | -1.98E-01 | 3.51E-01 |
| I-131 | 284.30 | 6.05 | 2.57E+01 | 1.95E+00 | -8.58E-01 | 1.23E+01 |
| | 364.48 | 81.20 | 1.95E+00 | | 2.18E-01 | 9.30E-01 |
| | 636.97 | 7.26 | 2.97E+01 | | 3.71E+00 | 1.39E+01 |
| | 722.89 | 1.80 | 1.32E+02 | | 3.83E+01 | 6.20E+01 |
| TE-132 | 49.72 | 13.10 | 3.10E+02 | 7.80E+01 | -3.28E+01 | 1.52E+02 |
| | 228.16 | 88.00 | 7.80E+01 | | -1.05E+01 | 3.77E+01 |
| BA-133 | 81.00 | 33.00 | 3.31E-01 | 3.10E-01 | -6.07E-02 | 1.63E-01 |
| | 302.84 | 17.80 | 7.07E-01 | | -5.02E-02 | 3.39E-01 |
| | 356.01 | 60.00 | 3.10E-01 | | 5.70E-01 | 1.50E-01 |
| I-133 | 529.87 | 86.30 | 3.98E+09 | 3.98E+09 | -1.57E+09 | 1.86E+09 |
| XE-133 | 81.00 | 38.00 | 1.51E+01 | 1.51E+01 | -2.77E+00 | 7.42E+00 |
| CS-134 | 563.23 | 8.38 | 1.68E+00 | 1.97E-01 | -7.36E-01 | 7.84E-01 |
| | 569.32 | 15.43 | 9.33E-01 | | -1.18E-01 | 4.36E-01 |
| | 604.70 | 97.60 | 1.97E-01 | | -1.16E-02 | 9.34E-02 |
| | 795.84 | 85.40 | 2.02E-01 | | 6.84E-02 | 9.32E-02 |
| | 801.93 | 8.73 | 1.63E+00 | | -1.02E+00 | 7.43E-01 |
| CS-135 | 268.24 | 16.00 | 7.71E-01 | 7.71E-01 | -7.25E-02 | 3.72E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 7.09E+00 | 8.53E-01 | 3.23E+00 | 3.46E+00 |
| | 163.89 | 4.61 | 1.10E+01 | | -2.32E+00 | 5.34E+00 |
| | 176.55 | 13.56 | 3.81E+00 | | -1.57E+00 | 1.85E+00 |
| | 273.65 | 12.66 | 4.79E+00 | | 6.99E-01 | 2.31E+00 |
| | 340.57 | 48.50 | 1.37E+00 | | 5.76E-01 | 6.60E-01 |

Analysis Report for 1510085-10

CP5007S16-17

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CS-136 | 818.50 | 99.70 | 8.53E-01 | 8.53E-01 | 3.61E-01 | 3.95E-01 |
| | 1048.07 | 79.60 | 1.02E+00 | | 2.48E-01 | 4.60E-01 |
| | 1235.34 | 19.70 | 6.71E+00 | | -6.23E-01 | 3.12E+00 |
| CS-137 | 661.65 | 85.12 | 1.95E-01 | 1.95E-01 | 1.15E-01 | 9.13E-02 |
| LA-138 | 788.74 | 34.00 | 5.18E-01 | 2.21E-01 | -1.16E-01 | 2.41E-01 |
| | 1435.80 | 66.00 | 2.21E-01 | | -5.98E-02 | 9.40E-02 |
| CE-139 | 165.85 | 80.35 | 1.50E-01 | 1.50E-01 | -9.65E-03 | 7.29E-02 |
| BA-140 | 162.64 | 6.70 | 7.94E+00 | 3.02E+00 | -1.38E+00 | 3.86E+00 |
| | 304.84 | 4.50 | 1.39E+01 | | -1.41E+00 | 6.70E+00 |
| | 423.70 | 3.20 | 2.14E+01 | | -8.17E+00 | 1.02E+01 |
| | 437.55 | 2.00 | 3.54E+01 | | 6.95E+00 | 1.68E+01 |
| | 537.32 | 25.00 | 3.02E+00 | | 6.63E-01 | 1.42E+00 |
| LA-140 | 328.77 | 20.50 | 3.09E+00 | 9.15E-01 | 1.05E+00 | 1.48E+00 |
| | 487.03 | 45.50 | 1.49E+00 | | 1.66E-01 | 7.02E-01 |
| | 815.85 | 23.50 | 3.78E+00 | | 6.14E-01 | 1.75E+00 |
| | 1596.49 | 95.49 | 9.15E-01 | | 1.70E-01 | 3.94E-01 |
| CE-141 | 145.44 | 48.40 | 4.02E-01 | 4.02E-01 | -1.42E-01 | 1.96E-01 |
| CE-143 | 57.36 | 11.80 | 2.35E+06 | 1.31E+06 | -2.26E+06 | 1.15E+06 |
| | 293.26 | 42.00 | 1.31E+06 | | 1.14E+06 | 6.36E+05 |
| | 664.55 | 5.20 | 1.17E+07 | | 3.26E+06 | 5.47E+06 |
| CE-144 | 133.54 | 10.80 | 9.92E-01 | 9.92E-01 | -3.33E-01 | 4.84E-01 |
| PM-144 | 476.78 | 42.00 | 3.29E-01 | 1.51E-01 | -6.77E-02 | 1.55E-01 |
| | 618.01 | 98.60 | 1.51E-01 | | -4.63E-02 | 7.02E-02 |
| | 696.49 | 99.49 | 1.77E-01 | | 4.74E-02 | 8.27E-02 |
| PM-145 | 36.85 | 21.70 | 2.41E-01 | 1.32E-01 | -9.45E-02 | 1.17E-01 |
| | 37.36 | 39.70 | 1.32E-01 | | -4.55E-02 | 6.44E-02 |
| | 42.30 | 15.10 | 4.01E-01 | | -7.24E-02 | 1.96E-01 |
| | 72.40 | 2.31 | 4.96E+00 | | 9.65E+00 | 2.44E+00 |
| PM-146 | 453.90 | 39.94 | 3.17E-01 | 3.17E-01 | -6.40E-02 | 1.49E-01 |
| | 735.90 | 14.01 | 1.10E+00 | | -5.30E-01 | 5.07E-01 |
| | 747.13 | 13.10 | 1.22E+00 | | -8.27E-02 | 5.67E-01 |
| ND-147 | 91.11 | 28.90 | 2.62E+00 | 2.62E+00 | 6.34E+00 | 1.29E+00 |
| | 531.02 | 13.10 | 6.80E+00 | | -1.53E+00 | 3.19E+00 |
| PM-149 | 285.90 | 3.10 | 4.61E+04 | 4.61E+04 | 2.09E+03 | 2.21E+04 |
| EU-152 | 121.78 | 20.50 | 4.47E-01 | 4.47E-01 | -6.40E-03 | 2.18E-01 |
| | 244.69 | 5.40 | 2.62E+00 | | -1.39E-01 | 1.27E+00 |
| | 344.27 | 19.13 | 6.59E-01 | | -2.92E+00 | 3.15E-01 |
| | 778.89 | 9.20 | 1.87E+00 | | 1.50E-01 | 8.67E-01 |
| | 964.01 | 10.40 | 2.27E+00 | | -1.69E-01 | 1.06E+00 |
| | 1085.78 | 7.22 | 2.62E+00 | | 5.20E-02 | 1.19E+00 |
| | 1112.02 | 9.60 | 2.09E+00 | | 1.54E-01 | 9.56E-01 |
| | 1407.95 | 14.94 | 1.13E+00 | | -3.58E-01 | 4.94E-01 |
| GD-153 | 97.43 | 31.30 | 3.23E-01 | 3.23E-01 | -3.20E-01 | 1.58E-01 |
| | 103.18 | 22.20 | 4.36E-01 | | 1.58E-01 | 2.13E-01 |
| EU-154 | 123.07 | 40.50 | 2.27E-01 | 2.27E-01 | -1.63E-02 | 1.11E-01 |
| | 723.30 | 19.70 | 9.46E-01 | | 3.23E-01 | 4.44E-01 |
| | 873.19 | 11.50 | 1.50E+00 | | 8.85E-03 | 6.90E-01 |
| | 996.32 | 10.30 | 1.90E+00 | | -1.08E-01 | 8.76E-01 |
| | 1004.76 | 17.90 | 1.05E+00 | | 2.48E-01 | 4.79E-01 |
| | 1274.45 | 35.50 | 6.20E-01 | | 1.59E-01 | 2.82E-01 |
| EU-155 | 86.50 | 30.90 | 3.44E-01 | 3.44E-01 | 2.75E-03 | 1.69E-01 |
| | 105.30 | 20.70 | 4.29E-01 | | 4.07E-02 | 2.09E-01 |
| EU-156 | 811.77 | 10.40 | 6.04E+00 | 6.04E+00 | -2.21E+00 | 2.78E+00 |

Analysis Report for 1510085-10
CP5007S16-17

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| EU-156 | 1153.47 | 7.20 | 1.13E+01 | 6.04E+00 | -7.11E-01 | 5.16E+00 |
| | 1230.71 | 8.90 | 1.07E+01 | | -5.20E+00 | 4.93E+00 |
| HO-166M | 184.41 | 72.60 | 1.73E-01 | 1.73E-01 | 4.93E-03 | 8.45E-02 |
| | 280.45 | 29.60 | 3.91E-01 | | 6.75E-02 | 1.88E-01 |
| | 410.94 | 11.10 | 1.18E+00 | | -6.54E-01 | 5.61E-01 |
| | 711.69 | 54.10 | 2.99E-01 | | -2.05E-02 | 1.39E-01 |
| TM-171 | 66.72 | 0.14 | 6.65E+01 | 6.65E+01 | 2.07E+01 | 3.27E+01 |
| HF-172 | 81.75 | 4.52 | 2.31E+00 | 8.68E-01 | -8.81E-01 | 1.13E+00 |
| | 125.81 | 11.30 | 8.68E-01 | | -7.50E-02 | 4.23E-01 |
| LU-172 | 181.53 | 20.60 | 1.29E+01 | 6.58E+00 | -1.44E+00 | 6.27E+00 |
| | 810.06 | 16.63 | 2.20E+01 | | 4.18E+00 | 1.01E+01 |
| | 912.12 | 15.25 | 3.90E+01 | | 6.13E+01 | 1.85E+01 |
| | 1093.66 | 62.50 | 6.58E+00 | | -2.03E-02 | 2.99E+00 |
| LU-173 | 100.72 | 5.24 | 1.75E+00 | 6.14E-01 | -1.42E+00 | 8.57E-01 |
| | 272.11 | 21.20 | 6.14E-01 | | 4.16E-02 | 2.96E-01 |
| HF-175 | 343.40 | 84.00 | 2.06E-01 | 2.06E-01 | -3.10E-01 | 9.85E-02 |
| LU-176 | 88.34 | 13.30 | 8.25E-01 | 1.29E-01 | 1.18E+00 | 4.05E-01 |
| | 201.83 | 86.00 | 1.39E-01 | | 2.89E-02 | 6.75E-02 |
| | 306.78 | 94.00 | 1.29E-01 | | 3.26E-02 | 6.18E-02 |
| TA-182 | 67.75 | 41.20 | 2.64E-01 | 2.64E-01 | 3.20E-02 | 1.29E-01 |
| | 1121.30 | 34.90 | 1.03E+00 | | 9.05E-01 | 4.84E-01 |
| | 1189.05 | 16.23 | 1.66E+00 | | 2.07E-01 | 7.64E-01 |
| | 1221.41 | 26.98 | 1.05E+00 | | 1.21E-01 | 4.82E-01 |
| | 1231.02 | 11.44 | 2.54E+00 | | -1.23E+00 | 1.17E+00 |
| IR-192 | 308.46 | 29.68 | 5.33E-01 | 3.95E-01 | 1.18E-01 | 2.56E-01 |
| | 468.07 | 48.10 | 3.95E-01 | | 1.31E-01 | 1.87E-01 |
| HG-203 | 279.19 | 77.30 | 2.35E-01 | 2.35E-01 | 4.25E-02 | 1.13E-01 |
| BI-207 | 569.67 | 97.72 | 1.44E-01 | 1.44E-01 | -1.82E-02 | 6.72E-02 |
| | 1063.62 | 74.90 | 2.44E-01 | | 6.13E-02 | 1.11E-01 |
| | 583.14 | * 30.22 | 7.21E-01 | 2.39E-01 | 1.10E+00 | 3.45E-01 |
| TL-208 | 860.37 | * 4.48 | 4.07E+00 | | 1.88E+00 | 1.88E+00 |
| | 2614.66 | * 35.85 | 2.39E-01 | | 9.95E-01 | 7.13E-02 |
| | 262.00 | 45.00 | 2.53E-01 | 2.53E-01 | -1.54E-02 | 1.22E-01 |
| BI-210M | 300.00 | 23.00 | 6.40E-01 | | 4.24E-01 | 3.09E-01 |
| | 46.50 | * 4.25 | 1.62E+00 | 1.62E+00 | 1.02E+00 | 7.94E-01 |
| PB-210 | 404.84 | 2.90 | 4.82E+00 | 4.82E+00 | -2.39E-01 | 2.30E+00 |
| | 831.96 | 2.90 | 5.34E+00 | | 3.94E-01 | 2.45E+00 |
| BI-212 | 727.17 | 11.80 | 1.61E+00 | 1.61E+00 | 1.05E+00 | 7.54E-01 |
| | 1620.62 | 2.75 | 6.11E+00 | | -5.14E-01 | 2.62E+00 |
| PB-212 | 238.63 | * 44.60 | 4.72E-01 | 4.72E-01 | 1.86E+00 | 2.32E-01 |
| | 300.09 | 3.41 | 4.32E+00 | | 2.86E+00 | 2.09E+00 |
| BI-214 | 609.31 | * 46.30 | 3.78E-01 | 3.78E-01 | 1.39E+00 | 1.78E-01 |
| | 1120.29 | * 15.10 | 2.27E+00 | | 2.57E+00 | 1.08E+00 |
| | 1764.49 | * 15.80 | 1.19E+00 | | 1.66E+00 | 5.15E-01 |
| | 2204.22 | 4.98 | 2.46E+00 | | -3.05E-01 | 9.22E-01 |
| PB-214 | 295.21 | * 19.19 | 9.02E-01 | 3.90E-01 | 1.65E+00 | 4.38E-01 |
| | 351.92 | * 37.19 | 3.90E-01 | | 1.55E+00 | 1.87E-01 |
| RN-219 | 401.80 | 6.50 | 2.18E+00 | 2.18E+00 | 7.27E-01 | 1.04E+00 |
| RA-223 | 323.87 | 3.88 | 3.09E+00 | 3.09E+00 | 4.84E-03 | 1.48E+00 |
| RA-224 | 240.98 | 3.95 | 5.15E+00 | 5.15E+00 | 2.00E+01 | 2.52E+00 |
| RA-225 | 40.00 | 31.00 | 7.13E-01 | 7.13E-01 | -1.96E-01 | 3.48E-01 |
| RA-226 | 186.21 | * 3.28 | 4.35E+00 | 4.35E+00 | 3.05E+00 | 2.13E+00 |
| | 50.10 | 8.40 | 8.19E-01 | 8.19E-01 | -8.68E-02 | 4.01E-01 |
| TH-227 | | | | | | |

Analysis Report for 1510085-10
CP5007S16-17

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| TH-227 | 236.00 | 11.50 | 1.66E+00 | 8.19E-01 | 4.33E+00 | 8.12E-01 |
| | 256.20 | 6.30 | 1.78E+00 | | 9.17E-02 | 8.57E-01 |
| AC-228 | 338.32 | 11.40 | 1.21E+00 | 9.54E-01 | 5.37E-01 | 5.80E-01 |
| | 911.07 | 27.70 | 9.54E-01 | | 1.26E+00 | 4.51E-01 |
| | 969.11 | 16.60 | 1.43E+00 | | 6.39E-01 | 6.69E-01 |
| TH-230 | 48.44 | 16.90 | 4.03E-01 | 4.03E-01 | -4.71E-02 | 1.97E-01 |
| | 62.85 | 4.60 | 1.87E+00 | | 1.34E+00 | 9.15E-01 |
| | 67.67 | 0.37 | 2.45E+01 | | 2.97E+00 | 1.20E+01 |
| PA-231 | 283.67 | 1.60 | 7.38E+00 | 5.44E+00 | 7.27E-01 | 3.55E+00 |
| | 302.67 | 2.30 | 5.44E+00 | | -3.86E-01 | 2.61E+00 |
| TH-231 | 25.64 | 14.70 | 3.53E-01 | 3.53E-01 | 3.92E-02 | 1.72E-01 |
| | 84.21 | 6.40 | 1.55E+00 | | 6.46E-01 | 7.58E-01 |
| PA-233 | 311.98 | 38.60 | 6.56E-01 | 6.56E-01 | 1.11E-01 | 3.14E-01 |
| + PA-234 | 131.20 | * 20.40 | 5.26E-01 | 5.26E-01 | 2.71E-01 | 2.57E-01 |
| | 733.99 | 8.80 | 1.88E+00 | | 9.37E-02 | 8.73E-01 |
| | 946.00 | 12.00 | 1.43E+00 | | 7.92E-03 | 6.53E-01 |
| PA-234M | 1001.03 | 0.92 | 2.08E+01 | 2.08E+01 | 3.67E+00 | 9.56E+00 |
| TH-234 | 63.29 | 3.80 | 2.28E+00 | 2.28E+00 | 1.28E+00 | 1.12E+00 |
| U-235 | 143.76 | 10.50 | 9.95E-01 | 9.95E-01 | 4.31E-01 | 4.85E-01 |
| | 163.35 | 4.70 | 2.21E+00 | | -4.68E-01 | 1.08E+00 |
| | 205.31 | 4.70 | 2.61E+00 | | 1.16E+00 | 1.27E+00 |
| NP-237 | 86.50 | 12.60 | 8.34E-01 | 8.34E-01 | 6.67E-03 | 4.10E-01 |
| NP-239 | 106.10 | 22.70 | 2.66E+03 | 2.66E+03 | 2.52E+02 | 1.30E+03 |
| | 228.18 | 10.70 | 7.32E+03 | | -3.52E+03 | 3.54E+03 |
| | 277.60 | 14.10 | 5.86E+03 | | 3.76E+03 | 2.82E+03 |
| AM-241 | 59.54 | 35.90 | 2.24E-01 | 2.24E-01 | 5.74E-02 | 1.10E-01 |
| AM-243 | 74.67 | 66.00 | 1.84E-01 | 1.84E-01 | 7.05E-01 | 9.05E-02 |
| CM-243 | 209.75 | 3.29 | 3.57E+00 | 8.65E-01 | 4.00E-01 | 1.73E+00 |
| | 228.14 | 10.60 | 1.10E+00 | | -1.48E-01 | 5.31E-01 |
| | 277.60 | 14.00 | 8.65E-01 | | 5.55E-01 | 4.16E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

Creation Date

Comment

User

Analysis Report for 1510085-10
CP5007S16-17

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5007S16-17

Elapsed Live time: 3600
 Elapsed Real Time: 3641

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 103 |
| 17: | 88 | 73 | 77 | 55 | 55 | 68 | 74 | 60 | 60 |
| 25: | 62 | 68 | 63 | 58 | 59 | 53 | 59 | 57 | 57 |
| 33: | 52 | 60 | 60 | 62 | 48 | 68 | 38 | 55 | 55 |
| 41: | 57 | 66 | 65 | 80 | 93 | 102 | 87 | 59 | 59 |
| 49: | 80 | 67 | 68 | 95 | 76 | 91 | 74 | 69 | 69 |
| 57: | 75 | 99 | 103 | 79 | 112 | 119 | 138 | 109 | 109 |
| 65: | 98 | 86 | 112 | 113 | 104 | 113 | 108 | 126 | 126 |
| 73: | 177 | 229 | 235 | 263 | 220 | 133 | 109 | 75 | 75 |
| 81: | 73 | 88 | 125 | 90 | 94 | 140 | 137 | 113 | 113 |
| 89: | 133 | 102 | 128 | 151 | 133 | 93 | 64 | 66 | 66 |
| 97: | 72 | 59 | 75 | 58 | 64 | 57 | 74 | 68 | 68 |
| 105: | 66 | 62 | 52 | 53 | 58 | 60 | 65 | 48 | 48 |
| 113: | 66 | 50 | 61 | 49 | 55 | 63 | 57 | 47 | 47 |
| 121: | 51 | 56 | 58 | 56 | 49 | 51 | 50 | 67 | 67 |
| 129: | 74 | 63 | 58 | 60 | 56 | 52 | 57 | 53 | 53 |
| 137: | 43 | 59 | 63 | 63 | 65 | 50 | 46 | 60 | 60 |
| 145: | 62 | 47 | 54 | 44 | 56 | 54 | 63 | 48 | 48 |
| 153: | 61 | 60 | 56 | 51 | 55 | 57 | 56 | 44 | 44 |
| 161: | 56 | 45 | 45 | 37 | 39 | 44 | 49 | 42 | 42 |
| 169: | 45 | 45 | 47 | 28 | 33 | 46 | 49 | 54 | 54 |
| 177: | 49 | 44 | 40 | 39 | 56 | 34 | 53 | 53 | 53 |
| 185: | 93 | 72 | 62 | 41 | 36 | 39 | 43 | 43 | 43 |
| 193: | 42 | 23 | 36 | 50 | 38 | 53 | 43 | 38 | 38 |
| 201: | 39 | 35 | 54 | 47 | 41 | 39 | 47 | 48 | 48 |
| 209: | 49 | 35 | 35 | 36 | 20 | 34 | 31 | 33 | 33 |
| 217: | 39 | 33 | 38 | 24 | 35 | 35 | 41 | 32 | 32 |
| 225: | 21 | 29 | 28 | 31 | 29 | 42 | 42 | 33 | 33 |
| 233: | 34 | 42 | 47 | 59 | 138 | 223 | 153 | 68 | 68 |
| 241: | 80 | 61 | 33 | 32 | 25 | 36 | 33 | 20 | 20 |
| 249: | 24 | 27 | 18 | 22 | 34 | 22 | 29 | 27 | 27 |
| 257: | 31 | 22 | 15 | 21 | 17 | 32 | 27 | 24 | 24 |
| 265: | 31 | 18 | 23 | 31 | 28 | 43 | 26 | 25 | 25 |
| 273: | 20 | 29 | 24 | 28 | 23 | 21 | 30 | 18 | 18 |
| 281: | 31 | 13 | 17 | 20 | 23 | 26 | 27 | 25 | 25 |
| 289: | 19 | 21 | 6 | 17 | 34 | 72 | 72 | 49 | 49 |
| 297: | 22 | 26 | 24 | 31 | 25 | 14 | 28 | 19 | 19 |
| 305: | 17 | 20 | 18 | 24 | 23 | 23 | 18 | 17 | 17 |
| 313: | 14 | 15 | 16 | 15 | 21 | 14 | 17 | 17 | 17 |
| 321: | 14 | 15 | 22 | 16 | 14 | 18 | 31 | 21 | 21 |
| 329: | 18 | 20 | 20 | 15 | 18 | 16 | 16 | 18 | 18 |
| 337: | 33 | 37 | 24 | 14 | 25 | 18 | 11 | 17 | 17 |
| 345: | 32 | 10 | 18 | 15 | 17 | 56 | 110 | 87 | 87 |
| 353: | 45 | 20 | 20 | 9 | 9 | 17 | 18 | 18 | 18 |
| 361: | 18 | 13 | 11 | 8 | 15 | 14 | 14 | 18 | 18 |

369: 14 13 20 15 12 15 16 15

Sample Title: CP5007S16-17

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 17 | 20 | 11 | 14 | 22 | 11 | 12 | 18 |
| 385: | 15 | 12 | 17 | 19 | 14 | 10 | 8 | 15 |
| 393: | 11 | 11 | 14 | 19 | 15 | 19 | 17 | 19 |
| 401: | 14 | 14 | 17 | 15 | 22 | 15 | 18 | 11 |
| 409: | 17 | 19 | 12 | 10 | 7 | 14 | 16 | 9 |
| 417: | 24 | 16 | 13 | 10 | 15 | 19 | 7 | 18 |
| 425: | 12 | 21 | 8 | 18 | 14 | 15 | 13 | 10 |
| 433: | 15 | 12 | 12 | 14 | 14 | 17 | 13 | 13 |
| 441: | 13 | 8 | 14 | 15 | 16 | 15 | 10 | 12 |
| 449: | 7 | 8 | 16 | 14 | 12 | 8 | 14 | 8 |
| 457: | 4 | 10 | 10 | 11 | 15 | 25 | 13 | 17 |
| 465: | 8 | 17 | 13 | 12 | 14 | 10 | 12 | 11 |
| 473: | 4 | 11 | 11 | 14 | 14 | 7 | 13 | 5 |
| 481: | 12 | 8 | 11 | 15 | 11 | 13 | 5 | 11 |
| 489: | 4 | 12 | 7 | 12 | 8 | 7 | 8 | 9 |
| 497: | 10 | 11 | 12 | 9 | 11 | 10 | 5 | 5 |
| 505: | 8 | 13 | 15 | 11 | 27 | 26 | 40 | 23 |
| 513: | 8 | 12 | 8 | 15 | 8 | 10 | 7 | 9 |
| 521: | 10 | 9 | 8 | 8 | 10 | 9 | 6 | 10 |
| 529: | 8 | 7 | 2 | 9 | 11 | 14 | 10 | 9 |
| 537: | 12 | 6 | 8 | 11 | 11 | 14 | 7 | 13 |
| 545: | 13 | 9 | 4 | 10 | 15 | 9 | 4 | 9 |
| 553: | 8 | 10 | 9 | 4 | 11 | 15 | 7 | 8 |
| 561: | 6 | 11 | 10 | 7 | 11 | 5 | 5 | 7 |
| 569: | 11 | 11 | 6 | 10 | 6 | 6 | 6 | 12 |
| 577: | 12 | 11 | 10 | 13 | 18 | 36 | 50 | 34 |
| 585: | 5 | 10 | 9 | 8 | 9 | 8 | 9 | 9 |
| 593: | 6 | 9 | 4 | 5 | 8 | 11 | 10 | 6 |
| 601: | 13 | 9 | 4 | 8 | 7 | 10 | 19 | 41 |
| 609: | 73 | 47 | 16 | 6 | 7 | 3 | 4 | 11 |
| 617: | 8 | 9 | 6 | 4 | 4 | 12 | 13 | 3 |
| 625: | 4 | 8 | 12 | 8 | 7 | 8 | 4 | 5 |
| 633: | 11 | 12 | 10 | 8 | 13 | 7 | 2 | 10 |
| 641: | 10 | 13 | 5 | 7 | 3 | 10 | 3 | 4 |
| 649: | 6 | 7 | 7 | 2 | 9 | 4 | 11 | 2 |
| 657: | 5 | 6 | 7 | 7 | 9 | 8 | 14 | 9 |
| 665: | 10 | 4 | 7 | 5 | 4 | 6 | 12 | 9 |
| 673: | 7 | 3 | 5 | 2 | 10 | 5 | 6 | 9 |
| 681: | 10 | 10 | 4 | 5 | 7 | 11 | 9 | 6 |
| 689: | 9 | 7 | 3 | 9 | 10 | 7 | 11 | 4 |
| 697: | 8 | 6 | 8 | 5 | 7 | 5 | 7 | 7 |
| 705: | 10 | 8 | 6 | 9 | 3 | 7 | 9 | 4 |
| 713: | 9 | 5 | 9 | 8 | 1 | 9 | 5 | 13 |
| 721: | 4 | 5 | 4 | 8 | 12 | 14 | 14 | 4 |
| 729: | 5 | 16 | 5 | 5 | 7 | 2 | 4 | 5 |
| 737: | 10 | 6 | 6 | 7 | 4 | 9 | 3 | 3 |
| 745: | 6 | 7 | 4 | 11 | 8 | 6 | 5 | 7 |
| 753: | 7 | 3 | 3 | 7 | 2 | 7 | 11 | 6 |
| 761: | 3 | 7 | 10 | 3 | 8 | 10 | 5 | 13 |
| 769: | 6 | 6 | 8 | 9 | 3 | 4 | 4 | 8 |
| 777: | 6 | 4 | 9 | 6 | 8 | 8 | 2 | 6 |
| 785: | 8 | 8 | 5 | 6 | 8 | 5 | 7 | 6 |
| 793: | 8 | 7 | 11 | 6 | 2 | 1 | 4 | 5 |

801: 4 1 4 4 4 7 5 8

Sample Title: CP5007S16-17

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 3 | 5 | 8 | 3 | 5 | 4 | 4 | 8 |
| 817: | 3 | 11 | 8 | 5 | 5 | 6 | 1 | 6 |
| 825: | 3 | 6 | 3 | 4 | 4 | 6 | 5 | 5 |
| 833: | 2 | 3 | 3 | 8 | 6 | 5 | 2 | 5 |
| 841: | 7 | 6 | 6 | 7 | 3 | 3 | 4 | 7 |
| 849: | 7 | 2 | 6 | 6 | 4 | 8 | 5 | 5 |
| 857: | 7 | 5 | 2 | 7 | 12 | 9 | 0 | 6 |
| 865: | 3 | 2 | 3 | 7 | 3 | 5 | 3 | 5 |
| 873: | 2 | 10 | 5 | 3 | 9 | 5 | 7 | 6 |
| 881: | 6 | 7 | 4 | 4 | 3 | 10 | 2 | 6 |
| 889: | 6 | 0 | 3 | 3 | 10 | 10 | 4 | 3 |
| 897: | 8 | 7 | 3 | 6 | 4 | 3 | 4 | 6 |
| 905: | 1 | 5 | 4 | 5 | 4 | 19 | 25 | 18 |
| 913: | 18 | 6 | 5 | 6 | 4 | 3 | 1 | 3 |
| 921: | 7 | 3 | 1 | 4 | 0 | 6 | 4 | 2 |
| 929: | 2 | 4 | 4 | 6 | 4 | 10 | 12 | 5 |
| 937: | 5 | 7 | 3 | 0 | 1 | 8 | 2 | 4 |
| 945: | 3 | 4 | 2 | 5 | 1 | 9 | 8 | 8 |
| 953: | 2 | 2 | 9 | 5 | 6 | 7 | 3 | 6 |
| 961: | 6 | 8 | 10 | 12 | 6 | 7 | 5 | 12 |
| 969: | 16 | 12 | 5 | 5 | 5 | 2 | 5 | 2 |
| 977: | 8 | 5 | 3 | 4 | 3 | 6 | 5 | 3 |
| 985: | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 8 |
| 993: | 6 | 5 | 7 | 4 | 4 | 2 | 6 | 3 |
| 1001: | 5 | 7 | 7 | 5 | 4 | 5 | 0 | 4 |
| 1009: | 5 | 2 | 3 | 2 | 3 | 2 | 7 | 4 |
| 1017: | 1 | 5 | 3 | 1 | 5 | 5 | 7 | 2 |
| 1025: | 5 | 8 | 3 | 5 | 2 | 6 | 4 | 4 |
| 1033: | 1 | 7 | 6 | 1 | 5 | 1 | 3 | 5 |
| 1041: | 2 | 3 | 3 | 2 | 5 | 3 | 4 | 4 |
| 1049: | 3 | 2 | 4 | 2 | 2 | 3 | 2 | 2 |
| 1057: | 3 | 2 | 5 | 8 | 1 | 4 | 3 | 2 |
| 1065: | 5 | 3 | 3 | 3 | 5 | 2 | 7 | 2 |
| 1073: | 8 | 2 | 4 | 4 | 3 | 0 | 4 | 6 |
| 1081: | 6 | 4 | 9 | 4 | 2 | 6 | 2 | 4 |
| 1089: | 2 | 2 | 3 | 2 | 4 | 7 | 7 | 2 |
| 1097: | 4 | 3 | 3 | 4 | 7 | 1 | 3 | 5 |
| 1105: | 6 | 1 | 3 | 3 | 4 | 6 | 5 | 2 |
| 1113: | 2 | 3 | 6 | 7 | 13 | 5 | 12 | 26 |
| 1121: | 11 | 8 | 7 | 4 | 3 | 7 | 4 | 5 |
| 1129: | 2 | 3 | 3 | 3 | 10 | 3 | 3 | 1 |
| 1137: | 1 | 3 | 5 | 4 | 5 | 4 | 6 | 8 |
| 1145: | 4 | 4 | 5 | 7 | 3 | 4 | 3 | 3 |
| 1153: | 7 | 7 | 3 | 5 | 3 | 2 | 4 | 5 |
| 1161: | 5 | 6 | 3 | 5 | 2 | 5 | 5 | 3 |
| 1169: | 4 | 5 | 6 | 4 | 2 | 7 | 8 | 7 |
| 1177: | 2 | 4 | 5 | 4 | 6 | 4 | 3 | 7 |
| 1185: | 4 | 2 | 5 | 8 | 3 | 5 | 4 | 8 |
| 1193: | 4 | 2 | 5 | 5 | 4 | 4 | 2 | 3 |
| 1201: | 7 | 8 | 6 | 8 | 8 | 6 | 7 | 5 |
| 1209: | 6 | 5 | 6 | 1 | 7 | 2 | 3 | 5 |
| 1217: | 6 | 3 | 7 | 0 | 5 | 5 | 10 | 3 |
| 1225: | 6 | 8 | 4 | 5 | 8 | 2 | 3 | 8 |

1233: 7 4 6 11 6 8 7 8

Sample Title: CP5007S16-17

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|---|----|----|----|----|----|----|
| 1241: | 13 | 6 | 3 | 4 | 7 | 4 | 9 | 5 |
| 1249: | 6 | 1 | 7 | 2 | 4 | 5 | 2 | 2 |
| 1257: | 7 | 2 | 4 | 3 | 6 | 2 | 6 | 5 |
| 1265: | 7 | 2 | 5 | 4 | 5 | 2 | 4 | 7 |
| 1273: | 3 | 2 | 4 | 6 | 4 | 3 | 3 | 0 |
| 1281: | 2 | 5 | 3 | 0 | 4 | 3 | 3 | 5 |
| 1289: | 4 | 4 | 2 | 2 | 3 | 3 | 4 | 3 |
| 1297: | 4 | 1 | 4 | 6 | 1 | 3 | 4 | 2 |
| 1305: | 7 | 1 | 3 | 4 | 2 | 5 | 3 | 2 |
| 1313: | 2 | 2 | 2 | 2 | 2 | 4 | 1 | 5 |
| 1321: | 7 | 5 | 3 | 2 | 2 | 2 | 2 | 6 |
| 1329: | 5 | 8 | 2 | 1 | 1 | 2 | 2 | 1 |
| 1337: | 5 | 1 | 1 | 4 | 1 | 5 | 2 | 1 |
| 1345: | 3 | 2 | 3 | 1 | 3 | 0 | 7 | 2 |
| 1353: | 1 | 3 | 4 | 2 | 2 | 1 | 2 | 3 |
| 1361: | 2 | 0 | 1 | 2 | 2 | 2 | 4 | 4 |
| 1369: | 2 | 2 | 1 | 0 | 2 | 2 | 1 | 5 |
| 1377: | 6 | 5 | 3 | 1 | 1 | 1 | 3 | 2 |
| 1385: | 2 | 2 | 1 | 2 | 0 | 0 | 4 | 4 |
| 1393: | 2 | 1 | 2 | 2 | 1 | 0 | 4 | 4 |
| 1401: | 3 | 2 | 7 | 2 | 2 | 2 | 2 | 3 |
| 1409: | 3 | 0 | 2 | 0 | 2 | 0 | 3 | 1 |
| 1417: | 3 | 0 | 0 | 2 | 2 | 3 | 1 | 0 |
| 1425: | 1 | 2 | 0 | 1 | 1 | 4 | 1 | 2 |
| 1433: | 1 | 4 | 0 | 2 | 1 | 0 | 0 | 1 |
| 1441: | 2 | 2 | 1 | 0 | 3 | 1 | 0 | 1 |
| 1449: | 2 | 0 | 0 | 2 | 3 | 2 | 3 | 1 |
| 1457: | 1 | 5 | 18 | 62 | 73 | 57 | 23 | 10 |
| 1465: | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 1 |
| 1473: | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 3 |
| 1481: | 2 | 0 | 2 | 1 | 3 | 1 | 1 | 1 |
| 1489: | 4 | 1 | 1 | 4 | 1 | 0 | 1 | 4 |
| 1497: | 1 | 0 | 2 | 0 | 3 | 2 | 4 | 1 |
| 1505: | 3 | 2 | 3 | 2 | 3 | 1 | 2 | 2 |
| 1513: | 1 | 1 | 3 | 2 | 2 | 0 | 3 | 1 |
| 1521: | 2 | 1 | 0 | 1 | 0 | 2 | 1 | 2 |
| 1529: | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1537: | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 1 |
| 1545: | 0 | 1 | 2 | 1 | 1 | 1 | 4 | 0 |
| 1553: | 1 | 1 | 0 | 2 | 1 | 1 | 2 | 4 |
| 1561: | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 0 |
| 1569: | 1 | 2 | 0 | 0 | 2 | 0 | 1 | 0 |
| 1577: | 1 | 0 | 2 | 2 | 1 | 0 | 1 | 1 |
| 1585: | 2 | 1 | 0 | 3 | 4 | 3 | 4 | 3 |
| 1593: | 3 | 1 | 1 | 0 | 1 | 2 | 3 | 1 |
| 1601: | 1 | 2 | 1 | 0 | 0 | 0 | 2 | 0 |
| 1609: | 1 | 2 | 3 | 1 | 1 | 1 | 0 | 2 |
| 1617: | 1 | 0 | 1 | 2 | 3 | 1 | 2 | 0 |
| 1625: | 2 | 1 | 3 | 2 | 1 | 0 | 2 | 2 |
| 1633: | 1 | 1 | 0 | 3 | 1 | 3 | 0 | 1 |
| 1641: | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| 1649: | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 2 |
| 1657: | 1 | 0 | 1 | 0 | 1 | 3 | 1 | 3 |

1665: 1 3 2 0 2 1 0 1

Sample Title: CP5007S16-17

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|----|----|---|---|---|
| 1673: | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 3 |
| 1681: | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 1 |
| 1689: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 1697: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| 1705: | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 |
| 1713: | 1 | 4 | 0 | 1 | 1 | 2 | 0 | 0 |
| 1721: | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 3 |
| 1729: | 2 | 1 | 2 | 2 | 0 | 0 | 1 | 2 |
| 1737: | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| 1745: | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| 1753: | 2 | 1 | 0 | 1 | 1 | 1 | 2 | 0 |
| 1761: | 1 | 3 | 3 | 10 | 11 | 3 | 2 | 0 |
| 1769: | 0 | 2 | 1 | 0 | 1 | 1 | 0 | 0 |
| 1777: | 3 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| 1785: | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 |
| 1793: | 1 | 0 | 0 | 1 | 1 | 2 | 1 | 1 |
| 1801: | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 1809: | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |
| 1817: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1825: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1833: | 2 | 0 | 0 | 0 | 3 | 0 | 1 | 0 |
| 1841: | 1 | 0 | 1 | 1 | 0 | 5 | 4 | 2 |
| 1849: | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| 1857: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 1865: | 3 | 1 | 0 | 2 | 1 | 0 | 1 | 0 |
| 1873: | 1 | 2 | 3 | 0 | 0 | 3 | 1 | 1 |
| 1881: | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 |
| 1889: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1897: | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 1905: | 2 | 2 | 1 | 3 | 1 | 2 | 0 | 1 |
| 1913: | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 3 |
| 1921: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 1929: | 0 | 0 | 4 | 0 | 1 | 1 | 0 | 1 |
| 1937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1945: | 1 | 0 | 2 | 1 | 1 | 2 | 0 | 0 |
| 1953: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 1961: | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 0 |
| 1969: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 1977: | 1 | 0 | 3 | 1 | 1 | 1 | 1 | 0 |
| 1985: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 1993: | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 2 |
| 2001: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2009: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2017: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| 2025: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 1 |
| 2033: | 1 | 1 | 1 | 0 | 0 | 2 | 0 | 0 |
| 2041: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2049: | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 1 |
| 2057: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2065: | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2073: | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2081: | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 |
| 2089: | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

2097: 1 1 1 1 0 0 3 1

Sample Title: CP5007S16-17

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2105: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2113: | 0 | 0 | 0 | 4 | 2 | 2 | 1 | 1 |
| 2121: | 1 | 0 | 1 | 2 | 1 | 2 | 0 | 0 |
| 2129: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2137: | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2145: | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 2 |
| 2153: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2161: | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 1 |
| 2169: | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 2177: | 2 | 2 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2193: | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 |
| 2201: | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 2209: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 2217: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2225: | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 2233: | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 2 |
| 2241: | 0 | 2 | 2 | 1 | 0 | 3 | 1 | 1 |
| 2249: | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 0 |
| 2257: | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 2265: | 2 | 1 | 0 | 1 | 1 | 2 | 1 | 2 |
| 2273: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| 2281: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 2289: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2297: | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 0 |
| 2305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2313: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2321: | 0 | 1 | 2 | 0 | 2 | 3 | 3 | 0 |
| 2329: | 0 | 2 | 1 | 2 | 1 | 1 | 0 | 1 |
| 2337: | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 1 |
| 2345: | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 1 |
| 2353: | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2361: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 2369: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2377: | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 |
| 2385: | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| 2393: | 1 | 1 | 1 | 0 | 2 | 0 | 0 | 0 |
| 2401: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2409: | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 |
| 2417: | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 |
| 2425: | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2433: | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 2 |
| 2441: | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 2449: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2457: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2465: | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 1 |
| 2473: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2481: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2497: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2505: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 2513: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2521: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

2529: 0 0 1 0 0 1 0 0

Sample Title: CP5007S16-17

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|----|
| 2537: | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 1 |
| 2545: | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 1 |
| 2553: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2561: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| 2569: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2577: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2585: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2593: | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 |
| 2601: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2609: | 1 | 0 | 0 | 0 | 1 | 6 | 4 | 10 |
| 2617: | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2633: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2649: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2657: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2673: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2681: | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2697: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2705: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2713: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2721: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2737: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2753: | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 |
| 2761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2769: | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2793: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2801: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2817: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2825: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2841: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2881: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2889: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2897: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2913: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2921: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 |
| 2945: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2953: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

2961: 0 0 1 1 0 0 1 1

Sample Title: CP5007S16-17

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2977: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3001: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3009: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3017: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3065: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3081: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3089: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3097: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3129: | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3153: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3169: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3233: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3257: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3265: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3297: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3305: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3321: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| 3329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3369: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3377: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |

3393: 0 0 0 0 0 1 0 0

Sample Title: CP5007S16-17

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3401: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3409: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3417: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3425: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3465: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3497: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3513: | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3593: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3745: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3785: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3793: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3801: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3809: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

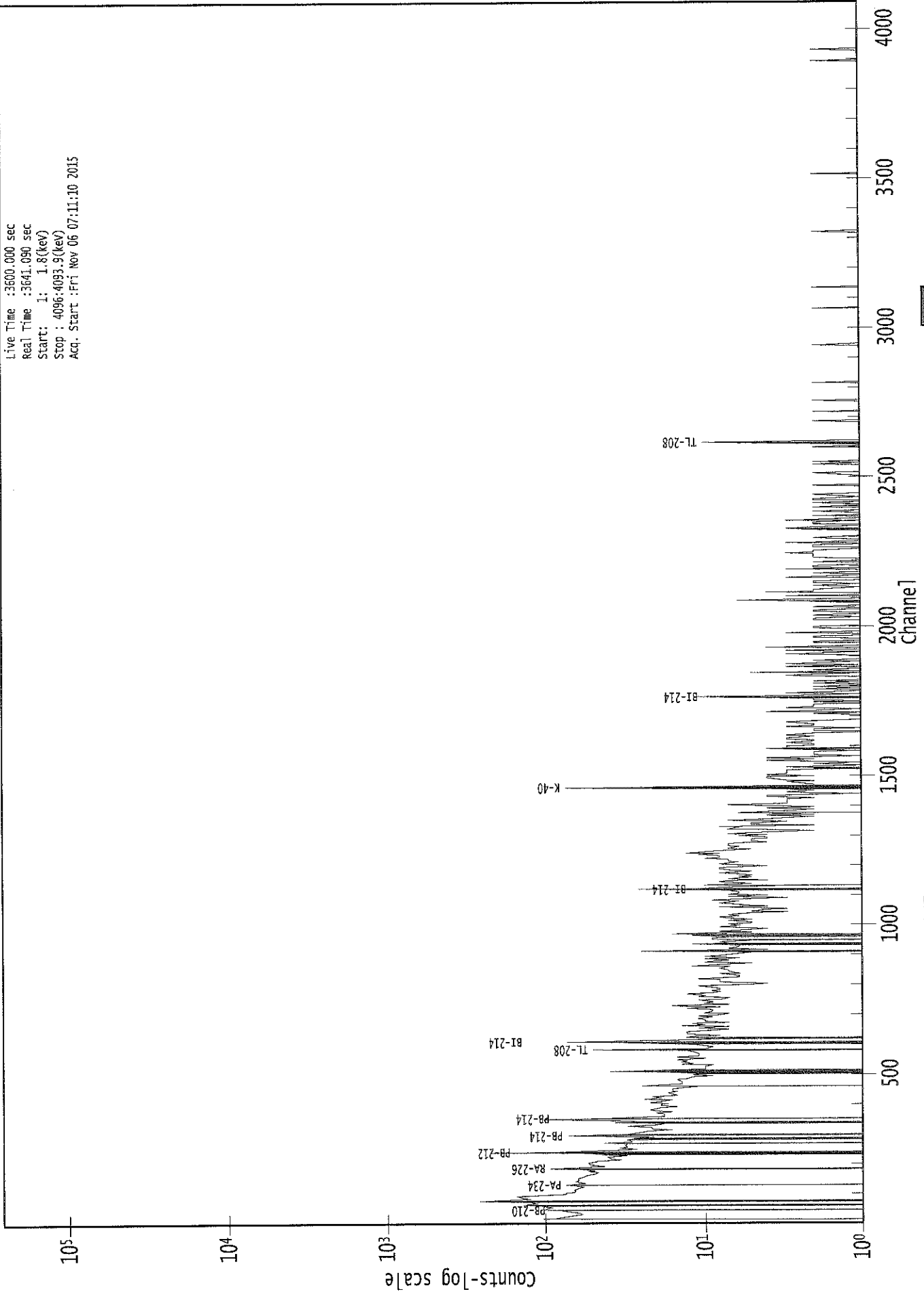
3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP5007S16-17

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3865: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3881: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3889: | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3913: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3929: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3945: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4009: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 4017: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029241.CNF

Live Time : 3600.000 sec
Real Time : 3641.090 sec
Start: 1: 1.8(keV)
Stop : 4096.4093.9(keV)
Acq. Start : Fri Nov 06 07:11:10 2015



ROI Type: 2

ROI Type: 1

Analysis Report for 1510085-11
CP5006S01-02

1116

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-11
Sample Description : CP5006S01-02
Sample Type : SOIL

Sample Size : 5.154E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:40:32AM
Acquisition Started : 11/6/2015 8:16:59AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE1
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.1 seconds

Dead Time : 0.03 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 19 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29242

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-11
CP5006S01-02

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 9:17:03AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 46.46 | 46.81 | 0.0000 | 0.00 |
| 2 | 63.25 | 63.60 | 0.0000 | 0.00 |
| 3 | 74.94 | 75.28 | 0.0000 | 0.00 |
| 4 | 77.53 | 77.87 | 0.0000 | 0.00 |
| 5 | 87.80 | 88.13 | 0.0000 | 0.00 |
| 6 | 92.53 | 92.86 | 0.0000 | 0.00 |
| 7 | 186.07 | 186.37 | 0.0000 | 0.00 |
| 8 | 238.69 | 238.98 | 0.0000 | 0.00 |
| 9 | 242.03 | 242.32 | 0.0000 | 0.00 |
| 10 | 270.52 | 270.79 | 0.0000 | 0.00 |
| 11 | 295.47 | 295.74 | 0.0000 | 0.00 |
| 12 | 300.56 | 300.83 | 0.0000 | 0.00 |
| 13 | 338.43 | 338.69 | 0.0000 | 0.00 |
| 14 | 352.15 | 352.40 | 0.0000 | 0.00 |
| 15 | 372.38 | 372.63 | 0.0000 | 0.00 |
| 16 | 440.14 | 440.36 | 0.0000 | 0.00 |
| 17 | 462.78 | 462.99 | 0.0000 | 0.00 |
| 18 | 511.49 | 511.68 | 0.0000 | 0.00 |
| 19 | 583.74 | 583.91 | 0.0000 | 0.00 |
| 20 | 609.65 | 609.81 | 0.0000 | 0.00 |
| 21 | 727.53 | 727.65 | 0.0000 | 0.00 |
| 22 | 767.34 | 767.45 | 0.0000 | 0.00 |
| 23 | 787.21 | 787.31 | 0.0000 | 0.00 |
| 24 | 861.99 | 862.06 | 0.0000 | 0.00 |
| 25 | 911.57 | 911.63 | 0.0000 | 0.00 |
| 26 | 934.65 | 934.70 | 0.0000 | 0.00 |
| 27 | 968.05 | 968.09 | 0.0000 | 0.00 |
| 28 | 1096.00 | 1095.99 | 0.0000 | 0.00 |
| 29 | 1120.82 | 1120.80 | 0.0000 | 0.00 |
| 30 | 1139.27 | 1139.24 | 0.0000 | 0.00 |
| 31 | 1154.02 | 1153.99 | 0.0000 | 0.00 |
| 32 | 1234.73 | 1234.67 | 0.0000 | 0.00 |
| 33 | 1238.76 | 1238.70 | 0.0000 | 0.00 |
| 34 | 1281.55 | 1281.48 | 0.0000 | 0.00 |
| 35 | 1378.12 | 1378.00 | 0.0000 | 0.00 |
| 36 | 1409.12 | 1409.00 | 0.0000 | 0.00 |
| 37 | 1415.53 | 1415.41 | 0.0000 | 0.00 |
| 38 | 1450.05 | 1449.91 | 0.0000 | 0.00 |
| 39 | 1461.47 | 1461.32 | 0.0000 | 0.00 |
| 40 | 1478.19 | 1478.04 | 0.0000 | 0.00 |
| 41 | 1511.19 | 1511.03 | 0.0000 | 0.00 |
| 42 | 1520.17 | 1520.01 | 0.0000 | 0.00 |

Analysis Report for 1510085-11
CP5006S01-02

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1586.24 | 1586.05 | 0.0000 | 0.00 |
| 44 | 1661.83 | 1661.61 | 0.0000 | 0.00 |
| 45 | 1729.85 | 1729.61 | 0.0000 | 0.00 |
| 46 | 1765.44 | 1765.18 | 0.0000 | 0.00 |
| 47 | 1811.37 | 1811.09 | 0.0000 | 0.00 |
| 48 | 1836.83 | 1836.54 | 0.0000 | 0.00 |
| 49 | 1848.15 | 1847.86 | 0.0000 | 0.00 |
| 50 | 2017.80 | 2017.44 | 0.0000 | 0.00 |
| 51 | 2104.69 | 2104.30 | 0.0000 | 0.00 |
| 52 | 2205.05 | 2204.63 | 0.0000 | 0.00 |
| 53 | 2449.09 | 2448.57 | 0.0000 | 0.00 |
| 54 | 2615.66 | 2615.08 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-11

CP5006S01-02

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 9:17:03AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 46.46 | 44 - | 50 | 46.81 | 1.24E+02 | 77.32 | 1.01E+03 | 1.23 |
| 2 | 63.25 | 60 - | 66 | 63.60 | 2.12E+02 | 91.44 | 1.37E+03 | 1.34 |
| M 3 | 74.94 | 72 - | 83 | 75.28 | 3.19E+02 | 86.94 | 1.14E+03 | 1.60 |
| m 4 | 77.53 | 72 - | 83 | 77.87 | 5.32E+02 | 92.87 | 1.11E+03 | 1.61 |
| m 5 | 87.80 | 83 - | 96 | 88.13 | 1.80E+02 | 58.96 | 6.88E+02 | 1.48 |
| m 6 | 92.53 | 83 - | 96 | 92.86 | 3.36E+02 | 65.15 | 6.34E+02 | 1.49 |
| 7 | 186.07 | 183 - | 190 | 186.37 | 2.16E+02 | 80.00 | 9.20E+02 | 1.89 |
| M 8 | 238.69 | 235 - | 247 | 238.98 | 5.93E+02 | 61.67 | 3.93E+02 | 1.66 |
| m 9 | 242.03 | 235 - | 247 | 242.32 | 2.36E+02 | 60.37 | 4.14E+02 | 1.85 |
| 10 | 270.52 | 267 - | 274 | 270.79 | 8.74E+01 | 55.39 | 4.55E+02 | 3.45 |
| M 11 | 295.47 | 292 - | 305 | 295.74 | 4.66E+02 | 55.08 | 2.61E+02 | 1.51 |
| m 12 | 300.56 | 292 - | 305 | 300.83 | 5.14E+01 | 41.42 | 3.08E+02 | 1.84 |
| 13 | 338.43 | 336 - | 342 | 338.69 | 8.94E+01 | 46.64 | 3.33E+02 | 1.25 |
| 14 | 352.15 | 348 - | 357 | 352.40 | 6.93E+02 | 77.19 | 4.57E+02 | 1.83 |
| 15 | 372.38 | 368 - | 376 | 372.63 | 7.54E+01 | 41.52 | 2.15E+02 | 4.66 |
| 16 | 440.14 | 437 - | 444 | 440.36 | 2.93E+01 | 37.26 | 2.11E+02 | 1.82 |
| 17 | 462.78 | 459 - | 466 | 462.99 | 3.93E+01 | 38.47 | 2.21E+02 | 1.34 |
| 18 | 511.49 | 507 - | 517 | 511.68 | 1.41E+02 | 52.22 | 2.80E+02 | 2.49 |
| 19 | 583.74 | 580 - | 589 | 583.91 | 1.90E+02 | 43.02 | 1.58E+02 | 1.97 |
| 20 | 609.65 | 606 - | 612 | 609.81 | 4.97E+02 | 52.90 | 1.47E+02 | 1.54 |
| 21 | 727.53 | 724 - | 732 | 727.65 | 3.89E+01 | 31.55 | 1.26E+02 | 2.99 |
| 22 | 767.34 | 763 - | 770 | 767.45 | 5.05E+01 | 29.53 | 1.11E+02 | 1.37 |
| 23 | 787.21 | 784 - | 791 | 787.31 | 2.63E+01 | 24.66 | 8.35E+01 | 1.75 |
| 24 | 861.99 | 856 - | 868 | 862.06 | 3.70E+01 | 34.62 | 1.24E+02 | 6.23 |
| 25 | 911.57 | 908 - | 915 | 911.63 | 1.37E+02 | 31.30 | 7.12E+01 | 1.96 |
| 26 | 934.65 | 931 - | 939 | 934.70 | 2.84E+01 | 27.00 | 9.51E+01 | 1.80 |
| 27 | 968.05 | 962 - | 973 | 968.09 | 1.02E+02 | 36.99 | 1.20E+02 | 2.07 |
| 28 | 1096.00 | 1091 - | 1100 | 1095.99 | 3.30E+01 | 24.94 | 7.00E+01 | 6.07 |
| 29 | 1120.82 | 1117 - | 1125 | 1120.80 | 8.85E+01 | 31.71 | 1.03E+02 | 1.66 |
| 30 | 1139.27 | 1137 - | 1141 | 1139.24 | 1.42E+01 | 15.89 | 4.17E+01 | 2.56 |
| 31 | 1154.02 | 1151 - | 1159 | 1153.99 | 2.61E+01 | 26.32 | 9.18E+01 | 6.09 |
| M 32 | 1234.73 | 1233 - | 1257 | 1234.67 | 1.87E+01 | 9.11 | 1.77E+01 | 2.80 |
| m 33 | 1238.76 | 1233 - | 1257 | 1238.70 | 3.96E+01 | 24.08 | 6.60E+01 | 2.80 |
| 34 | 1281.55 | 1277 - | 1285 | 1281.48 | 2.78E+01 | 20.06 | 4.43E+01 | 1.21 |
| 35 | 1378.12 | 1374 - | 1381 | 1378.00 | 2.09E+01 | 18.65 | 4.42E+01 | 1.39 |
| 36 | 1409.12 | 1405 - | 1413 | 1409.00 | 2.20E+01 | 15.27 | 2.21E+01 | 3.64 |
| 37 | 1415.53 | 1413 - | 1417 | 1415.41 | 7.93E+00 | 9.34 | 1.21E+01 | 1.63 |
| 38 | 1450.05 | 1447 - | 1453 | 1449.91 | 1.21E+01 | 10.23 | 9.71E+00 | 4.42 |
| 39 | 1461.47 | 1455 - | 1465 | 1461.32 | 5.27E+02 | 47.76 | 2.50E+01 | 2.12 |
| 40 | 1478.19 | 1471 - | 1486 | 1478.04 | 2.20E+01 | 20.20 | 3.20E+01 | 6.87 |

Analysis Report for 1510085-11

CP5006S01-02

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|---|-----------------|---------------------|------------------|----------------|----------------------|----------------------|-----------------------------|-------------------------|-------------------|
| M | 41 | 1511.19 | 1500 - | 1524 | 1511.03 | 1.30E+01 | 16.40 | 2.51E+01 | 3.24 |
| m | 42 | 1520.17 | 1500 - | 1524 | 1520.01 | 1.25E+01 | 14.46 | 2.88E+01 | 3.25 |
| | 43 | 1586.24 | 1574 - | 1596 | 1586.05 | 3.55E+01 | 32.76 | 6.90E+01 | 12.69 |
| | 44 | 1661.83 | 1658 - | 1664 | 1661.61 | 1.17E+01 | 9.19 | 6.67E+00 | 3.55 |
| | 45 | 1729.85 | 1725 - | 1733 | 1729.61 | 2.13E+01 | 13.14 | 1.35E+01 | 1.62 |
| | 46 | 1765.44 | 1758 - | 1771 | 1765.18 | 9.50E+01 | 22.49 | 1.40E+01 | 2.22 |
| | 47 | 1811.37 | 1806 - | 1815 | 1811.09 | 7.67E+00 | 9.90 | 8.67E+00 | 1.48 |
| | 48 | 1836.83 | 1831 - | 1840 | 1836.54 | 8.38E+00 | 10.10 | 9.23E+00 | 2.23 |
| | 49 | 1848.15 | 1843 - | 1852 | 1847.86 | 2.16E+01 | 11.00 | 4.75E+00 | 1.95 |
| | 50 | 2017.80 | 2013 - | 2020 | 2017.44 | 9.00E+00 | 6.00 | 0.00E+00 | 2.83 |
| | 51 | 2104.69 | 2101 - | 2108 | 2104.30 | 9.00E+00 | 11.31 | 1.40E+01 | 1.50 |
| | 52 | 2205.05 | 2200 - | 2207 | 2204.63 | 1.97E+01 | 11.31 | 8.67E+00 | 1.58 |
| | 53 | 2449.09 | 2444 - | 2452 | 2448.57 | 5.75E+00 | 7.23 | 4.50E+00 | 1.82 |
| | 54 | 2615.66 | 2611 - | 2621 | 2615.08 | 6.60E+01 | 16.25 | 0.00E+00 | 2.33 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 9:17:03AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| | 1 | 46.46 | 44 - | 50 | 1.24E+02 | 77.32 | 1.01E+03 | 6.09E+01 |
| | 2 | 63.25 | 60 - | 66 | 2.12E+02 | 91.44 | 1.37E+03 | 7.12E+01 |
| M | 3 | 74.94 | 72 - | 83 | 3.19E+02 | 86.94 | 1.14E+03 | 5.56E+01 |
| m | 4 | 77.53 | 72 - | 83 | 5.32E+02 | 92.87 | 1.11E+03 | 5.47E+01 |
| m | 5 | 87.80 | 83 - | 96 | 1.80E+02 | 58.96 | 6.88E+02 | 4.31E+01 |
| m | 6 | 92.53 | 83 - | 96 | 3.36E+02 | 65.15 | 6.34E+02 | 4.14E+01 |
| | 7 | 186.07 | 183 - | 190 | 2.16E+02 | 80.00 | 9.20E+02 | 6.12E+01 |
| M | 8 | 238.69 | 235 - | 247 | 5.93E+02 | 61.67 | 3.93E+02 | 3.26E+01 |
| m | 9 | 242.03 | 235 - | 247 | 2.36E+02 | 60.37 | 4.14E+02 | 3.34E+01 |
| | 10 | 270.52 | 267 - | 274 | 8.74E+01 | 55.39 | 4.55E+02 | 4.29E+01 |
| M | 11 | 295.47 | 292 - | 305 | 4.66E+02 | 55.08 | 2.61E+02 | 2.66E+01 |
| m | 12 | 300.56 | 292 - | 305 | 5.14E+01 | 41.42 | 3.08E+02 | 2.88E+01 |
| | 13 | 338.43 | 336 - | 342 | 8.94E+01 | 46.64 | 3.33E+02 | 3.50E+01 |
| | 14 | 352.15 | 348 - | 357 | 6.93E+02 | 77.19 | 4.57E+02 | 4.64E+01 |

Analysis Report for 1510085-11

CP5006S01-02

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level | |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|----------|
| 15 | 372.38 | 368 - | 376 | 7.54E+01 | 41.52 | 2.15E+02 | 3.10E+01 | |
| 16 | 440.14 | 437 - | 444 | 2.93E+01 | 37.26 | 2.11E+02 | 2.93E+01 | |
| 17 | 462.78 | 459 - | 466 | 3.93E+01 | 38.47 | 2.21E+02 | 2.99E+01 | |
| 18 | 511.49 | 507 - | 517 | 1.41E+02 | 52.22 | 2.80E+02 | 3.82E+01 | |
| 19 | 583.74 | 580 - | 589 | 1.90E+02 | 43.02 | 1.58E+02 | 2.71E+01 | |
| 20 | 609.65 | 606 - | 612 | 4.97E+02 | 52.90 | 1.47E+02 | 2.34E+01 | |
| 21 | 727.53 | 724 - | 732 | 3.89E+01 | 31.55 | 1.26E+02 | 2.38E+01 | |
| 22 | 767.34 | 763 - | 770 | 5.05E+01 | 29.53 | 1.11E+02 | 2.13E+01 | |
| 23 | 787.21 | 784 - | 791 | 2.63E+01 | 24.66 | 8.35E+01 | 1.84E+01 | |
| 24 | 861.99 | 856 - | 868 | 3.70E+01 | 34.62 | 1.24E+02 | 2.66E+01 | |
| 25 | 911.57 | 908 - | 915 | 1.37E+02 | 31.30 | 7.12E+01 | 1.71E+01 | |
| 26 | 934.65 | 931 - | 939 | 2.84E+01 | 27.00 | 9.51E+01 | 2.04E+01 | |
| 27 | 968.05 | 962 - | 973 | 1.02E+02 | 36.99 | 1.20E+02 | 2.55E+01 | |
| 28 | 1096.00 | 1091 - | 1100 | 3.30E+01 | 24.94 | 7.00E+01 | 1.82E+01 | |
| 29 | 1120.82 | 1117 - | 1125 | 8.85E+01 | 31.71 | 1.03E+02 | 2.10E+01 | |
| 30 | 1139.27 | 1137 - | 1141 | 1.42E+01 | 15.89 | 4.17E+01 | 1.15E+01 | |
| 31 | 1154.02 | 1151 - | 1159 | 2.61E+01 | 26.32 | 9.18E+01 | 1.99E+01 | |
| M | 32 | 1234.73 | 1233 - | 1257 | 1.87E+01 | 9.11 | 1.77E+01 | 6.91E+00 |
| m | 33 | 1238.76 | 1233 - | 1257 | 3.96E+01 | 24.08 | 6.60E+01 | 1.34E+01 |
| 34 | 1281.55 | 1277 - | 1285 | 2.78E+01 | 20.06 | 4.43E+01 | 1.40E+01 | |
| 35 | 1378.12 | 1374 - | 1381 | 2.09E+01 | 18.65 | 4.42E+01 | 1.34E+01 | |
| 36 | 1409.12 | 1405 - | 1413 | 2.20E+01 | 15.27 | 2.21E+01 | 9.91E+00 | |
| 37 | 1415.53 | 1413 - | 1417 | 7.93E+00 | 9.34 | 1.21E+01 | 6.13E+00 | |
| 38 | 1450.05 | 1447 - | 1453 | 1.21E+01 | 10.23 | 9.71E+00 | 6.16E+00 | |
| 39 | 1461.47 | 1455 - | 1465 | 5.27E+02 | 47.76 | 2.50E+01 | 1.07E+01 | |
| 40 | 1478.19 | 1471 - | 1486 | 2.20E+01 | 20.20 | 3.20E+01 | 1.47E+01 | |
| M | 41 | 1511.19 | 1500 - | 1524 | 1.30E+01 | 16.40 | 2.51E+01 | 8.24E+00 |
| m | 42 | 1520.17 | 1500 - | 1524 | 1.25E+01 | 14.46 | 2.88E+01 | 8.82E+00 |
| 43 | 1586.24 | 1574 - | 1596 | 3.55E+01 | 32.76 | 6.90E+01 | 2.51E+01 | |
| 44 | 1661.83 | 1658 - | 1664 | 1.17E+01 | 9.19 | 6.67E+00 | 5.06E+00 | |
| 45 | 1729.85 | 1725 - | 1733 | 2.13E+01 | 13.14 | 1.35E+01 | 7.70E+00 | |
| 46 | 1765.44 | 1758 - | 1771 | 9.50E+01 | 22.49 | 1.40E+01 | 9.23E+00 | |
| 47 | 1811.37 | 1806 - | 1815 | 7.67E+00 | 9.90 | 8.67E+00 | 6.75E+00 | |
| 48 | 1836.83 | 1831 - | 1840 | 8.38E+00 | 10.10 | 9.23E+00 | 6.80E+00 | |
| 49 | 1848.15 | 1843 - | 1852 | 2.16E+01 | 11.00 | 4.75E+00 | 4.83E+00 | |
| 50 | 2017.80 | 2013 - | 2020 | 9.00E+00 | 6.00 | 0.00E+00 | 0.00E+00 | |
| 51 | 2104.69 | 2101 - | 2108 | 9.00E+00 | 11.31 | 1.40E+01 | 7.88E+00 | |
| 52 | 2205.05 | 2200 - | 2207 | 1.97E+01 | 11.31 | 8.67E+00 | 5.77E+00 | |
| 53 | 2449.09 | 2444 - | 2452 | 5.75E+00 | 7.23 | 4.50E+00 | 4.45E+00 | |
| 54 | 2615.66 | 2611 - | 2621 | 6.60E+01 | 16.25 | 0.00E+00 | 0.00E+00 | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-11
CP5006S01-02

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 9:17:03AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|-------------|----------------------|--------------------------------------|------------------------------|--|--|---------------------------------|--|---|
| 1 | 46.46 | 44 - | 50 | 46.81 | 1.24E+02 | 77.32 | 1.01E+03 | PB-210 |
| 2 | 63.25 | 60 - | 66 | 63.60 | 2.12E+02 | 91.44 | 1.37E+03 | TH-234 TH-230 |
| M m m | 3 4 5 | 72 - 72 - 83 - | 83 83 96 | 75.28 77.87 88.13 | 3.19E+02 5.32E+02 1.80E+02 | 86.94 92.87 58.96 | 1.14E+03 1.11E+03 6.88E+02 | AM-243 TI-44 SN-126 CD-109 LU-176 |
| m | 6 | 83 - | 96 | 92.86 | 3.36E+02 | 65.15 | 6.34E+02 | GA-67 |
| M m | 7 8 9 | 183 - 235 - 235 - | 190 247 247 | 186.37 238.98 242.32 | 2.16E+02 5.93E+02 2.36E+02 | 80.00 61.67 60.37 | 9.20E+02 3.93E+02 4.14E+02 | RA-226 PB-212 |
| M m | 10 11 12 | 267 - 292 - 292 - | 274 305 305 | 270.79 295.74 300.83 | 8.74E+01 4.66E+02 5.14E+01 | 55.39 55.08 41.42 | 4.55E+02 2.61E+02 3.08E+02 | PB-214 GA-67 PB-212 BI-210M |
| | 13 | 336 - | 342 | 338.69 | 8.94E+01 | 46.64 | 3.33E+02 | AC-228 |
| | 14 | 348 - | 357 | 352.40 | 6.93E+02 | 77.19 | 4.57E+02 | PB-214 |
| | 15 | 368 - | 376 | 372.63 | 7.54E+01 | 41.52 | 2.15E+02 | ..... |
| | 16 | 437 - | 444 | 440.36 | 2.93E+01 | 37.26 | 2.11E+02 | ..... |
| | 17 | 459 - | 466 | 462.99 | 3.93E+01 | 38.47 | 2.21E+02 | SB-125 |
| | 18 | 507 - | 517 | 511.68 | 1.41E+02 | 52.22 | 2.80E+02 | ..... |
| | 19 | 580 - | 589 | 583.91 | 1.90E+02 | 43.02 | 1.58E+02 | TL-208 |
| | 20 | 606 - | 612 | 609.81 | 4.97E+02 | 52.90 | 1.47E+02 | BI-214 |
| | 21 | 724 - | 732 | 727.65 | 3.89E+01 | 31.55 | 1.26E+02 | BI-212 |
| | 22 | 763 - | 770 | 767.45 | 5.05E+01 | 29.53 | 1.11E+02 | ..... |
| | 23 | 784 - | 791 | 787.31 | 2.63E+01 | 24.66 | 8.35E+01 | ..... |
| | 24 | 856 - | 868 | 862.06 | 3.70E+01 | 34.62 | 1.24E+02 | ..... |
| | 25 | 908 - | 915 | 911.63 | 1.37E+02 | 31.30 | 7.12E+01 | AC-228 LU-172 |
| | 26 | 931 - | 939 | 934.70 | 2.84E+01 | 27.00 | 9.51E+01 | ..... |
| | 27 | 962 - | 973 | 968.09 | 1.02E+02 | 36.99 | 1.20E+02 | ..... |
| | 28 | 1091 - | 1100 | 1095.99 | 3.30E+01 | 24.94 | 7.00E+01 | ..... |
| | 29 | 1117 - | 1125 | 1120.80 | 8.85E+01 | 31.71 | 1.03E+02 | SC-46 TA-182 BI-214 |
| M m | 30 31 32 33 | 1137 - 1151 - 1233 - 1233 - | 1141 1159 1257 1257 | 1139.24 1153.99 1234.67 1238.70 | 1.42E+01 2.61E+01 1.87E+01 3.96E+01 | 15.89 26.32 9.11 24.08 | 4.17E+01 9.18E+01 1.77E+01 6.60E+01 | EU-156 CS-136 CO-56 |

Analysis Report for 1510085-11

CP5006S01-02

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| | 34 | 1281.55 | 1277 - | 1285 | 1281.48 | 2.78E+01 | 20.06 | 4.43E+01 | ..... |
| | 35 | 1378.12 | 1374 - | 1381 | 1378.00 | 2.09E+01 | 18.65 | 4.42E+01 | ..... |
| | 36 | 1409.12 | 1405 - | 1413 | 1409.00 | 2.20E+01 | 15.27 | 2.21E+01 | ..... |
| | 37 | 1415.53 | 1413 - | 1417 | 1415.41 | 7.93E+00 | 9.34 | 1.21E+01 | ..... |
| | 38 | 1450.05 | 1447 - | 1453 | 1449.91 | 1.21E+01 | 10.23 | 9.71E+00 | ..... |
| | 39 | 1461.47 | 1455 - | 1465 | 1461.32 | 5.27E+02 | 47.76 | 2.50E+01 | K-40 |
| | 40 | 1478.19 | 1471 - | 1486 | 1478.04 | 2.20E+01 | 20.20 | 3.20E+01 | ..... |
| M | 41 | 1511.19 | 1500 - | 1524 | 1511.03 | 1.30E+01 | 16.40 | 2.51E+01 | ..... |
| m | 42 | 1520.17 | 1500 - | 1524 | 1520.01 | 1.25E+01 | 14.46 | 2.88E+01 | ..... |
| | 43 | 1586.24 | 1574 - | 1596 | 1586.05 | 3.55E+01 | 32.76 | 6.90E+01 | ..... |
| | 44 | 1661.83 | 1658 - | 1664 | 1661.61 | 1.17E+01 | 9.19 | 6.67E+00 | ..... |
| | 45 | 1729.85 | 1725 - | 1733 | 1729.61 | 2.13E+01 | 13.14 | 1.35E+01 | ..... |
| | 46 | 1765.44 | 1758 - | 1771 | 1765.18 | 9.50E+01 | 22.49 | 1.40E+01 | BI-214 |
| | 47 | 1811.37 | 1806 - | 1815 | 1811.09 | 7.67E+00 | 9.90 | 8.67E+00 | ..... |
| | 48 | 1836.83 | 1831 - | 1840 | 1836.54 | 8.38E+00 | 10.10 | 9.23E+00 | Y-88 |
| | 49 | 1848.15 | 1843 - | 1852 | 1847.86 | 2.16E+01 | 11.00 | 4.75E+00 | ..... |
| | 50 | 2017.80 | 2013 - | 2020 | 2017.44 | 9.00E+00 | 6.00 | 0.00E+00 | ..... |
| | 51 | 2104.69 | 2101 - | 2108 | 2104.30 | 9.00E+00 | 11.31 | 1.40E+01 | ..... |
| | 52 | 2205.05 | 2200 - | 2207 | 2204.63 | 1.97E+01 | 11.31 | 8.67E+00 | BI-214 |
| | 53 | 2449.09 | 2444 - | 2452 | 2448.57 | 5.75E+00 | 7.23 | 4.50E+00 | ..... |
| | 54 | 2615.66 | 2611 - | 2621 | 2615.08 | 6.60E+01 | 16.25 | 0.00E+00 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 9:17:03AM

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|----------|--------------|---------------|----------------------|-----------------|------------------------|
| | 1 | 46.46 | 1.24E+02 | 77.32 | 1.68E-02 | 1.78E-03 |
| | 2 | 63.25 | 2.12E+02 | 91.44 | 2.49E-02 | 1.91E-03 |
| M | 3 | 74.94 | 3.19E+02 | 86.94 | 2.75E-02 | 2.30E-03 |
| m | 4 | 77.53 | 5.32E+02 | 92.87 | 2.78E-02 | 2.39E-03 |
| m | 5 | 87.80 | 1.80E+02 | 58.96 | 2.85E-02 | 2.73E-03 |
| m | 6 | 92.53 | 3.36E+02 | 65.15 | 2.86E-02 | 2.65E-03 |
| | 7 | 186.07 | 2.16E+02 | 80.00 | 2.24E-02 | 2.03E-03 |
| M | 8 | 238.69 | 5.93E+02 | 61.67 | 1.92E-02 | 1.64E-03 |
| m | 9 | 242.03 | 2.36E+02 | 60.37 | 1.90E-02 | 1.61E-03 |

Analysis Report for 1510085-11
CP5006S01-02

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 10 | 270.52 | 8.74E+01 | 55.39 | 1.77E-02 | 1.40E-03 |
| M | 11 | 295.47 | 4.66E+02 | 55.08 | 1.67E-02 | 1.31E-03 |
| m | 12 | 300.56 | 5.14E+01 | 41.42 | 1.65E-02 | 1.30E-03 |
| | 13 | 338.43 | 8.94E+01 | 46.64 | 1.52E-02 | 1.22E-03 |
| | 14 | 352.15 | 6.93E+02 | 77.19 | 1.48E-02 | 1.19E-03 |
| | 15 | 372.38 | 7.54E+01 | 41.52 | 1.42E-02 | 1.15E-03 |
| | 16 | 440.14 | 2.93E+01 | 37.26 | 1.26E-02 | 1.06E-03 |
| | 17 | 462.78 | 3.93E+01 | 38.47 | 1.21E-02 | 1.04E-03 |
| | 18 | 511.49 | 1.41E+02 | 52.22 | 1.12E-02 | 9.90E-04 |
| | 19 | 583.74 | 1.90E+02 | 43.02 | 1.02E-02 | 9.15E-04 |
| | 20 | 609.65 | 4.97E+02 | 52.90 | 9.82E-03 | 8.88E-04 |
| | 21 | 727.53 | 3.89E+01 | 31.55 | 8.55E-03 | 7.75E-04 |
| | 22 | 767.34 | 5.05E+01 | 29.53 | 8.20E-03 | 7.39E-04 |
| | 23 | 787.21 | 2.63E+01 | 24.66 | 8.03E-03 | 7.22E-04 |
| | 24 | 861.99 | 3.70E+01 | 34.62 | 7.47E-03 | 6.55E-04 |
| | 25 | 911.57 | 1.37E+02 | 31.30 | 7.15E-03 | 6.15E-04 |
| | 26 | 934.65 | 2.84E+01 | 27.00 | 7.00E-03 | 6.03E-04 |
| | 27 | 968.05 | 1.02E+02 | 36.99 | 6.81E-03 | 5.86E-04 |
| | 28 | 1096.00 | 3.30E+01 | 24.94 | 6.17E-03 | 5.19E-04 |
| | 29 | 1120.82 | 8.85E+01 | 31.71 | 6.06E-03 | 5.06E-04 |
| | 30 | 1139.27 | 1.42E+01 | 15.89 | 5.99E-03 | 4.97E-04 |
| | 31 | 1154.02 | 2.61E+01 | 26.32 | 5.93E-03 | 4.89E-04 |
| M | 32 | 1234.73 | 1.87E+01 | 9.11 | 5.63E-03 | 4.68E-04 |
| m | 33 | 1238.76 | 3.96E+01 | 24.08 | 5.61E-03 | 4.68E-04 |
| | 34 | 1281.55 | 2.78E+01 | 20.06 | 5.47E-03 | 4.60E-04 |
| | 35 | 1378.12 | 2.09E+01 | 18.65 | 5.18E-03 | 4.40E-04 |
| | 36 | 1409.12 | 2.20E+01 | 15.27 | 5.10E-03 | 4.32E-04 |
| | 37 | 1415.53 | 7.93E+00 | 9.34 | 5.08E-03 | 4.30E-04 |
| | 38 | 1450.05 | 1.21E+01 | 10.23 | 5.00E-03 | 4.22E-04 |
| | 39 | 1461.47 | 5.27E+02 | 47.76 | 4.97E-03 | 4.19E-04 |
| | 40 | 1478.19 | 2.20E+01 | 20.20 | 4.93E-03 | 4.15E-04 |
| M | 41 | 1511.19 | 1.30E+01 | 16.40 | 4.85E-03 | 4.07E-04 |
| m | 42 | 1520.17 | 1.25E+01 | 14.46 | 4.84E-03 | 4.04E-04 |
| | 43 | 1586.24 | 3.55E+01 | 32.76 | 4.70E-03 | 3.88E-04 |
| | 44 | 1661.83 | 1.17E+01 | 9.19 | 4.56E-03 | 3.69E-04 |
| | 45 | 1729.85 | 2.13E+01 | 13.14 | 4.45E-03 | 3.52E-04 |
| | 46 | 1765.44 | 9.50E+01 | 22.49 | 4.39E-03 | 3.43E-04 |
| | 47 | 1811.37 | 7.67E+00 | 9.90 | 4.33E-03 | 3.32E-04 |
| | 48 | 1836.83 | 8.38E+00 | 10.10 | 4.30E-03 | 3.26E-04 |
| | 49 | 1848.15 | 2.16E+01 | 11.00 | 4.28E-03 | 3.26E-04 |
| | 50 | 2017.80 | 9.00E+00 | 6.00 | 4.10E-03 | 3.26E-04 |
| | 51 | 2104.69 | 9.00E+00 | 11.31 | 4.02E-03 | 3.26E-04 |
| | 52 | 2205.05 | 1.97E+01 | 11.31 | 3.95E-03 | 3.26E-04 |
| | 53 | 2449.09 | 5.75E+00 | 7.23 | 3.83E-03 | 3.26E-04 |
| | 54 | 2615.66 | 6.60E+01 | 16.25 | 3.79E-03 | 3.26E-04 |

Analysis Report for 1510085-11

CP5006S01-02

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 9:17:03AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| | 1 | 46.46 | 1.24E+02 | 77.32 | 4.50E+01 | 8.46E+00 | 7.92E+01 | 7.78E+01 |
| | 2 | 63.25 | 2.12E+02 | 91.44 | 7.80E+01 | 1.33E+01 | 1.34E+02 | 9.24E+01 |
| M | 3 | 74.94 | 3.19E+02 | 86.94 | 5.09E+00 | 4.37E+00 | 3.14E+02 | 8.70E+01 |
| m | 4 | 77.53 | 5.32E+02 | 92.87 | 9.75E+00 | 8.28E+00 | 5.22E+02 | 9.32E+01 |
| m | 5 | 87.80 | 1.80E+02 | 58.96 | | | 1.80E+02 | 5.90E+01 |
| m | 6 | 92.53 | 3.36E+02 | 65.15 | 1.34E+02 | 9.83E+00 | 2.02E+02 | 6.59E+01 |
| | 7 | 186.07 | 2.16E+02 | 80.00 | 6.41E+01 | 7.38E+00 | 1.52E+02 | 8.03E+01 |
| M | 8 | 238.69 | 5.93E+02 | 61.67 | 2.34E+01 | 6.34E+00 | 5.70E+02 | 6.20E+01 |
| m | 9 | 242.03 | 2.36E+02 | 60.37 | | | 2.36E+02 | 6.04E+01 |
| | 10 | 270.52 | 8.74E+01 | 55.39 | | | 8.74E+01 | 5.54E+01 |
| M | 11 | 295.47 | 4.66E+02 | 55.08 | 4.17E+00 | 5.50E+00 | 4.62E+02 | 5.54E+01 |
| m | 12 | 300.56 | 5.14E+01 | 41.42 | | | 5.14E+01 | 4.14E+01 |
| | 13 | 338.43 | 8.94E+01 | 46.64 | 2.22E-01 | 4.54E+00 | 8.91E+01 | 4.69E+01 |
| | 14 | 352.15 | 6.93E+02 | 77.19 | 8.83E+00 | 4.91E+00 | 6.84E+02 | 7.74E+01 |
| | 15 | 372.38 | 7.54E+01 | 41.52 | | | 7.54E+01 | 4.15E+01 |
| | 16 | 440.14 | 2.93E+01 | 37.26 | | | 2.93E+01 | 3.73E+01 |
| | 17 | 462.78 | 3.93E+01 | 38.47 | | | 3.93E+01 | 3.85E+01 |
| | 18 | 511.49 | 1.41E+02 | 52.22 | 8.12E+01 | 5.49E+00 | 5.98E+01 | 5.25E+01 |
| | 19 | 583.74 | 1.90E+02 | 43.02 | 6.34E+00 | 3.74E+00 | 1.84E+02 | 4.32E+01 |
| | 20 | 609.65 | 4.97E+02 | 52.90 | 5.20E+00 | 3.69E+00 | 4.92E+02 | 5.30E+01 |
| | 21 | 727.53 | 3.89E+01 | 31.55 | | | 3.89E+01 | 3.15E+01 |
| | 22 | 767.34 | 5.05E+01 | 29.53 | | | 5.05E+01 | 2.95E+01 |
| | 23 | 787.21 | 2.63E+01 | 24.66 | | | 2.63E+01 | 2.47E+01 |
| | 24 | 861.99 | 3.70E+01 | 34.62 | | | 3.70E+01 | 3.46E+01 |
| | 25 | 911.57 | 1.37E+02 | 31.30 | 3.28E+00 | 2.53E+00 | 1.34E+02 | 3.14E+01 |
| | 26 | 934.65 | 2.84E+01 | 27.00 | | | 2.84E+01 | 2.70E+01 |
| | 27 | 968.05 | 1.02E+02 | 36.99 | | | 1.02E+02 | 3.70E+01 |
| | 28 | 1096.00 | 3.30E+01 | 24.94 | | | 3.30E+01 | 2.49E+01 |
| | 29 | 1120.82 | 8.85E+01 | 31.71 | 2.28E+00 | 2.55E+00 | 8.62E+01 | 3.18E+01 |
| | 30 | 1139.27 | 1.42E+01 | 15.89 | | | 1.42E+01 | 1.59E+01 |
| | 31 | 1154.02 | 2.61E+01 | 26.32 | | | 2.61E+01 | 2.63E+01 |
| M | 32 | 1234.73 | 1.87E+01 | 9.11 | | | 1.87E+01 | 9.11E+00 |
| m | 33 | 1238.76 | 3.96E+01 | 24.08 | | | 3.96E+01 | 2.41E+01 |
| | 34 | 1281.55 | 2.78E+01 | 20.06 | | | 2.78E+01 | 2.01E+01 |
| | 35 | 1378.12 | 2.09E+01 | 18.65 | | | 2.09E+01 | 1.87E+01 |

Analysis Report for 1510085-11

CP5006S01-02

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 36 | 1409.12 | 2.20E+01 | 15.27 | | | 2.20E+01 | 1.53E+01 |
| 37 | 1415.53 | 7.93E+00 | 9.34 | | | 7.93E+00 | 9.34E+00 |
| 38 | 1450.05 | 1.21E+01 | 10.23 | | | 1.21E+01 | 1.02E+01 |
| 39 | 1461.47 | 5.27E+02 | 47.76 | 6.46E+00 | 2.33E+00 | 5.21E+02 | 4.78E+01 |
| 40 | 1478.19 | 2.20E+01 | 20.20 | | | 2.20E+01 | 2.02E+01 |
| M 41 | 1511.19 | 1.30E+01 | 16.40 | | | 1.30E+01 | 1.64E+01 |
| m 42 | 1520.17 | 1.25E+01 | 14.46 | | | 1.25E+01 | 1.45E+01 |
| 43 | 1586.24 | 3.55E+01 | 32.76 | | | 3.55E+01 | 3.28E+01 |
| 44 | 1661.83 | 1.17E+01 | 9.19 | | | 1.17E+01 | 9.19E+00 |
| 45 | 1729.85 | 2.13E+01 | 13.14 | | | 2.13E+01 | 1.31E+01 |
| 46 | 1765.44 | 9.50E+01 | 22.49 | | | 9.50E+01 | 2.25E+01 |
| 47 | 1811.37 | 7.67E+00 | 9.90 | | | 7.67E+00 | 9.90E+00 |
| 48 | 1836.83 | 8.38E+00 | 10.10 | | | 8.38E+00 | 1.01E+01 |
| 49 | 1848.15 | 2.16E+01 | 11.00 | | | 2.16E+01 | 1.10E+01 |
| 50 | 2017.80 | 9.00E+00 | 6.00 | | | 9.00E+00 | 6.00E+00 |
| 51 | 2104.69 | 9.00E+00 | 11.31 | | | 9.00E+00 | 1.13E+01 |
| 52 | 2205.05 | 1.97E+01 | 11.31 | | | 1.97E+01 | 1.13E+01 |
| 53 | 2449.09 | 5.75E+00 | 7.23 | | | 5.75E+00 | 7.23E+00 |
| 54 | 2615.66 | 6.60E+01 | 16.25 | 3.47E+00 | 1.48E+00 | 6.25E+01 | 1.63E+01 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 9:17:03AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 1 | 46.46 | 1.24E+02 | 77.32 | 4.50E+01 | 8.46E+00 | 7.92E+01 | 7.78E+01 |
| 2 | 63.25 | 2.12E+02 | 91.44 | 7.80E+01 | 1.33E+01 | 1.34E+02 | 9.24E+01 |
| M 3 | 74.94 | 3.19E+02 | 86.94 | 5.09E+00 | 4.37E+00 | 3.14E+02 | 8.70E+01 |
| m 4 | 77.53 | 5.32E+02 | 92.87 | 9.75E+00 | 8.28E+00 | 5.22E+02 | 9.32E+01 |
| m 5 | 87.80 | 1.80E+02 | 58.96 | | | 1.80E+02 | 5.90E+01 |
| m 6 | 92.53 | 3.36E+02 | 65.15 | 1.34E+02 | 9.83E+00 | 2.02E+02 | 6.59E+01 |
| 7 | 186.07 | 2.16E+02 | 80.00 | 6.41E+01 | 7.38E+00 | 1.52E+02 | 8.03E+01 |
| M 8 | 238.69 | 5.93E+02 | 61.67 | 2.34E+01 | 6.34E+00 | 5.70E+02 | 6.20E+01 |
| m 9 | 242.03 | 2.36E+02 | 60.37 | | | 2.36E+02 | 6.04E+01 |

Analysis Report for 1510085-11

CP5006S01-02

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 10 | 270.52 | 8.74E+01 | 55.39 | | | 8.74E+01 | 5.54E+01 |
| M | 11 | 295.47 | 4.66E+02 | 55.08 | 4.17E+00 | 5.50E+00 | 4.62E+02 | 5.54E+01 |
| m | 12 | 300.56 | 5.14E+01 | 41.42 | | | 5.14E+01 | 4.14E+01 |
| | 13 | 338.43 | 8.94E+01 | 46.64 | 2.22E-01 | 4.54E+00 | 8.91E+01 | 4.69E+01 |
| | 14 | 352.15 | 6.93E+02 | 77.19 | 8.83E+00 | 4.91E+00 | 6.84E+02 | 7.74E+01 |
| | 15 | 372.38 | 7.54E+01 | 41.52 | | | 7.54E+01 | 4.15E+01 |
| | 16 | 440.14 | 2.93E+01 | 37.26 | | | 2.93E+01 | 3.73E+01 |
| | 17 | 462.78 | 3.93E+01 | 38.47 | | | 3.93E+01 | 3.85E+01 |
| | 18 | 511.49 | 1.41E+02 | 52.22 | 8.12E+01 | 5.49E+00 | 5.98E+01 | 5.25E+01 |
| | 19 | 583.74 | 1.90E+02 | 43.02 | 6.34E+00 | 3.74E+00 | 1.84E+02 | 4.32E+01 |
| | 20 | 609.65 | 4.97E+02 | 52.90 | 5.20E+00 | 3.69E+00 | 4.92E+02 | 5.30E+01 |
| | 21 | 727.53 | 3.89E+01 | 31.55 | | | 3.89E+01 | 3.15E+01 |
| | 22 | 767.34 | 5.05E+01 | 29.53 | | | 5.05E+01 | 2.95E+01 |
| | 23 | 787.21 | 2.63E+01 | 24.66 | | | 2.63E+01 | 2.47E+01 |
| | 24 | 861.99 | 3.70E+01 | 34.62 | | | 3.70E+01 | 3.46E+01 |
| | 25 | 911.57 | 1.37E+02 | 31.30 | 3.28E+00 | 2.53E+00 | 1.34E+02 | 3.14E+01 |
| | 26 | 934.65 | 2.84E+01 | 27.00 | | | 2.84E+01 | 2.70E+01 |
| | 27 | 968.05 | 1.02E+02 | 36.99 | | | 1.02E+02 | 3.70E+01 |
| | 28 | 1096.00 | 3.30E+01 | 24.94 | | | 3.30E+01 | 2.49E+01 |
| | 29 | 1120.82 | 8.85E+01 | 31.71 | 2.28E+00 | 2.55E+00 | 8.62E+01 | 3.18E+01 |
| | 30 | 1139.27 | 1.42E+01 | 15.89 | | | 1.42E+01 | 1.59E+01 |
| | 31 | 1154.02 | 2.61E+01 | 26.32 | | | 2.61E+01 | 2.63E+01 |
| M | 32 | 1234.73 | 1.87E+01 | 9.11 | | | 1.87E+01 | 9.11E+00 |
| m | 33 | 1238.76 | 3.96E+01 | 24.08 | | | 3.96E+01 | 2.41E+01 |
| | 34 | 1281.55 | 2.78E+01 | 20.06 | | | 2.78E+01 | 2.01E+01 |
| | 35 | 1378.12 | 2.09E+01 | 18.65 | | | 2.09E+01 | 1.87E+01 |
| | 36 | 1409.12 | 2.20E+01 | 15.27 | | | 2.20E+01 | 1.53E+01 |
| | 37 | 1415.53 | 7.93E+00 | 9.34 | | | 7.93E+00 | 9.34E+00 |
| | 38 | 1450.05 | 1.21E+01 | 10.23 | | | 1.21E+01 | 1.02E+01 |
| | 39 | 1461.47 | 5.27E+02 | 47.76 | 6.46E+00 | 2.33E+00 | 5.21E+02 | 4.78E+01 |
| | 40 | 1478.19 | 2.20E+01 | 20.20 | | | 2.20E+01 | 2.02E+01 |
| M | 41 | 1511.19 | 1.30E+01 | 16.40 | | | 1.30E+01 | 1.64E+01 |
| m | 42 | 1520.17 | 1.25E+01 | 14.46 | | | 1.25E+01 | 1.45E+01 |
| | 43 | 1586.24 | 3.55E+01 | 32.76 | | | 3.55E+01 | 3.28E+01 |
| | 44 | 1661.83 | 1.17E+01 | 9.19 | | | 1.17E+01 | 9.19E+00 |
| | 45 | 1729.85 | 2.13E+01 | 13.14 | | | 2.13E+01 | 1.31E+01 |
| | 46 | 1765.44 | 9.50E+01 | 22.49 | | | 9.50E+01 | 2.25E+01 |
| | 47 | 1811.37 | 7.67E+00 | 9.90 | | | 7.67E+00 | 9.90E+00 |
| | 48 | 1836.83 | 8.38E+00 | 10.10 | | | 8.38E+00 | 1.01E+01 |
| | 49 | 1848.15 | 2.16E+01 | 11.00 | | | 2.16E+01 | 1.10E+01 |
| | 50 | 2017.80 | 9.00E+00 | 6.00 | | | 9.00E+00 | 6.00E+00 |
| | 51 | 2104.69 | 9.00E+00 | 11.31 | | | 9.00E+00 | 1.13E+01 |
| | 52 | 2205.05 | 1.97E+01 | 11.31 | | | 1.97E+01 | 1.13E+01 |
| | 53 | 2449.09 | 5.75E+00 | 7.23 | | | 5.75E+00 | 7.23E+00 |
| | 54 | 2615.66 | 6.60E+01 | 16.25 | 3.47E+00 | 1.48E+00 | 6.25E+01 | 1.63E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-11
CP5006S01-02

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoof\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|-------------------------|-------------------------|
| K-40 | 0.934 | 1460.81 * | 10.67 | 1.43E+01 | 1.81E+00 |
| GA-67 | 0.570 | 93.31 * | 35.70 | 1.71E+02 | 6.99E+02 |
| | | 208.95 | 2.24 | | |
| | | 300.22 * | 16.00 | 1.68E+02 | 6.99E+02 |
| CD-109 | 0.991 | 88.03 * | 3.72 | 2.59E+00 | 8.96E-01 |
| SN-126 | 0.992 | 87.57 * | 37.00 | 2.49E-01 | 8.49E-02 |
| TL-208 | 0.789 | 583.14 * | 30.22 | 8.72E-01 | 2.19E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 6.70E-01 | 1.84E-01 |
| PB-210 | 1.000 | 46.50 * | 4.25 | 1.62E+00 | 1.60E+00 |
| BI-212 | 0.749 | 727.17 * | 11.80 | 5.62E-01 | 4.58E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.997 | 238.63 * | 44.60 | 9.68E-01 | 1.34E-01 |
| | | 300.09 * | 3.41 | 1.33E+00 | 1.08E+00 |
| BI-214 | 0.949 | 609.31 * | 46.30 | 1.58E+00 | 2.22E-01 |
| | | 1120.29 * | 15.10 | 1.37E+00 | 5.19E-01 |
| | | 1764.49 * | 15.80 | 1.99E+00 | 4.97E-01 |
| | | 2204.22 * | 4.98 | 1.46E+00 | 8.47E-01 |
| PB-214 | 0.991 | 295.21 * | 19.19 | 2.10E+00 | 3.01E-01 |
| | | 351.92 * | 37.19 | 1.81E+00 | 2.52E-01 |
| RA-226 | 0.997 | 186.21 * | 3.28 | 3.01E+00 | 5.75E+00 |
| AC-228 | 0.551 | 338.32 * | 11.40 | 7.50E-01 | 3.99E-01 |
| | | 911.07 * | 27.70 | 9.87E-01 | 2.46E-01 |
| | | 969.11 | 16.60 | | |
| TH-234 | 1.000 | 63.29 * | 3.80 | 2.07E+00 | 1.43E+00 |
| AM-243 | 0.989 | 74.67 * | 66.00 | 2.52E-01 | 7.30E-02 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-11
CP5006S01-02

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 9:17:03AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| m | 4 | 77.53 | 1.45125E-01 | 8.92 | |
| m | 9 | 242.03 | 6.55343E-02 | 12.80 | |
| | 10 | 270.52 | 2.42778E-02 | 31.69 | |
| | 15 | 372.38 | 2.09555E-02 | 27.52 | Sum |
| | 16 | 440.14 | 8.14198E-03 | 63.55 | D-Esc |
| | 17 | 462.78 | 1.09120E-02 | 48.97 | Tol. SB-125 |
| | 18 | 511.49 | 1.66014E-02 | 43.93 | |
| | 22 | 767.34 | 1.40304E-02 | 29.23 | |
| | 23 | 787.21 | 7.29167E-03 | 46.97 | |
| | 24 | 861.99 | 1.02820E-02 | 46.77 | |
| | 26 | 934.65 | 7.89656E-03 | 47.50 | |
| | 27 | 968.05 | 2.82973E-02 | 18.15 | |
| | 28 | 1096.00 | 9.16667E-03 | 37.79 | |
| | 30 | 1139.27 | 3.93651E-03 | 56.06 | |
| | 31 | 1154.02 | 7.25309E-03 | 50.41 | Tol. EU-156 |
| M | 32 | 1234.73 | 5.18908E-03 | 24.38 | |
| m | 33 | 1238.76 | 1.09928E-02 | 30.43 | |
| | 34 | 1281.55 | 7.73333E-03 | 36.03 | |
| | 35 | 1378.12 | 5.80426E-03 | 44.64 | |
| | 36 | 1409.12 | 6.09849E-03 | 34.78 | |
| | 37 | 1415.53 | 2.20238E-03 | 58.91 | Sum |
| | 38 | 1450.05 | 3.37418E-03 | 42.13 | |
| | 40 | 1478.19 | 6.11111E-03 | 45.91 | |
| M | 41 | 1511.19 | 3.60498E-03 | 63.19 | |
| m | 42 | 1520.17 | 3.47081E-03 | 57.85 | |
| | 43 | 1586.24 | 9.86111E-03 | 46.15 | |
| | 44 | 1661.83 | 3.24074E-03 | 39.40 | |
| | 45 | 1729.85 | 5.90278E-03 | 30.93 | Sum |
| | 47 | 1811.37 | 2.12963E-03 | 64.56 | Sum |
| | 48 | 1836.83 | 2.32906E-03 | 60.23 | Tol. Y-88 |
| | 49 | 1848.15 | 6.00694E-03 | 25.43 | Sum |
| | 50 | 2017.80 | 2.50000E-03 | 33.33 | |
| | 51 | 2104.69 | 2.50000E-03 | 62.85 | S-Esc |
| | 53 | 2449.09 | 1.59722E-03 | 62.86 | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-11
CP5006S01-02

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|---|----------|----------------------|----------------------|
| K-40 | 0.93 | 1460.81 | * | 10.67 | 1.43E+01 | 1.81E+00 |
| GA-67 | 0.57 | 93.31 | * | 35.70 | 1.71E+02 | 6.99E+02 |
| | | 208.95 | | 2.24 | | |
| | | 300.22 | * | 16.00 | 1.68E+02 | 6.99E+02 |
| CD-109 | 0.99 | 88.03 | * | 3.72 | 2.59E+00 | 8.96E-01 |
| SN-126 | 0.99 | 87.57 | * | 37.00 | 2.49E-01 | 8.49E-02 |
| TL-208 | 0.78 | 583.14 | * | 30.22 | 8.72E-01 | 2.19E-01 |
| | | 860.37 | | 4.48 | | |
| | | 2614.66 | * | 35.85 | 6.70E-01 | 1.84E-01 |
| PB-210 | 1.00 | 46.50 | * | 4.25 | 1.62E+00 | 1.60E+00 |
| BI-212 | 0.74 | 727.17 | * | 11.80 | 5.62E-01 | 4.58E-01 |
| | | 1620.62 | | 2.75 | | |
| PB-212 | 0.99 | 238.63 | * | 44.60 | 9.68E-01 | 1.34E-01 |
| | | 300.09 | * | 3.41 | 1.33E+00 | 1.08E+00 |
| BI-214 | 0.94 | 609.31 | * | 46.30 | 1.58E+00 | 2.22E-01 |
| | | 1120.29 | * | 15.10 | 1.37E+00 | 5.19E-01 |
| | | 1764.49 | * | 15.80 | 1.99E+00 | 4.97E-01 |
| | | 2204.22 | * | 4.98 | 1.46E+00 | 8.47E-01 |
| PB-214 | 0.99 | 295.21 | * | 19.19 | 2.10E+00 | 3.01E-01 |
| | | 351.92 | * | 37.19 | 1.81E+00 | 2.52E-01 |
| RA-226 | 0.99 | 186.21 | * | 3.28 | 3.01E+00 | 5.75E+00 |
| AC-228 | 0.55 | 338.32 | * | 11.40 | 7.50E-01 | 3.99E-01 |
| | | 911.07 | * | 27.70 | 9.87E-01 | 2.46E-01 |
| | | 969.11 | | 16.60 | | |
| TH-234 | 1.00 | 63.29 | * | 3.80 | 2.07E+00 | 1.43E+00 |
| AM-243 | 0.98 | 74.67 | * | 66.00 | 2.52E-01 | 7.30E-02 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-11
CP5006S01-02

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-----------------|-----------------------------|------------------------------------|------------------------------------|----------|
| K-40 | 0.934 | 1.43E+01 | 1.81E+00 | |
| GA-67 | 0.570 | 1.52E+02 | 5.98E+02 | |
| ? CD-109 | 0.991 | 2.59E+00 | 8.96E-01 | |
| ? SN-126 | 0.992 | 2.49E-01 | 8.49E-02 | |
| TL-208 | 0.789 | 7.53E-01 | 1.41E-01 | |
| PB-210 | 1.000 | 1.62E+00 | 1.60E+00 | |
| BI-212 | 0.749 | 5.62E-01 | 4.58E-01 | |
| PB-212 | 0.997 | 9.56E-01 | 1.33E-01 | |
| BI-214 | 0.949 | 1.60E+00 | 1.84E-01 | |
| PB-214 | 0.991 | 1.93E+00 | 1.93E-01 | |
| RA-226 | 0.997 | 3.01E+00 | 5.75E+00 | |
| AC-228 | 0.551 | 9.22E-01 | 2.10E-01 | |
| TH-234 | 1.000 | 2.07E+00 | 1.43E+00 | |
| AM-243 | 0.989 | 2.52E-01 | 7.30E-02 | |

- ? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-11
CP5006S01-02

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 9:17:03AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| m 4 | 77.53 | 1.45125E-01 | 8.92 | | |
| m 9 | 242.03 | 6.55343E-02 | 12.80 | | |
| 10 | 270.52 | 2.42778E-02 | 31.69 | | |
| 15 | 372.38 | 2.09555E-02 | 27.52 | Sum | |
| 16 | 440.14 | 8.14198E-03 | 63.55 | D-Esc | |
| 17 | 462.78 | 1.09120E-02 | 48.97 | Tol. | SB-125 |
| 18 | 511.49 | 1.66014E-02 | 43.93 | | |
| 22 | 767.34 | 1.40304E-02 | 29.23 | | |
| 23 | 787.21 | 7.29167E-03 | 46.97 | | |
| 24 | 861.99 | 1.02820E-02 | 46.77 | | |
| 26 | 934.65 | 7.89656E-03 | 47.50 | | |
| 27 | 968.05 | 2.82973E-02 | 18.15 | | |
| 28 | 1096.00 | 9.16667E-03 | 37.79 | | |
| 30 | 1139.27 | 3.93651E-03 | 56.06 | | |
| 31 | 1154.02 | 7.25309E-03 | 50.41 | Tol. | EU-156 |
| M 32 | 1234.73 | 5.18908E-03 | 24.38 | | |
| m 33 | 1238.76 | 1.09928E-02 | 30.43 | | |
| 34 | 1281.55 | 7.73333E-03 | 36.03 | | |
| 35 | 1378.12 | 5.80426E-03 | 44.64 | | |
| 36 | 1409.12 | 6.09849E-03 | 34.78 | | |
| 37 | 1415.53 | 2.20238E-03 | 58.91 | Sum | |
| 38 | 1450.05 | 3.37418E-03 | 42.13 | | |
| 40 | 1478.19 | 6.11111E-03 | 45.91 | | |
| M 41 | 1511.19 | 3.60498E-03 | 63.19 | | |
| m 42 | 1520.17 | 3.47081E-03 | 57.85 | | |
| 43 | 1586.24 | 9.86111E-03 | 46.15 | | |
| 44 | 1661.83 | 3.24074E-03 | 39.40 | | |
| 45 | 1729.85 | 5.90278E-03 | 30.93 | Sum | |
| 47 | 1811.37 | 2.12963E-03 | 64.56 | Sum | |
| 48 | 1836.83 | 2.32906E-03 | 60.23 | Tol. | Y-88 |
| 49 | 1848.15 | 6.00694E-03 | 25.43 | Sum | |
| 50 | 2017.80 | 2.50000E-03 | 33.33 | | |
| 51 | 2104.69 | 2.50000E-03 | 62.85 | S-Esc | |
| 53 | 2449.09 | 1.59722E-03 | 62.86 | | |

Analysis Report for 1510085-11
CP5006S01-02

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| + | BE-7 | 477.59 | 10.42 | -4.88E-01 | 8.43E-01 | 8.43E-01 |
| + | NA-22 | 1274.54 | 99.94 | -7.27E-03 | 6.92E-02 | 6.92E-02 |
| + | NA-24 | 1368.53 | 99.99 | -4.35E+12 | 1.37E+13 | 1.95E+13 |
| | | 2754.09 | 99.86 | 1.90E+12 | | 1.37E+13 |
| + | AL-26 | 1808.65 | 99.76 | -3.34E-02 | 4.75E-02 | 4.75E-02 |
| + | K-40 | 1460.81 | * 10.67 | 1.43E+01 | 7.17E-01 | 7.17E-01 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | 2.34E-03 | 6.64E-02 | 6.64E-02 |
| | | 78.34 | 96.00 | 2.09E-01 | | 8.66E-02 |
| + | SC-46 | 889.25 | 99.98 | -1.12E-02 | 9.45E-02 | 9.45E-02 |
| | | 1120.51 | 99.99 | 2.66E-01 | | 1.69E-01 |
| + | V-48 | 983.52 | 99.98 | -4.60E-02 | 2.54E-01 | 2.54E-01 |
| | | 1312.10 | 97.50 | 1.48E-01 | | 3.01E-01 |
| + | CR-51 | 320.08 | 9.83 | 7.52E-02 | 1.09E+00 | 1.09E+00 |
| + | MN-54 | 834.83 | 99.97 | 3.26E-02 | 9.00E-02 | 9.00E-02 |
| + | CO-56 | 846.75 | 99.96 | -4.97E-02 | 7.95E-02 | 7.95E-02 |
| | | 1037.75 | 14.03 | 1.46E-01 | | 7.26E-01 |
| | | 1238.25 | 67.00 | 1.07E-01 | | 2.13E-01 |
| | | 1771.40 | 15.51 | 4.88E-02 | | 5.06E-01 |
| | | 2598.48 | 16.90 | -9.86E-03 | | 2.75E-01 |
| + | CO-57 | 122.06 | 85.51 | 1.57E-02 | 5.95E-02 | 5.95E-02 |
| | | 136.48 | 10.60 | 1.30E-03 | | 4.91E-01 |
| + | CO-58 | 810.76 | 99.40 | -2.65E-02 | 9.25E-02 | 9.25E-02 |
| + | FE-59 | 1099.22 | 56.50 | 6.68E-03 | 2.36E-01 | 2.36E-01 |
| | | 1291.56 | 43.20 | -1.79E-02 | | 2.74E-01 |
| + | CO-60 | 1173.22 | 100.00 | 9.70E-03 | 7.07E-02 | 8.27E-02 |
| | | 1332.49 | 100.00 | 2.37E-03 | | 7.07E-02 |
| + | ZN-65 | 1115.52 | 50.75 | 2.89E-02 | 1.65E-01 | 1.65E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.71E+02 | 1.91E+02 | 1.91E+02 |
| | | 208.95 | 2.24 | 9.83E+02 | | 1.51E+03 |
| | | 300.22 | * 16.00 | 1.68E+02 | | 4.17E+02 |
| + | SE-75 | 121.11 | 16.70 | -2.66E-02 | 9.48E-02 | 3.28E-01 |

Analysis Report for 1510085-11
CP5006S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | SE-75 | 136.00 | 59.20 | 4.27E-02 | 9.48E-02 | 9.85E-02 |
| | | 264.65 | 59.80 | 3.20E-02 | | 9.48E-02 |
| | | 279.53 | 25.20 | 4.12E-02 | | 2.49E-01 |
| | | 400.65 | 11.40 | 5.97E-02 | | 5.48E-01 |
| + | RB-82 | 776.52 | 13.00 | -3.35E-01 | 1.15E+00 | 1.15E+00 |
| + | RB-83 | 520.41 | 46.00 | 2.17E-02 | 1.67E-01 | 1.67E-01 |
| | | 529.64 | 30.30 | -9.10E-04 | | 2.52E-01 |
| | | 552.65 | 16.40 | 2.05E-02 | | 4.70E-01 |
| + | KR-85 | 513.99 | 0.43 | 2.60E+01 | 2.05E+01 | 2.05E+01 |
| + | SR-85 | 513.99 | 99.27 | 1.56E-01 | 1.23E-01 | 1.23E-01 |
| + | Y-88 | 898.02 | 93.40 | 2.07E-02 | 7.22E-02 | 9.34E-02 |
| | | 1836.01 | 99.38 | 1.78E-02 | | 7.22E-02 |
| + | NB-93M | 16.57 | 9.43 | -4.58E+01 | 7.04E+01 | 7.04E+01 |
| + | NB-94 | 702.63 | 100.00 | 7.27E-03 | 5.79E-02 | 7.39E-02 |
| | | 871.10 | 100.00 | -2.13E-02 | | 5.79E-02 |
| + | NB-95 | 765.79 | 99.81 | 1.72E-01 | 1.59E-01 | 1.59E-01 |
| + | NB-95M | 235.69 | 25.00 | -5.39E+02 | 7.43E+01 | 7.43E+01 |
| + | ZR-95 | 724.18 | 43.70 | 2.96E-02 | 1.55E-01 | 2.38E-01 |
| | | 756.72 | 55.30 | 9.07E-03 | | 1.55E-01 |
| + | MO-99 | 181.06 | 6.20 | 1.00E+03 | 1.06E+03 | 1.69E+03 |
| | | 739.58 | 12.80 | 1.30E+02 | | 1.06E+03 |
| | | 778.00 | 4.50 | -3.72E+02 | | 2.86E+03 |
| + | RU-103 | 497.08 | 89.00 | -8.25E-03 | 1.11E-01 | 1.11E-01 |
| + | RU-106 | 621.84 | 9.80 | -5.87E-01 | 6.63E-01 | 6.63E-01 |
| + | AG-108M | 433.93 | 89.90 | -1.06E-02 | 6.63E-02 | 6.63E-02 |
| | | 614.37 | 90.40 | -8.72E-02 | | 7.40E-02 |
| | | 722.95 | 90.50 | 6.05E-03 | | 7.75E-02 |
| + | CD-109 | 88.03 | 3.72 | 2.59E+00 | 3.19E+00 | 3.19E+00 |
| + | AG-110M | 657.75 | 93.14 | -6.04E-02 | 7.28E-02 | 7.28E-02 |
| | | 677.61 | 10.53 | -7.48E-02 | | 6.54E-01 |
| | | 706.67 | 16.46 | 9.03E-02 | | 4.58E-01 |
| | | 763.93 | 21.98 | -1.59E-02 | | 3.74E-01 |
| | | 884.67 | 71.63 | -1.96E-02 | | 1.12E-01 |
| | | 1384.27 | 23.94 | 1.02E-01 | | 3.50E-01 |
| + | CD-113M | 263.70 | 0.02 | 2.16E+01 | 2.05E+02 | 2.05E+02 |
| + | SN-113 | 255.12 | 1.93 | 1.98E-01 | 9.31E-02 | 3.10E+00 |
| | | 391.69 | 64.90 | -1.47E-02 | | 9.31E-02 |
| + | TE123M | 159.00 | 84.10 | -2.96E-02 | 7.19E-02 | 7.19E-02 |
| + | SB-124 | 602.71 | 97.87 | 1.42E-02 | 9.41E-02 | 9.41E-02 |
| | | 645.85 | 7.26 | 2.82E-01 | | 1.11E+00 |
| | | 722.78 | 11.10 | 6.97E-02 | | 8.92E-01 |
| | | 1691.02 | 49.00 | 4.66E-02 | | 1.75E-01 |
| + | I-125 | 35.49 | 6.49 | 8.11E-01 | 2.96E+00 | 2.96E+00 |
| + | SB-125 | 176.33 | 6.89 | 3.55E-02 | 2.35E-01 | 7.40E-01 |
| | | 427.89 | 29.33 | 1.09E-01 | | 2.35E-01 |
| | | 463.38 | 10.35 | 6.30E-01 | | 6.91E-01 |
| | | 600.56 | 17.80 | 7.18E-02 | | 3.88E-01 |
| | | 635.90 | 11.32 | 6.37E-02 | | 5.64E-01 |

Analysis Report for 1510085-11

CP5006S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SB-126 | 414.70 | 83.30 | -3.15E-01 | 3.63E-01 | 3.90E-01 |
| | | 666.33 | 99.60 | -7.35E-02 | | 3.92E-01 |
| | | 695.00 | 99.60 | -7.41E-02 | | 3.63E-01 |
| | | 720.50 | 53.80 | -3.37E-02 | | 6.68E-01 |
| + | SN-126 | 87.57 | * 37.00 | 2.49E-01 | 3.06E-01 | 3.06E-01 |
| + | SB-127 | 473.00 | 25.00 | 1.31E+01 | 3.82E+01 | 5.68E+01 |
| | | 685.20 | 35.70 | 9.86E+00 | | 3.82E+01 |
| | | 783.80 | 14.70 | 3.11E+01 | | 1.09E+02 |
| + | I-129 | 29.78 | 57.00 | 2.01E-01 | 4.70E-01 | 4.70E-01 |
| | | 33.60 | 13.20 | -2.46E-01 | | 1.21E+00 |
| | | 39.58 | 7.52 | -1.90E-01 | | 1.40E+00 |
| + | I-131 | 284.30 | 6.05 | 7.46E-01 | 7.74E-01 | 1.11E+01 |
| | | 364.48 | 81.20 | -5.91E-02 | | 7.74E-01 |
| | | 636.97 | 7.26 | 7.87E+00 | | 1.20E+01 |
| | | 722.89 | 1.80 | 4.05E+00 | | 5.19E+01 |
| + | TE-132 | 49.72 | 13.10 | -2.37E+01 | 3.66E+01 | 3.30E+02 |
| | | 228.16 | 88.00 | 1.97E+01 | | 3.66E+01 |
| + | BA-133 | 81.00 | 33.00 | -5.49E-01 | 9.53E-02 | 1.76E-01 |
| | | 302.84 | 17.80 | 1.01E-01 | | 3.01E-01 |
| | | 356.01 | 60.00 | -7.81E-01 | | 9.53E-02 |
| + | I-133 | 529.87 | 86.30 | -6.85E+06 | 1.90E+09 | 1.90E+09 |
| + | XE-133 | 81.00 | 38.00 | -2.52E+01 | 8.05E+00 | 8.05E+00 |
| + | CS-134 | 563.23 | 8.38 | 5.99E-02 | 7.04E-02 | 7.76E-01 |
| | | 569.32 | 15.43 | -2.20E-02 | | 4.23E-01 |
| | | 604.70 | 97.60 | 6.21E-03 | | 7.04E-02 |
| | | 795.84 | 85.40 | 3.46E-02 | | 8.92E-02 |
| | | 801.93 | 8.73 | -3.63E-01 | | 7.93E-01 |
| + | CS-135 | 268.24 | 16.00 | 8.36E-02 | 3.51E-01 | 3.51E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 1.48E+00 | 3.03E-01 | 3.46E+00 |
| | | 163.89 | 4.61 | 3.62E+00 | | 5.63E+00 |
| | | 176.55 | 13.56 | 8.60E-02 | | 1.80E+00 |
| | | 273.65 | 12.66 | -1.66E-01 | | 2.06E+00 |
| | | 340.57 | 48.50 | 5.29E-01 | | 6.51E-01 |
| | | 818.50 | 99.70 | -9.05E-02 | | 3.03E-01 |
| | | 1048.07 | 79.60 | -1.43E-02 | | 4.32E-01 |
| | | 1235.34 | 19.70 | -1.87E+00 | | 2.40E+00 |
| + | CS-137 | 661.65 | 85.12 | 4.90E-02 | 8.90E-02 | 8.90E-02 |
| + | LA-138 | 788.74 | 34.00 | 8.34E-02 | 9.84E-02 | 2.15E-01 |
| | | 1435.80 | 66.00 | 3.61E-02 | | 9.84E-02 |
| + | CE-139 | 165.85 | 80.35 | -2.19E-04 | 7.31E-02 | 7.31E-02 |
| + | BA-140 | 162.64 | 6.70 | 1.06E+00 | 1.16E+00 | 4.02E+00 |
| | | 304.84 | 4.50 | -5.76E-01 | | 5.38E+00 |
| | | 423.70 | 3.20 | -3.30E+00 | | 1.00E+01 |
| | | 437.55 | 2.00 | 6.45E-01 | | 1.60E+01 |
| | | 537.32 | 25.00 | -1.87E-01 | | 1.16E+00 |
| + | LA-140 | 328.77 | 20.50 | 5.23E-01 | 3.54E-01 | 1.43E+00 |

Analysis Report for 1510085-11
CP5006S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| LA-140 | 487.03 | 45.50 | -1.23E-01 | 3.54E-01 | 6.69E-01 |
| | 815.85 | 23.50 | -2.02E-02 | | 1.47E+00 |
| | 1596.49 | 95.49 | 8.31E-03 | | 3.54E-01 |
| + CE-141 | 145.44 | 48.40 | 8.07E-02 | 1.99E-01 | 1.99E-01 |
| + CE-143 | 57.36 | 11.80 | 1.07E+05 | 8.79E+05 | 2.01E+06 |
| | 293.26 | 42.00 | 3.00E+06 | | 8.79E+05 |
| | 664.55 | 5.20 | 1.07E+06 | | 5.41E+06 |
| + CE-144 | 133.54 | 10.80 | 2.05E-01 | 4.98E-01 | 4.98E-01 |
| + PM-144 | 476.78 | 42.00 | -7.65E-02 | 7.18E-02 | 1.53E-01 |
| | 618.01 | 98.60 | 1.42E-02 | | 7.18E-02 |
| | 696.49 | 99.49 | -4.32E-03 | | 7.44E-02 |
| + PM-145 | 36.85 | 21.70 | -1.11E-01 | 2.98E-01 | 5.63E-01 |
| | 37.36 | 39.70 | -8.54E-02 | | 2.98E-01 |
| | 42.30 | 15.10 | 3.90E-01 | | 6.02E-01 |
| | 72.40 | 2.31 | -2.24E+00 | | 3.19E+00 |
| + PM-146 | 453.90 | 39.94 | 1.08E-02 | 1.49E-01 | 1.49E-01 |
| | 735.90 | 14.01 | 3.90E-02 | | 4.80E-01 |
| | 747.13 | 13.10 | 4.10E-02 | | 4.95E-01 |
| + ND-147 | 91.11 | 28.90 | -1.34E+00 | 1.58E+00 | 1.58E+00 |
| | 531.02 | 13.10 | 1.35E+00 | | 3.13E+00 |
| + PM-149 | 285.90 | 3.10 | -3.13E+03 | 1.94E+04 | 1.94E+04 |
| + EU-152 | 121.78 | 20.50 | 6.10E-02 | 2.31E-01 | 2.31E-01 |
| | 244.69 | 5.40 | -8.47E-02 | | 1.15E+00 |
| | 344.27 | 19.13 | 5.15E-02 | | 2.83E-01 |
| | 778.89 | 9.20 | 1.96E-02 | | 7.24E-01 |
| | 964.01 | 10.40 | -4.75E-01 | | 8.51E-01 |
| | 1085.78 | 7.22 | 4.00E-01 | | 9.46E-01 |
| | 1112.02 | 9.60 | 4.76E-01 | | 8.29E-01 |
| | 1407.95 | 14.94 | 2.30E-01 | | 5.41E-01 |
| + GD-153 | 97.43 | 31.30 | 6.78E-02 | 1.68E-01 | 1.68E-01 |
| | 103.18 | 22.20 | 5.94E-02 | | 2.30E-01 |
| + EU-154 | 123.07 | 40.50 | 7.07E-02 | 1.19E-01 | 1.19E-01 |
| | 723.30 | 19.70 | 2.80E-02 | | 3.58E-01 |
| | 873.19 | 11.50 | -1.15E-01 | | 5.41E-01 |
| | 996.32 | 10.30 | 2.33E-01 | | 7.18E-01 |
| | 1004.76 | 17.90 | -3.00E-02 | | 4.11E-01 |
| | 1274.45 | 35.50 | -2.02E-02 | | 1.92E-01 |
| + EU-155 | 86.50 | 30.90 | -5.33E-02 | 2.08E-01 | 2.08E-01 |
| | 105.30 | 20.70 | -6.52E-02 | | 2.30E-01 |
| + EU-156 | 811.77 | 10.40 | 5.04E-01 | 2.66E+00 | 2.66E+00 |
| | 1153.47 | 7.20 | 1.23E+00 | | 5.08E+00 |
| | 1230.71 | 8.90 | -1.71E-01 | | 4.22E+00 |
| + HO-166M | 184.41 | 72.60 | 2.06E-01 | 9.68E-02 | 9.68E-02 |
| | 280.45 | 29.60 | 2.58E-02 | | 1.75E-01 |
| | 410.94 | 11.10 | 3.05E-01 | | 5.87E-01 |
| | 711.69 | 54.10 | -1.24E-02 | | 1.19E-01 |
| + TM-171 | 66.72 | 0.14 | 1.41E+01 | 4.76E+01 | 4.76E+01 |
| + HF-172 | 81.75 | 4.52 | -1.68E+00 | 4.38E-01 | 1.32E+00 |
| | 125.81 | 11.30 | -1.06E-01 | | 4.38E-01 |

Analysis Report for 1510085-11
CP5006S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | LU-172 | 181.53 | 20.60 | 1.30E+00 | 3.00E+00 | 5.80E+00 |
| | | 810.06 | 16.63 | -3.46E+00 | | 9.45E+00 |
| | | 912.12 | 15.25 | 4.01E+01 | | 1.90E+01 |
| | | 1093.66 | 62.50 | 8.58E-01 | | 3.00E+00 |
| + | LU-173 | 100.72 | 5.24 | 3.37E-01 | 2.91E-01 | 9.52E-01 |
| | | 272.11 | 21.20 | 2.29E-01 | | 2.91E-01 |
| + | HF-175 | 343.40 | 84.00 | 2.24E-02 | 8.63E-02 | 8.63E-02 |
| + | LU-176 | 88.34 | 13.30 | 7.31E-01 | 5.20E-02 | 4.90E-01 |
| | | 201.83 | 86.00 | -1.91E-03 | | 5.95E-02 |
| | | 306.78 | 94.00 | 3.59E-03 | | 5.20E-02 |
| + | TA-182 | 67.75 | 41.20 | 6.42E-03 | 1.83E-01 | 1.83E-01 |
| | | 1121.30 | 34.90 | 7.15E-01 | | 4.57E-01 |
| | | 1189.05 | 16.23 | -7.08E-02 | | 5.90E-01 |
| | | 1221.41 | 26.98 | -1.01E-01 | | 3.50E-01 |
| | | 1231.02 | 11.44 | -4.06E-02 | | 9.99E-01 |
| + | IR-192 | 308.46 | 29.68 | -2.61E-02 | 1.65E-01 | 2.16E-01 |
| | | 468.07 | 48.10 | -6.87E-02 | | 1.65E-01 |
| + | HG-203 | 279.19 | 77.30 | -2.37E-02 | 1.04E-01 | 1.04E-01 |
| + | BI-207 | 569.67 | 97.72 | 3.74E-03 | 6.69E-02 | 6.69E-02 |
| | | 1063.62 | 74.90 | -1.70E-03 | | 1.08E-01 |
| + | TL-208 | 583.14 | * 30.22 | 8.72E-01 | 9.96E-02 | 2.75E-01 |
| | | 860.37 | 4.48 | 1.64E+00 | | 1.76E+00 |
| | | 2614.66 | * 35.85 | 6.70E-01 | | 9.96E-02 |
| + | BI-210M | 262.00 | 45.00 | -2.61E-02 | 1.03E-01 | 1.03E-01 |
| | | 300.00 | 23.00 | -1.13E+00 | | 2.43E-01 |
| + | PB-210 | 46.50 | * 4.25 | 1.62E+00 | 2.61E+00 | 2.61E+00 |
| + | PB-211 | 404.84 | 2.90 | -4.49E-01 | 1.76E+00 | 1.76E+00 |
| | | 831.96 | 2.90 | -8.62E-01 | | 2.65E+00 |
| + | BI-212 | 727.17 | * 11.80 | 5.62E-01 | 7.27E-01 | 7.27E-01 |
| | | 1620.62 | 2.75 | 1.41E+00 | | 2.57E+00 |
| + | PB-212 | 238.63 | * 44.60 | 9.68E-01 | 2.42E-01 | 2.42E-01 |
| | | 300.09 | * 3.41 | 1.33E+00 | | 3.29E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.58E+00 | 1.62E-01 | 1.62E-01 |
| | | 1120.29 | * 15.10 | 1.37E+00 | | 7.19E-01 |
| | | 1764.49 | * 15.80 | 1.99E+00 | | 4.44E-01 |
| | | 2204.22 | * 4.98 | 1.46E+00 | | 1.06E+00 |
| + | PB-214 | 295.21 | * 19.19 | 2.10E+00 | 2.56E-01 | 5.76E-01 |
| | | 351.92 | * 37.19 | 1.81E+00 | | 2.56E-01 |
| + | RN-219 | 401.80 | 6.50 | -8.43E-02 | 7.98E-01 | 7.98E-01 |
| + | RA-223 | 323.87 | 3.88 | -7.61E-01 | 1.26E+00 | 1.26E+00 |
| + | RA-224 | 240.98 | 3.95 | 1.21E+01 | 2.72E+00 | 2.72E+00 |
| + | RA-225 | 40.00 | 31.00 | -1.84E-01 | 1.35E+00 | 1.35E+00 |
| + | RA-226 | 186.21 | * 3.28 | 3.01E+00 | 2.55E+00 | 2.55E+00 |
| + | TH-227 | 50.10 | 8.40 | -6.11E-02 | 5.05E-01 | 8.51E-01 |
| | | 236.00 | 11.50 | -3.66E+00 | | 5.05E-01 |
| | | 256.20 | 6.30 | -1.05E-01 | | 7.82E-01 |
| + | AC-228 | 338.32 | * 11.40 | 7.50E-01 | 2.77E-01 | 6.17E-01 |
| | | 911.07 | * 27.70 | 9.87E-01 | | 2.77E-01 |

Analysis Report for 1510085-11
CP5006S01-02

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | AC-228 | 969.11 | 16.60 | 6.96E-01 | 2.77E-01 | 6.92E-01 |
| + | TH-230 | 48.44 | 16.90 | 8.11E-01 | 5.13E-01 | 5.13E-01 |
| | | 62.85 | 4.60 | 3.07E+00 | | 1.62E+00 |
| | | 67.67 | 0.37 | 5.97E-01 | | 1.70E+01 |
| + | PA-231 | 283.67 | 1.60 | 3.68E-02 | 2.32E+00 | 3.17E+00 |
| | | 302.67 | 2.30 | 7.78E-01 | | 2.32E+00 |
| + | TH-231 | 25.64 | 14.70 | 7.34E-01 | 9.33E-01 | 3.83E+00 |
| | | 84.21 | 6.40 | -1.45E+00 | | 9.33E-01 |
| + | PA-233 | 311.98 | 38.60 | -7.65E-02 | 2.83E-01 | 2.83E-01 |
| + | PA-234 | 131.20 | 20.40 | -9.14E-02 | 2.43E-01 | 2.43E-01 |
| | | 733.99 | 8.80 | -1.09E-01 | | 7.07E-01 |
| | | 946.00 | 12.00 | -1.75E-02 | | 5.22E-01 |
| + | PA-234M | 1001.03 | 0.92 | 3.36E+00 | 8.66E+00 | 8.66E+00 |
| + | TH-234 | 63.29 | * 3.80 | 2.07E+00 | 2.31E+00 | 2.31E+00 |
| + | U-235 | 143.76 | 10.50 | 5.60E-02 | 4.84E-01 | 4.84E-01 |
| | | 163.35 | 4.70 | 7.29E-01 | | 1.13E+00 |
| | | 205.31 | 4.70 | -1.20E+00 | | 1.08E+00 |
| + | NP-237 | 86.50 | 12.60 | -1.29E-01 | 5.04E-01 | 5.04E-01 |
| + | NP-239 | 106.10 | 22.70 | -4.08E+02 | 1.44E+03 | 1.44E+03 |
| | | 228.18 | 10.70 | 1.88E+03 | | 3.49E+03 |
| | | 277.60 | 14.10 | -4.74E+02 | | 2.46E+03 |
| + | AM-241 | 59.54 | 35.90 | 1.78E-02 | 1.80E-01 | 1.80E-01 |
| + | AM-243 | 74.67 | * 66.00 | 2.52E-01 | 1.81E-01 | 1.81E-01 |
| + | CM-243 | 209.75 | 3.29 | 1.25E+00 | 3.58E-01 | 1.73E+00 |
| | | 228.14 | 10.60 | 2.74E-01 | | 5.10E-01 |
| | | 277.60 | 14.00 | -6.90E-02 | | 3.58E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510085-11
CP5006S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 8.43E-01 | 8.43E-01 | -4.88E-01 | 3.98E-01 |
| NA-22 | 1274.54 | 99.94 | 6.92E-02 | 6.92E-02 | -7.27E-03 | 3.09E-02 |
| NA-24 | 1368.53 | 99.99 | 1.95E+13 | 1.37E+13 | -4.35E+12 | 8.62E+12 |
| | 2754.09 | 99.86 | 1.37E+13 | | 1.90E+12 | 5.31E+12 |
| AL-26 | 1808.65 | 99.76 | 4.75E-02 | 4.75E-02 | -3.34E-02 | 1.92E-02 |
| + K-40 | 1460.81 | * 10.67 | 7.17E-01 | 7.17E-01 | 1.43E+01 | 3.21E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 6.64E-02 | 6.64E-02 | 2.34E-03 | 3.24E-02 |
| | 78.34 | 96.00 | 8.66E-02 | | 2.09E-01 | 4.26E-02 |
| SC-46 | 889.25 | 99.98 | 9.45E-02 | 9.45E-02 | -1.12E-02 | 4.38E-02 |
| | 1120.51 | 99.99 | 1.69E-01 | | 2.66E-01 | 8.04E-02 |
| V-48 | 983.52 | 99.98 | 2.54E-01 | 2.54E-01 | -4.60E-02 | 1.16E-01 |
| | 1312.10 | 97.50 | 3.01E-01 | | 1.48E-01 | 1.37E-01 |
| CR-51 | 320.08 | 9.83 | 1.09E+00 | 1.09E+00 | 7.52E-02 | 5.16E-01 |
| MN-54 | 834.83 | 99.97 | 9.00E-02 | 9.00E-02 | 3.26E-02 | 4.23E-02 |
| CO-56 | 846.75 | 99.96 | 7.95E-02 | 7.95E-02 | -4.97E-02 | 3.64E-02 |
| | 1037.75 | 14.03 | 7.26E-01 | | 1.46E-01 | 3.35E-01 |
| | 1238.25 | 67.00 | 2.13E-01 | | 1.07E-01 | 9.96E-02 |
| | 1771.40 | 15.51 | 5.06E-01 | | 4.88E-02 | 2.15E-01 |
| | 2598.48 | 16.90 | 2.75E-01 | | -9.86E-03 | 9.73E-02 |
| CO-57 | 122.06 | 85.51 | 5.95E-02 | 5.95E-02 | 1.57E-02 | 2.88E-02 |
| | 136.48 | 10.60 | 4.91E-01 | | 1.30E-03 | 2.38E-01 |
| CO-58 | 810.76 | 99.40 | 9.25E-02 | 9.25E-02 | -2.65E-02 | 4.28E-02 |
| FE-59 | 1099.22 | 56.50 | 2.36E-01 | 2.36E-01 | 6.68E-03 | 1.09E-01 |
| | 1291.56 | 43.20 | 2.74E-01 | | -1.79E-02 | 1.24E-01 |
| CO-60 | 1173.22 | 100.00 | 8.27E-02 | 7.07E-02 | 9.70E-03 | 3.79E-02 |
| | 1332.49 | 100.00 | 7.07E-02 | | 2.37E-03 | 3.16E-02 |
| ZN-65 | 1115.52 | 50.75 | 1.65E-01 | 1.65E-01 | 2.89E-02 | 7.55E-02 |
| + GA-67 | 93.31 | * 35.70 | 1.91E+02 | 1.91E+02 | 1.71E+02 | 9.43E+01 |
| | 208.95 | 2.24 | 1.51E+03 | | 9.83E+02 | 7.32E+02 |
| | 300.22 | * 16.00 | 4.17E+02 | | 1.68E+02 | 2.04E+02 |
| SE-75 | 121.11 | 16.70 | 3.28E-01 | 9.48E-02 | -2.66E-02 | 1.59E-01 |
| | 136.00 | 59.20 | 9.85E-02 | | 4.27E-02 | 4.78E-02 |
| | 264.65 | 59.80 | 9.48E-02 | | 3.20E-02 | 4.52E-02 |
| | 279.53 | 25.20 | 2.49E-01 | | 4.12E-02 | 1.19E-01 |
| | 400.65 | 11.40 | 5.48E-01 | | 5.97E-02 | 2.59E-01 |
| RB-82 | 776.52 | 13.00 | 1.15E+00 | 1.15E+00 | -3.35E-01 | 5.33E-01 |
| RB-83 | 520.41 | 46.00 | 1.67E-01 | 1.67E-01 | 2.17E-02 | 7.84E-02 |
| | 529.64 | 30.30 | 2.52E-01 | | -9.10E-04 | 1.19E-01 |
| | 552.65 | 16.40 | 4.70E-01 | | 2.05E-02 | 2.21E-01 |
| KR-85 | 513.99 | 0.43 | 2.05E+01 | 2.05E+01 | 2.60E+01 | 9.82E+00 |
| SR-85 | 513.99 | 99.27 | 1.23E-01 | 1.23E-01 | 1.56E-01 | 5.89E-02 |
| Y-88 | 898.02 | 93.40 | 9.34E-02 | 7.22E-02 | 2.07E-02 | 4.31E-02 |
| | 1836.01 | 99.38 | 7.22E-02 | | 1.78E-02 | 3.05E-02 |
| NB-93M | 16.57 | 9.43 | 7.04E+01 | 7.04E+01 | -4.58E+01 | 3.26E+01 |
| NB-94 | 702.63 | 100.00 | 7.39E-02 | 5.79E-02 | 7.27E-03 | 3.47E-02 |
| | 871.10 | 100.00 | 5.79E-02 | | -2.13E-02 | 2.63E-02 |
| NB-95 | 765.79 | 99.81 | 1.59E-01 | 1.59E-01 | 1.72E-01 | 7.53E-02 |
| NB-95M | 235.69 | 25.00 | 7.43E+01 | 7.43E+01 | -5.39E+02 | 3.58E+01 |
| ZR-95 | 724.18 | 43.70 | 2.38E-01 | 1.55E-01 | 2.96E-02 | 1.12E-01 |
| | 756.72 | 55.30 | 1.55E-01 | | 9.07E-03 | 7.16E-02 |

Analysis Report for 1510085-11

CP5006S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| MO-99 | 181.06 | 6.20 | 1.69E+03 | 1.06E+03 | 1.00E+03 | 8.19E+02 |
| | 739.58 | 12.80 | 1.06E+03 | | 1.30E+02 | 4.94E+02 |
| | 778.00 | 4.50 | 2.86E+03 | | -3.72E+02 | 1.32E+03 |
| RU-103 | 497.08 | 89.00 | 1.11E-01 | 1.11E-01 | -8.25E-03 | 5.22E-02 |
| RU-106 | 621.84 | 9.80 | 6.63E-01 | 6.63E-01 | -5.87E-01 | 3.10E-01 |
| AG-108M | 433.93 | 89.90 | 6.63E-02 | 6.63E-02 | -1.06E-02 | 3.14E-02 |
| | 614.37 | 90.40 | 7.40E-02 | | -8.72E-02 | 3.48E-02 |
| | 722.95 | 90.50 | 7.75E-02 | | 6.05E-03 | 3.62E-02 |
| + CD-109 | 88.03 | * | 3.19E+00 | 3.19E+00 | 2.59E+00 | 1.57E+00 |
| AG-110M | 657.75 | 93.14 | 7.28E-02 | 7.28E-02 | -6.04E-02 | 3.39E-02 |
| | 677.61 | 10.53 | 6.54E-01 | | -7.48E-02 | 3.04E-01 |
| | 706.67 | 16.46 | 4.58E-01 | | 9.03E-02 | 2.14E-01 |
| | 763.93 | 21.98 | 3.74E-01 | | -1.59E-02 | 1.75E-01 |
| | 884.67 | 71.63 | 1.12E-01 | | -1.96E-02 | 5.21E-02 |
| | 1384.27 | 23.94 | 3.50E-01 | | 1.02E-01 | 1.58E-01 |
| CD-113M | 263.70 | 0.02 | 2.05E+02 | 2.05E+02 | 2.16E+01 | 9.76E+01 |
| SN-113 | 255.12 | 1.93 | 3.10E+00 | 9.31E-02 | 1.98E-01 | 1.48E+00 |
| | 391.69 | 64.90 | 9.31E-02 | | -1.47E-02 | 4.39E-02 |
| TE123M | 159.00 | 84.10 | 7.19E-02 | 7.19E-02 | -2.96E-02 | 3.48E-02 |
| SB-124 | 602.71 | 97.87 | 9.41E-02 | 9.41E-02 | 1.42E-02 | 4.42E-02 |
| | 645.85 | 7.26 | 1.11E+00 | | 2.82E-01 | 5.16E-01 |
| | 722.78 | 11.10 | 8.92E-01 | | 6.97E-02 | 4.17E-01 |
| | 1691.02 | 49.00 | 1.75E-01 | | 4.66E-02 | 7.51E-02 |
| | I-125 | 35.49 | 6.49 | | 2.96E+00 | 2.96E+00 | 8.11E-01 | 1.43E+00 |
| SB-125 | 176.33 | 6.89 | 7.40E-01 | 2.35E-01 | 3.55E-02 | 3.58E-01 |
| | 427.89 | 29.33 | 2.35E-01 | | 1.09E-01 | 1.12E-01 |
| | 463.38 | 10.35 | 6.91E-01 | | 6.30E-01 | 3.29E-01 |
| | 600.56 | 17.80 | 3.88E-01 | | 7.18E-02 | 1.82E-01 |
| | 635.90 | 11.32 | 5.64E-01 | | 6.37E-02 | 2.63E-01 |
| | SB-126 | 414.70 | 83.30 | | 3.90E-01 | 3.63E-01 | -3.15E-01 | 1.85E-01 |
| SB-126 | 666.33 | 99.60 | 3.92E-01 | 3.63E-01 | -7.35E-02 | 1.85E-01 |
| | 695.00 | 99.60 | 3.63E-01 | | -7.41E-02 | 1.70E-01 |
| | 720.50 | 53.80 | 6.68E-01 | | -3.37E-02 | 3.11E-01 |
| | I-126 | 87.57 | * | | 3.06E-01 | 3.06E-01 | 2.49E-01 | 1.51E-01 |
| SB-127 | 473.00 | 25.00 | 5.68E+01 | 3.82E+01 | 1.31E+01 | 2.69E+01 |
| | 685.20 | 35.70 | 3.82E+01 | | 9.86E+00 | 1.77E+01 |
| | 783.80 | 14.70 | 1.09E+02 | | 3.11E+01 | 5.07E+01 |
| I-129 | 29.78 | 57.00 | 4.70E-01 | 4.70E-01 | 2.01E-01 | 2.27E-01 |
| | 33.60 | 13.20 | 1.21E+00 | | -2.46E-01 | 5.82E-01 |
| | 39.58 | 7.52 | 1.40E+00 | | -1.90E-01 | 6.77E-01 |
| I-131 | 284.30 | 6.05 | 1.11E+01 | 7.74E-01 | 7.46E-01 | 5.27E+00 |
| | 364.48 | 81.20 | 7.74E-01 | | -5.91E-02 | 3.64E-01 |
| | 636.97 | 7.26 | 1.20E+01 | | 7.87E+00 | 5.64E+00 |
| | 722.89 | 1.80 | 5.19E+01 | | 4.05E+00 | 2.43E+01 |
| TE-132 | 49.72 | 13.10 | 3.30E+02 | 3.66E+01 | -2.37E+01 | 1.60E+02 |
| | 228.16 | 88.00 | 3.66E+01 | | 1.97E+01 | 1.76E+01 |
| BA-133 | 81.00 | 33.00 | 1.76E-01 | 9.53E-02 | -5.49E-01 | 8.57E-02 |
| | 302.84 | 17.80 | 3.01E-01 | | 1.01E-01 | 1.44E-01 |
| | 356.01 | 60.00 | 9.53E-02 | | -7.81E-01 | 4.54E-02 |
| I-133 | 529.87 | 86.30 | 1.90E+09 | 1.90E+09 | -6.85E+06 | 8.93E+08 |
| XE-133 | 81.00 | 38.00 | 8.05E+00 | 8.05E+00 | -2.52E+01 | 3.93E+00 |
| CS-134 | 563.23 | 8.38 | 7.76E-01 | 7.04E-02 | 5.99E-02 | 3.65E-01 |
| | 569.32 | 15.43 | 4.23E-01 | | -2.20E-02 | 1.99E-01 |

Analysis Report for 1510085-11
CP5006S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CS-134 | 604.70 | 97.60 | 7.04E-02 | 7.04E-02 | 6.21E-03 | 3.31E-02 |
| | 795.84 | 85.40 | 8.92E-02 | | 3.46E-02 | 4.16E-02 |
| | 801.93 | 8.73 | 7.93E-01 | | -3.63E-01 | 3.67E-01 |
| CS-135 | 268.24 | 16.00 | 3.51E-01 | 3.51E-01 | 8.36E-02 | 1.69E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.46E+00 | 3.03E-01 | 1.48E+00 | 1.68E+00 |
| | 163.89 | 4.61 | 5.63E+00 | | 3.62E+00 | 2.73E+00 |
| | 176.55 | 13.56 | 1.80E+00 | | 8.60E-02 | 8.67E-01 |
| | 273.65 | 12.66 | 2.06E+00 | | -1.66E-01 | 9.87E-01 |
| | 340.57 | 48.50 | 6.51E-01 | | 5.29E-01 | 3.13E-01 |
| | 818.50 | 99.70 | 3.03E-01 | | -9.05E-02 | 1.39E-01 |
| | 1048.07 | 79.60 | 4.32E-01 | | -1.43E-02 | 1.97E-01 |
| | 1235.34 | 19.70 | 2.40E+00 | | -1.87E+00 | 1.11E+00 |
| CS-137 | 661.65 | 85.12 | 8.90E-02 | 8.90E-02 | 4.90E-02 | 4.20E-02 |
| LA-138 | 788.74 | 34.00 | 2.15E-01 | 9.84E-02 | 8.34E-02 | 1.00E-01 |
| | 1435.80 | 66.00 | 9.84E-02 | | 3.61E-02 | 4.33E-02 |
| CE-139 | 165.85 | 80.35 | 7.31E-02 | 7.31E-02 | -2.19E-04 | 3.53E-02 |
| BA-140 | 162.64 | 6.70 | 4.02E+00 | 1.16E+00 | 1.06E+00 | 1.95E+00 |
| | 304.84 | 4.50 | 5.38E+00 | | -5.76E-01 | 2.55E+00 |
| | 423.70 | 3.20 | 1.00E+01 | | -3.30E+00 | 4.76E+00 |
| | 437.55 | 2.00 | 1.60E+01 | | 6.45E-01 | 7.59E+00 |
| | 537.32 | 25.00 | 1.16E+00 | | -1.87E-01 | 5.45E-01 |
| LA-140 | 328.77 | 20.50 | 1.43E+00 | 3.54E-01 | 5.23E-01 | 6.81E-01 |
| | 487.03 | 45.50 | 6.69E-01 | | -1.23E-01 | 3.16E-01 |
| | 815.85 | 23.50 | 1.47E+00 | | -2.02E-02 | 6.79E-01 |
| | 1596.49 | 95.49 | 3.54E-01 | | 8.31E-03 | 1.55E-01 |
| CE-141 | 145.44 | 48.40 | 1.99E-01 | 1.99E-01 | 8.07E-02 | 9.63E-02 |
| CE-143 | 57.36 | 11.80 | 2.01E+06 | 8.79E+05 | 1.07E+05 | 9.77E+05 |
| | 293.26 | 42.00 | 8.79E+05 | | 3.00E+06 | 4.29E+05 |
| | 664.55 | 5.20 | 5.41E+06 | | 1.07E+06 | 2.55E+06 |
| CE-144 | 133.54 | 10.80 | 4.98E-01 | 4.98E-01 | 2.05E-01 | 2.42E-01 |
| PM-144 | 476.78 | 42.00 | 1.53E-01 | 7.18E-02 | -7.65E-02 | 7.22E-02 |
| | 618.01 | 98.60 | 7.18E-02 | | 1.42E-02 | 3.37E-02 |
| | 696.49 | 99.49 | 7.44E-02 | | -4.32E-03 | 3.48E-02 |
| PM-145 | 36.85 | 21.70 | 5.63E-01 | 2.98E-01 | -1.11E-01 | 2.72E-01 |
| | 37.36 | 39.70 | 2.98E-01 | | -8.54E-02 | 1.44E-01 |
| | 42.30 | 15.10 | 6.02E-01 | | 3.90E-01 | 2.92E-01 |
| | 72.40 | 2.31 | 3.19E+00 | | -2.24E+00 | 1.56E+00 |
| PM-146 | 453.90 | 39.94 | 1.49E-01 | 1.49E-01 | 1.08E-02 | 7.05E-02 |
| | 735.90 | 14.01 | 4.80E-01 | | 3.90E-02 | 2.23E-01 |
| | 747.13 | 13.10 | 4.95E-01 | | 4.10E-02 | 2.29E-01 |
| ND-147 | 91.11 | 28.90 | 1.58E+00 | 1.58E+00 | -1.34E+00 | 7.75E-01 |
| | 531.02 | 13.10 | 3.13E+00 | | 1.35E+00 | 1.47E+00 |
| PM-149 | 285.90 | 3.10 | 1.94E+04 | 1.94E+04 | -3.13E+03 | 9.22E+03 |
| EU-152 | 121.78 | 20.50 | 2.31E-01 | 2.31E-01 | 6.10E-02 | 1.12E-01 |
| | 244.69 | 5.40 | 1.15E+00 | | -8.47E-02 | 5.58E-01 |
| | 344.27 | 19.13 | 2.83E-01 | | 5.15E-02 | 1.35E-01 |
| | 778.89 | 9.20 | 7.24E-01 | | 1.96E-02 | 3.36E-01 |
| | 964.01 | 10.40 | 8.51E-01 | | -4.75E-01 | 3.98E-01 |
| | 1085.78 | 7.22 | 9.46E-01 | | 4.00E-01 | 4.29E-01 |
| | 1112.02 | 9.60 | 8.29E-01 | | 4.76E-01 | 3.81E-01 |

Analysis Report for 1510085-11

CP5006S01-02

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|----------|
| EU-152 | 1407.95 | 14.94 | 5.41E-01 | 2.31E-01 | 2.30E-01 | 2.44E-01 | |
| GD-153 | 97.43 | 31.30 | 1.68E-01 | 1.68E-01 | 6.78E-02 | 8.15E-02 | |
| | 103.18 | 22.20 | 2.30E-01 | | 5.94E-02 | 1.12E-01 | |
| EU-154 | 123.07 | 40.50 | 1.19E-01 | 1.19E-01 | 7.07E-02 | 5.77E-02 | |
| | 723.30 | 19.70 | 3.58E-01 | | 2.80E-02 | 1.67E-01 | |
| | 873.19 | 11.50 | 5.41E-01 | | -1.15E-01 | 2.47E-01 | |
| | 996.32 | 10.30 | 7.18E-01 | | 2.33E-01 | 3.30E-01 | |
| | 1004.76 | 17.90 | 4.11E-01 | | -3.00E-02 | 1.89E-01 | |
| | 1274.45 | 35.50 | 1.92E-01 | | -2.02E-02 | 8.57E-02 | |
| EU-155 | 86.50 | 30.90 | 2.08E-01 | 2.08E-01 | -5.33E-02 | 1.02E-01 | |
| | 105.30 | 20.70 | 2.30E-01 | | -6.52E-02 | 1.12E-01 | |
| EU-156 | 811.77 | 10.40 | 2.66E+00 | 2.66E+00 | 5.04E-01 | 1.24E+00 | |
| | 1153.47 | 7.20 | 5.08E+00 | | 1.23E+00 | 2.36E+00 | |
| | 1230.71 | 8.90 | 4.22E+00 | | -1.71E-01 | 1.95E+00 | |
| HO-166M | 184.41 | 72.60 | 9.68E-02 | 9.68E-02 | 2.06E-01 | 4.72E-02 | |
| | 280.45 | 29.60 | 1.75E-01 | | 2.58E-02 | 8.36E-02 | |
| | 410.94 | 11.10 | 5.87E-01 | | 3.05E-01 | 2.80E-01 | |
| | 711.69 | 54.10 | 1.19E-01 | | -1.24E-02 | 5.53E-02 | |
| TM-171 | 66.72 | 0.14 | 4.76E+01 | 4.76E+01 | 1.41E+01 | 2.33E+01 | |
| HF-172 | 81.75 | 4.52 | 1.32E+00 | 4.38E-01 | -1.68E+00 | 6.43E-01 | |
| | 125.81 | 11.30 | 4.38E-01 | | -1.06E-01 | 2.12E-01 | |
| LU-172 | 181.53 | 20.60 | 5.80E+00 | 3.00E+00 | 1.30E+00 | 2.80E+00 | |
| | 810.06 | 16.63 | 9.45E+00 | | -3.46E+00 | 4.39E+00 | |
| | 912.12 | 15.25 | 1.90E+01 | | 4.01E+01 | 9.11E+00 | |
| | 1093.66 | 62.50 | 3.00E+00 | | 8.58E-01 | 1.39E+00 | |
| LU-173 | 100.72 | 5.24 | 9.52E-01 | 2.91E-01 | 3.37E-01 | 4.62E-01 | |
| | 272.11 | 21.20 | 2.91E-01 | | 2.29E-01 | 1.40E-01 | |
| HF-175 | 343.40 | 84.00 | 8.63E-02 | 8.63E-02 | 2.24E-02 | 4.11E-02 | |
| LU-176 | 88.34 | 13.30 | 4.90E-01 | 5.20E-02 | 7.31E-01 | 2.40E-01 | |
| | 201.83 | 86.00 | 5.95E-02 | | -1.91E-03 | 2.87E-02 | |
| | 306.78 | 94.00 | 5.20E-02 | | 3.59E-03 | 2.47E-02 | |
| TA-182 | 67.75 | 41.20 | 1.83E-01 | 1.83E-01 | 6.42E-03 | 8.91E-02 | |
| | 1121.30 | 34.90 | 4.57E-01 | | 7.15E-01 | 2.17E-01 | |
| | 1189.05 | 16.23 | 5.90E-01 | | -7.08E-02 | 2.70E-01 | |
| | 1221.41 | 26.98 | 3.50E-01 | | -1.01E-01 | 1.59E-01 | |
| | 1231.02 | 11.44 | 9.99E-01 | | -4.06E-02 | 4.63E-01 | |
| IR-192 | 308.46 | 29.68 | 2.16E-01 | 1.65E-01 | -2.61E-02 | 1.03E-01 | |
| | 468.07 | 48.10 | 1.65E-01 | | -6.87E-02 | 7.81E-02 | |
| HG-203 | 279.19 | 77.30 | 1.04E-01 | 1.04E-01 | -2.37E-02 | 4.96E-02 | |
| BI-207 | 569.67 | 97.72 | 6.69E-02 | 6.69E-02 | 3.74E-03 | 3.15E-02 | |
| | 1063.62 | 74.90 | 1.08E-01 | | -1.70E-03 | 4.97E-02 | |
| + TL-208 | 583.14 | * | 30.22 | 2.75E-01 | 9.96E-02 | 8.72E-01 | 1.31E-01 |
| | 860.37 | | 4.48 | 1.76E+00 | | 1.64E+00 | 8.21E-01 |
| | 2614.66 | * | 35.85 | 9.96E-02 | | 6.70E-01 | 3.53E-02 |
| BI-210M | 262.00 | | 45.00 | 1.03E-01 | 1.03E-01 | -2.61E-02 | 4.93E-02 |
| | 300.00 | | 23.00 | 2.43E-01 | | -1.13E+00 | 1.16E-01 |
| + PB-210 | 46.50 | * | 4.25 | 2.61E+00 | 2.61E+00 | 1.62E+00 | 1.28E+00 |
| PB-211 | 404.84 | | 2.90 | 1.76E+00 | 1.76E+00 | -4.49E-01 | 8.30E-01 |
| | 831.96 | | 2.90 | 2.65E+00 | | -8.62E-01 | 1.23E+00 |
| + BI-212 | 727.17 | * | 11.80 | 7.27E-01 | 7.27E-01 | 5.62E-01 | 3.44E-01 |
| | 1620.62 | | 2.75 | 2.57E+00 | | 1.41E+00 | 1.13E+00 |
| + PB-212 | 238.63 | * | 44.60 | 2.42E-01 | 2.42E-01 | 9.68E-01 | 1.19E-01 |
| | 300.09 | * | 3.41 | 3.29E+00 | | 1.33E+00 | 1.61E+00 |

Analysis Report for 1510085-11
CP5006S01-02

| | Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|---|---------------------|---------------------|--------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|----------|
| + | BI-214 | 609.31 | * | 46.30 | 1.62E-01 | 1.62E-01 | 1.58E+00 | 7.65E-02 | |
| | | 1120.29 | * | 15.10 | 7.19E-01 | | 1.37E+00 | 3.38E-01 | |
| | | 1764.49 | * | 15.80 | 4.44E-01 | | 1.99E+00 | 1.94E-01 | |
| | | 2204.22 | * | 4.98 | 1.06E+00 | | 1.46E+00 | 4.28E-01 | |
| + | PB-214 | 295.21 | * | 19.19 | 5.76E-01 | 2.56E-01 | 2.10E+00 | 2.82E-01 | |
| | | 351.92 | * | 37.19 | 2.56E-01 | | 1.81E+00 | 1.24E-01 | |
| | RN-219 | 401.80 | | 6.50 | 7.98E-01 | 7.98E-01 | -8.43E-02 | 3.76E-01 | |
| | RA-223 | 323.87 | | 3.88 | 1.26E+00 | 1.26E+00 | -7.61E-01 | 5.98E-01 | |
| | RA-224 | 240.98 | | 3.95 | 2.72E+00 | 2.72E+00 | 1.21E+01 | 1.34E+00 | |
| | RA-225 | 40.00 | | 31.00 | 1.35E+00 | 1.35E+00 | -1.84E-01 | 6.53E-01 | |
| + | RA-226 | 186.21 | * | 3.28 | 2.55E+00 | 2.55E+00 | 3.01E+00 | 1.25E+00 | |
| | | TH-227 | 50.10 | | 8.40 | 8.51E-01 | 5.05E-01 | -6.11E-02 | 4.13E-01 |
| | | 236.00 | | 11.50 | 5.05E-01 | | -3.66E+00 | 2.44E-01 | |
| | | 256.20 | | 6.30 | 7.82E-01 | | -1.05E-01 | 3.74E-01 | |
| + | AC-228 | 338.32 | * | 11.40 | 6.17E-01 | 2.77E-01 | 7.50E-01 | 2.97E-01 | |
| | | 911.07 | * | 27.70 | 2.77E-01 | | 9.87E-01 | 1.28E-01 | |
| | | 969.11 | | 16.60 | 6.92E-01 | | 6.96E-01 | 3.29E-01 | |
| | TH-230 | 48.44 | | 16.90 | 5.13E-01 | 5.13E-01 | 8.11E-01 | 2.50E-01 | |
| | | 62.85 | | 4.60 | 1.62E+00 | | 3.07E+00 | 7.93E-01 | |
| | | 67.67 | | 0.37 | 1.70E+01 | | 5.97E-01 | 8.28E+00 | |
| | PA-231 | 283.67 | | 1.60 | 3.17E+00 | 2.32E+00 | 3.68E-02 | 1.51E+00 | |
| | | 302.67 | | 2.30 | 2.32E+00 | | 7.78E-01 | 1.11E+00 | |
| | TH-231 | 25.64 | | 14.70 | 3.83E+00 | 9.33E-01 | 7.34E-01 | 1.85E+00 | |
| | | 84.21 | | 6.40 | 9.33E-01 | | -1.45E+00 | 4.56E-01 | |
| | PA-233 | 311.98 | | 38.60 | 2.83E-01 | 2.83E-01 | -7.65E-02 | 1.35E-01 | |
| | PA-234 | 131.20 | | 20.40 | 2.43E-01 | 2.43E-01 | -9.14E-02 | 1.18E-01 | |
| | | 733.99 | | 8.80 | 7.07E-01 | | -1.09E-01 | 3.27E-01 | |
| | | 946.00 | | 12.00 | 5.22E-01 | | -1.75E-02 | 2.37E-01 | |
| | PA-234M | 1001.03 | | 0.92 | 8.66E+00 | 8.66E+00 | 3.36E+00 | 4.01E+00 | |
| + | TH-234 | 63.29 | * | 3.80 | 2.31E+00 | 2.31E+00 | 2.07E+00 | 1.13E+00 | |
| | | U-235 | 143.76 | | 10.50 | 4.84E-01 | 4.84E-01 | 5.60E-02 | 2.34E-01 |
| | | 163.35 | | 4.70 | 1.13E+00 | | 7.29E-01 | 5.49E-01 | |
| | | 205.31 | | 4.70 | 1.08E+00 | | -1.20E+00 | 5.19E-01 | |
| | NP-237 | 86.50 | | 12.60 | 5.04E-01 | 5.04E-01 | -1.29E-01 | 2.46E-01 | |
| | NP-239 | 106.10 | | 22.70 | 1.44E+03 | 1.44E+03 | -4.08E+02 | 6.98E+02 | |
| | | 228.18 | | 10.70 | 3.49E+03 | | 1.88E+03 | 1.68E+03 | |
| | | 277.60 | | 14.10 | 2.46E+03 | | -4.74E+02 | 1.17E+03 | |
| | AM-241 | 59.54 | | 35.90 | 1.80E-01 | 1.80E-01 | 1.78E-02 | 8.78E-02 | |
| + | AM-243 | 74.67 | * | 66.00 | 1.81E-01 | 1.81E-01 | 2.52E-01 | 8.96E-02 | |
| | | CM-243 | 209.75 | | 3.29 | 1.73E+00 | 3.58E-01 | 1.25E+00 | 8.36E-01 |
| | | | 228.14 | | 10.60 | 5.10E-01 | | 2.74E-01 | 2.46E-01 |
| | | 277.60 | | 14.00 | 3.58E-01 | | -6.90E-02 | 1.71E-01 | |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

Analysis Report for 1510085-11
CP5006S01-02

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S01-02

Elapsed Live time: 3600

Elapsed Real Time: 3601

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 54 | 78 | 62 | 69 | 51 | 57 |
| 25: | 55 | 72 | 69 | 51 | 62 | 69 | 53 | 59 |
| 33: | 40 | 57 | 56 | 52 | 58 | 56 | 59 | 61 |
| 41: | 66 | 71 | 70 | 45 | 69 | 93 | 180 | 89 |
| 49: | 69 | 83 | 85 | 55 | 71 | 82 | 75 | 77 |
| 57: | 77 | 92 | 86 | 86 | 102 | 117 | 133 | 227 |
| 65: | 133 | 101 | 116 | 116 | 117 | 107 | 120 | 117 |
| 73: | 140 | 151 | 300 | 261 | 339 | 429 | 129 | 106 |
| 81: | 126 | 108 | 76 | 134 | 145 | 99 | 141 | 191 |
| 89: | 104 | 148 | 135 | 110 | 306 | 176 | 102 | 69 |
| 97: | 81 | 70 | 75 | 93 | 71 | 65 | 76 | 69 |
| 105: | 69 | 82 | 65 | 78 | 79 | 83 | 76 | 84 |
| 113: | 77 | 58 | 70 | 75 | 64 | 66 | 52 | 60 |
| 121: | 73 | 71 | 67 | 66 | 70 | 58 | 76 | 73 |
| 129: | 77 | 73 | 60 | 85 | 70 | 66 | 78 | 57 |
| 137: | 66 | 70 | 53 | 64 | 79 | 55 | 64 | 74 |
| 145: | 86 | 66 | 58 | 56 | 59 | 79 | 69 | 74 |
| 153: | 66 | 63 | 79 | 72 | 59 | 62 | 72 | 60 |
| 161: | 60 | 68 | 76 | 68 | 60 | 63 | 53 | 51 |
| 169: | 49 | 48 | 59 | 54 | 65 | 49 | 58 | 60 |
| 177: | 46 | 44 | 62 | 56 | 71 | 64 | 55 | 53 |
| 185: | 73 | 177 | 160 | 50 | 53 | 55 | 57 | 57 |
| 193: | 53 | 54 | 49 | 53 | 41 | 56 | 57 | 46 |
| 201: | 45 | 47 | 62 | 41 | 43 | 58 | 44 | 45 |
| 209: | 63 | 85 | 53 | 39 | 46 | 50 | 41 | 56 |
| 217: | 42 | 52 | 47 | 42 | 41 | 46 | 45 | 40 |
| 225: | 45 | 48 | 40 | 39 | 51 | 52 | 32 | 38 |
| 233: | 42 | 48 | 36 | 36 | 49 | 87 | 397 | 149 |
| 241: | 66 | 152 | 120 | 48 | 41 | 43 | 28 | 37 |
| 249: | 40 | 30 | 35 | 30 | 35 | 29 | 24 | 49 |
| 257: | 31 | 30 | 36 | 35 | 23 | 23 | 22 | 37 |
| 265: | 34 | 25 | 27 | 24 | 45 | 44 | 61 | 52 |
| 273: | 36 | 26 | 35 | 28 | 23 | 47 | 26 | 26 |
| 281: | 35 | 32 | 40 | 29 | 23 | 26 | 28 | 31 |
| 289: | 20 | 29 | 30 | 23 | 28 | 33 | 177 | 294 |
| 297: | 64 | 23 | 23 | 44 | 52 | 28 | 25 | 22 |
| 305: | 25 | 26 | 20 | 28 | 25 | 22 | 26 | 16 |
| 313: | 35 | 31 | 41 | 21 | 24 | 24 | 32 | 20 |
| 321: | 27 | 21 | 19 | 31 | 18 | 26 | 26 | 41 |
| 329: | 35 | 29 | 26 | 23 | 37 | 26 | 26 | 17 |
| 337: | 29 | 46 | 90 | 24 | 28 | 22 | 29 | 23 |
| 345: | 25 | 30 | 22 | 22 | 24 | 21 | 66 | 390 |
| 353: | 279 | 47 | 21 | 22 | 29 | 18 | 18 | 17 |
| 361: | 23 | 17 | 15 | 20 | 16 | 24 | 14 | 16 |

369: 19 15 24 29 27 17 28 8

Sample Title: CP5006S01-02

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 11 | 10 | 19 | 15 | 21 | 19 | 20 | 18 |
| 385: | 9 | 19 | 21 | 21 | 14 | 22 | 12 | 21 |
| 393: | 17 | 20 | 21 | 22 | 14 | 19 | 20 | 22 |
| 401: | 16 | 23 | 16 | 17 | 22 | 18 | 17 | 17 |
| 409: | 25 | 32 | 21 | 14 | 17 | 21 | 18 | 14 |
| 417: | 22 | 18 | 18 | 26 | 20 | 12 | 18 | 15 |
| 425: | 21 | 19 | 25 | 17 | 24 | 25 | 18 | 15 |
| 433: | 21 | 14 | 17 | 14 | 13 | 14 | 22 | 27 |
| 441: | 16 | 15 | 18 | 10 | 16 | 18 | 22 | 13 |
| 449: | 15 | 18 | 15 | 12 | 23 | 15 | 19 | 9 |
| 457: | 9 | 14 | 11 | 15 | 18 | 22 | 21 | 34 |
| 465: | 17 | 12 | 18 | 12 | 13 | 16 | 13 | 22 |
| 473: | 20 | 16 | 15 | 10 | 15 | 16 | 18 | 10 |
| 481: | 12 | 19 | 16 | 11 | 11 | 21 | 10 | 17 |
| 489: | 7 | 17 | 11 | 14 | 11 | 12 | 10 | 12 |
| 497: | 13 | 9 | 15 | 15 | 15 | 11 | 10 | 12 |
| 505: | 16 | 23 | 10 | 15 | 18 | 42 | 65 | 54 |
| 513: | 18 | 19 | 16 | 17 | 7 | 13 | 9 | 12 |
| 521: | 15 | 10 | 20 | 7 | 15 | 7 | 11 | 15 |
| 529: | 11 | 13 | 11 | 12 | 10 | 15 | 10 | 10 |
| 537: | 9 | 10 | 10 | 12 | 12 | 14 | 7 | 19 |
| 545: | 12 | 12 | 7 | 11 | 10 | 6 | 11 | 9 |
| 553: | 9 | 16 | 18 | 10 | 11 | 12 | 11 | 9 |
| 561: | 15 | 8 | 17 | 15 | 13 | 7 | 11 | 12 |
| 569: | 8 | 20 | 8 | 17 | 12 | 9 | 19 | 13 |
| 577: | 12 | 7 | 7 | 7 | 11 | 14 | 72 | 90 |
| 585: | 24 | 11 | 17 | 15 | 8 | 9 | 5 | 4 |
| 593: | 10 | 12 | 6 | 10 | 13 | 15 | 14 | 11 |
| 601: | 15 | 6 | 8 | 18 | 12 | 10 | 5 | 25 |
| 609: | 144 | 307 | 74 | 6 | 14 | 9 | 14 | 9 |
| 617: | 18 | 12 | 5 | 10 | 13 | 7 | 12 | 11 |
| 625: | 9 | 18 | 11 | 14 | 6 | 8 | 9 | 11 |
| 633: | 5 | 11 | 8 | 15 | 8 | 10 | 10 | 12 |
| 641: | 4 | 7 | 13 | 6 | 4 | 6 | 10 | 6 |
| 649: | 9 | 6 | 8 | 10 | 10 | 8 | 6 | 10 |
| 657: | 7 | 7 | 6 | 8 | 19 | 19 | 18 | 12 |
| 665: | 12 | 12 | 12 | 5 | 15 | 6 | 14 | 5 |
| 673: | 7 | 12 | 7 | 11 | 9 | 9 | 14 | 3 |
| 681: | 9 | 7 | 12 | 7 | 9 | 12 | 4 | 5 |
| 689: | 7 | 7 | 11 | 8 | 12 | 9 | 8 | 7 |
| 697: | 10 | 14 | 13 | 12 | 9 | 14 | 10 | 14 |
| 705: | 10 | 12 | 12 | 6 | 11 | 5 | 6 | 8 |
| 713: | 9 | 9 | 11 | 10 | 8 | 10 | 5 | 7 |
| 721: | 11 | 13 | 6 | 11 | 7 | 14 | 18 | 18 |
| 729: | 12 | 9 | 9 | 4 | 8 | 6 | 11 | 7 |
| 737: | 7 | 10 | 11 | 9 | 10 | 12 | 7 | 6 |
| 745: | 11 | 4 | 6 | 10 | 11 | 6 | 6 | 5 |
| 753: | 5 | 6 | 8 | 6 | 7 | 9 | 7 | 6 |
| 761: | 6 | 10 | 7 | 13 | 11 | 14 | 13 | 16 |
| 769: | 27 | 5 | 6 | 7 | 9 | 9 | 11 | 7 |
| 777: | 8 | 7 | 7 | 5 | 9 | 11 | 5 | 6 |
| 785: | 2 | 16 | 14 | 7 | 9 | 9 | 5 | 5 |
| 793: | 9 | 8 | 17 | 12 | 9 | 6 | 5 | 10 |

801: 7 8 4 10 9 13 11 8

Sample Title: CP5006S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|----|----|----|----|----|----|----|----|---|
| 809: | 2 | 12 | 11 | 4 | 9 | 8 | 11 | 3 | |
| 817: | 7 | 6 | 8 | 8 | 7 | 4 | 6 | 6 | |
| 825: | 7 | 7 | 6 | 11 | 8 | 10 | 6 | 11 | |
| 833: | 16 | 7 | 8 | 13 | 14 | 11 | 9 | 11 | |
| 841: | 19 | 7 | 12 | 5 | 2 | 8 | 7 | 7 | |
| 849: | 3 | 7 | 7 | 8 | 2 | 11 | 4 | 5 | |
| 857: | 4 | 4 | 8 | 10 | 14 | 15 | 11 | 3 | |
| 865: | 4 | 11 | 6 | 4 | 6 | 6 | 6 | 3 | |
| 873: | 7 | 1 | 8 | 7 | 13 | 2 | 8 | 10 | |
| 881: | 3 | 9 | 5 | 11 | 8 | 6 | 6 | 10 | |
| 889: | 14 | 7 | 3 | 8 | 5 | 10 | 5 | 4 | |
| 897: | 6 | 9 | 7 | 8 | 11 | 6 | 3 | 7 | |
| 905: | 8 | 12 | 8 | 2 | 12 | 9 | 49 | 69 | |
| 913: | 22 | 6 | 4 | 4 | 7 | 8 | 4 | 9 | |
| 921: | 5 | 8 | 4 | 5 | 7 | 10 | 11 | 7 | |
| 929: | 7 | 4 | 6 | 5 | 8 | 14 | 19 | 6 | |
| 937: | 6 | 8 | 4 | 7 | 4 | 6 | 8 | 4 | |
| 945: | 1 | 3 | 4 | 6 | 8 | 4 | 6 | 7 | |
| 953: | 10 | 8 | 2 | 8 | 4 | 5 | 5 | 6 | |
| 961: | 5 | 4 | 7 | 12 | 17 | 14 | 10 | 9 | |
| 969: | 34 | 35 | 11 | 7 | 2 | 9 | 8 | 8 | |
| 977: | 2 | 5 | 6 | 12 | 6 | 6 | 3 | 6 | |
| 985: | 7 | 9 | 2 | 3 | 6 | 9 | 1 | 1 | |
| 993: | 6 | 5 | 6 | 5 | 7 | 6 | 9 | 5 | |
| 1001: | 11 | 11 | 4 | 6 | 4 | 6 | 5 | 7 | |
| 1009: | 3 | 8 | 7 | 7 | 5 | 5 | 4 | 10 | |
| 1017: | 3 | 8 | 7 | 8 | 9 | 3 | 2 | 4 | |
| 1025: | 10 | 7 | 5 | 5 | 3 | 4 | 5 | 4 | |
| 1033: | 5 | 7 | 9 | 7 | 3 | 5 | 6 | 7 | |
| 1041: | 10 | 4 | 7 | 5 | 5 | 3 | 10 | 4 | |
| 1049: | 4 | 5 | 6 | 7 | 3 | 5 | 5 | 9 | |
| 1057: | 5 | 4 | 6 | 5 | 6 | 4 | 12 | 8 | |
| 1065: | 5 | 7 | 6 | 8 | 8 | 10 | 5 | 8 | |
| 1073: | 1 | 4 | 7 | 2 | 4 | 3 | 4 | 5 | |
| 1081: | 3 | 1 | 4 | 4 | 3 | 5 | 8 | 3 | |
| 1089: | 5 | 3 | 4 | 4 | 7 | 7 | 8 | 10 | |
| 1097: | 10 | 8 | 7 | 3 | 4 | 7 | 7 | 3 | |
| 1105: | 10 | 7 | 3 | 5 | 7 | 8 | 6 | 2 | |
| 1113: | 6 | 8 | 6 | 3 | 3 | 6 | 8 | 26 | |
| 1121: | 54 | 23 | 6 | 5 | 9 | 7 | 8 | 6 | |
| 1129: | 3 | 3 | 6 | 5 | 7 | 8 | 4 | 7 | |
| 1137: | 5 | 9 | 7 | 11 | 3 | 3 | 7 | 7 | |
| 1145: | 6 | 5 | 14 | 9 | 7 | 0 | 9 | 7 | |
| 1153: | 6 | 13 | 12 | 10 | 5 | 6 | 4 | 7 | |
| 1161: | 4 | 4 | 10 | 5 | 6 | 4 | 5 | 4 | |
| 1169: | 5 | 8 | 8 | 4 | 8 | 5 | 6 | 3 | |
| 1177: | 5 | 7 | 9 | 8 | 12 | 3 | 10 | 6 | |
| 1185: | 5 | 8 | 3 | 10 | 6 | 3 | 2 | 7 | |
| 1193: | 6 | 7 | 3 | 6 | 7 | 4 | 7 | 5 | |
| 1201: | 9 | 6 | 4 | 7 | 6 | 3 | 1 | 12 | |
| 1209: | 11 | 7 | 5 | 6 | 5 | 6 | 7 | 3 | |
| 1217: | 8 | 6 | 2 | 7 | 10 | 5 | 3 | 3 | |
| 1225: | 10 | 4 | 9 | 6 | 8 | 8 | 10 | 5 | |

1233: 4 13 4 8 5 17 14 17

Sample Title: CP5006S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|----|----|----|----|-----|-----|----|----|---|
| 1241: | 7 | 5 | 7 | 7 | 8 | 7 | 11 | 9 | |
| 1249: | 4 | 5 | 6 | 9 | 6 | 5 | 9 | 6 | |
| 1257: | 1 | 5 | 5 | 5 | 4 | 4 | 3 | 8 | |
| 1265: | 5 | 7 | 2 | 4 | 5 | 5 | 4 | 4 | |
| 1273: | 4 | 2 | 4 | 4 | 2 | 5 | 2 | 6 | |
| 1281: | 17 | 4 | 6 | 7 | 1 | 3 | 4 | 6 | |
| 1289: | 4 | 2 | 5 | 5 | 4 | 3 | 5 | 5 | |
| 1297: | 2 | 5 | 3 | 5 | 2 | 2 | 4 | 1 | |
| 1305: | 4 | 6 | 3 | 4 | 6 | 3 | 5 | 5 | |
| 1313: | 4 | 4 | 6 | 0 | 4 | 6 | 5 | 4 | |
| 1321: | 1 | 3 | 8 | 3 | 1 | 4 | 4 | 2 | |
| 1329: | 7 | 2 | 4 | 1 | 2 | 4 | 4 | 3 | |
| 1337: | 4 | 3 | 1 | 0 | 2 | 2 | 2 | 2 | |
| 1345: | 2 | 2 | 7 | 3 | 5 | 3 | 5 | 2 | |
| 1353: | 4 | 2 | 4 | 4 | 4 | 8 | 2 | 3 | |
| 1361: | 3 | 5 | 4 | 2 | 4 | 3 | 3 | 3 | |
| 1369: | 0 | 5 | 2 | 6 | 2 | 3 | 2 | 3 | |
| 1377: | 6 | 16 | 7 | 4 | 2 | 4 | 3 | 4 | |
| 1385: | 5 | 3 | 7 | 6 | 0 | 2 | 6 | 1 | |
| 1393: | 5 | 3 | 4 | 1 | 2 | 2 | 5 | 5 | |
| 1401: | 3 | 6 | 4 | 3 | 0 | 1 | 6 | 5 | |
| 1409: | 7 | 9 | 2 | 2 | 1 | 1 | 7 | 5 | |
| 1417: | 0 | 2 | 3 | 0 | 2 | 4 | 1 | 2 | |
| 1425: | 4 | 1 | 2 | 1 | 1 | 3 | 3 | 1 | |
| 1433: | 3 | 3 | 1 | 4 | 2 | 5 | 0 | 1 | |
| 1441: | 1 | 2 | 5 | 3 | 0 | 1 | 1 | 4 | |
| 1449: | 2 | 5 | 2 | 3 | 0 | 1 | 3 | 5 | |
| 1457: | 4 | 0 | 12 | 69 | 225 | 166 | 46 | 10 | |
| 1465: | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 1473: | 1 | 5 | 2 | 6 | 3 | 2 | 3 | 4 | |
| 1481: | 3 | 1 | 2 | 2 | 2 | 0 | 2 | 3 | |
| 1489: | 4 | 3 | 1 | 1 | 3 | 1 | 1 | 2 | |
| 1497: | 3 | 3 | 1 | 1 | 2 | 4 | 5 | 6 | |
| 1505: | 3 | 1 | 3 | 1 | 4 | 7 | 3 | 6 | |
| 1513: | 4 | 5 | 2 | 2 | 2 | 1 | 2 | 7 | |
| 1521: | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 4 | |
| 1529: | 2 | 1 | 2 | 2 | 0 | 0 | 1 | 3 | |
| 1537: | 4 | 2 | 4 | 2 | 1 | 5 | 3 | 8 | |
| 1545: | 4 | 1 | 4 | 1 | 2 | 2 | 0 | 2 | |
| 1553: | 1 | 4 | 1 | 1 | 6 | 1 | 0 | 1 | |
| 1561: | 0 | 2 | 2 | 2 | 1 | 4 | 4 | 1 | |
| 1569: | 4 | 4 | 1 | 1 | 3 | 0 | 3 | 3 | |
| 1577: | 1 | 3 | 3 | 3 | 5 | 5 | 3 | 1 | |
| 1585: | 1 | 4 | 2 | 5 | 6 | 2 | 3 | 6 | |
| 1593: | 7 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | |
| 1601: | 1 | 4 | 1 | 0 | 1 | 3 | 1 | 1 | |
| 1609: | 1 | 2 | 0 | 3 | 3 | 0 | 0 | 0 | |
| 1617: | 1 | 3 | 3 | 1 | 5 | 4 | 1 | 2 | |
| 1625: | 1 | 2 | 1 | 4 | 1 | 6 | 1 | 4 | |
| 1633: | 2 | 2 | 0 | 1 | 1 | 1 | 2 | 2 | |
| 1641: | 3 | 1 | 1 | 2 | 3 | 3 | 0 | 1 | |
| 1649: | 0 | 1 | 2 | 2 | 2 | 2 | 0 | 0 | |
| 1657: | 0 | 0 | 1 | 3 | 1 | 5 | 5 | 0 | |

1665: 2 2 1 0 2 1 0 1

Sample Title: CP5006S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|----|---|----|----|----|---|---|---|
| 1673: | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 2 | |
| 1681: | 1 | 0 | 1 | 4 | 2 | 1 | 1 | 4 | |
| 1689: | 1 | 1 | 3 | 2 | 1 | 0 | 1 | 1 | |
| 1697: | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | |
| 1705: | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 2 | |
| 1713: | 2 | 2 | 2 | 1 | 2 | 0 | 2 | 0 | |
| 1721: | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 1 | |
| 1729: | 4 | 12 | 6 | 1 | 0 | 2 | 0 | 1 | |
| 1737: | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 1745: | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | |
| 1753: | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | |
| 1761: | 2 | 0 | 5 | 18 | 38 | 25 | 5 | 3 | |
| 1769: | 1 | 3 | 0 | 1 | 3 | 0 | 0 | 1 | |
| 1777: | 1 | 2 | 1 | 1 | 2 | 0 | 1 | 0 | |
| 1785: | 1 | 1 | 2 | 2 | 0 | 1 | 2 | 0 | |
| 1793: | 0 | 2 | 2 | 1 | 0 | 0 | 3 | 2 | |
| 1801: | 0 | 0 | 2 | 2 | 0 | 2 | 1 | 1 | |
| 1809: | 0 | 0 | 2 | 4 | 1 | 1 | 0 | 0 | |
| 1817: | 0 | 1 | 1 | 1 | 0 | 1 | 6 | 1 | |
| 1825: | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 2 | |
| 1833: | 1 | 0 | 1 | 1 | 3 | 3 | 1 | 0 | |
| 1841: | 0 | 1 | 0 | 2 | 0 | 3 | 4 | 8 | |
| 1849: | 4 | 1 | 2 | 0 | 0 | 2 | 2 | 1 | |
| 1857: | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | |
| 1865: | 2 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | |
| 1873: | 1 | 2 | 0 | 1 | 2 | 2 | 1 | 1 | |
| 1881: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | |
| 1889: | 1 | 0 | 5 | 1 | 1 | 0 | 3 | 0 | |
| 1897: | 1 | 2 | 3 | 0 | 2 | 1 | 0 | 1 | |
| 1905: | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | |
| 1913: | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 2 | |
| 1921: | 1 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | |
| 1929: | 1 | 1 | 3 | 2 | 0 | 0 | 2 | 0 | |
| 1937: | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | |
| 1945: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | |
| 1953: | 0 | 0 | 0 | 2 | 3 | 0 | 1 | 2 | |
| 1961: | 0 | 1 | 4 | 1 | 1 | 2 | 0 | 1 | |
| 1969: | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | |
| 1977: | 3 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | |
| 1985: | 2 | 1 | 1 | 2 | 0 | 1 | 2 | 1 | |
| 1993: | 3 | 1 | 1 | 1 | 0 | 0 | 2 | 1 | |
| 2001: | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | |
| 2009: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2017: | 4 | 1 | 3 | 0 | 0 | 0 | 1 | 0 | |
| 2025: | 0 | 2 | 0 | 3 | 0 | 0 | 1 | 1 | |
| 2033: | 1 | 0 | 1 | 2 | 0 | 2 | 1 | 2 | |
| 2041: | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | |
| 2049: | 1 | 0 | 2 | 1 | 0 | 2 | 0 | 0 | |
| 2057: | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | |
| 2065: | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | |
| 2073: | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | |
| 2081: | 2 | 1 | 1 | 0 | 2 | 2 | 1 | 1 | |
| 2089: | 1 | 0 | 0 | 0 | 2 | 1 | 2 | 0 | |

2097: 0 2 3 1 2 1 2 6

Sample Title: CP5006S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|----|---|---|---|
| 2105: | 3 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 2113: | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 2 |
| 2121: | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 0 |
| 2129: | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2137: | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2145: | 0 | 2 | 1 | 1 | 1 | 1 | 0 | 0 |
| 2153: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2161: | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 |
| 2169: | 1 | 0 | 0 | 2 | 3 | 2 | 3 | 0 |
| 2177: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2185: | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 1 |
| 2193: | 0 | 0 | 2 | 1 | 1 | 3 | 2 | 0 |
| 2201: | 1 | 3 | 3 | 2 | 10 | 5 | 0 | 0 |
| 2209: | 3 | 0 | 0 | 0 | 2 | 1 | 0 | 0 |
| 2217: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2225: | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 2 |
| 2233: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2241: | 1 | 0 | 0 | 2 | 0 | 1 | 2 | 0 |
| 2249: | 2 | 0 | 2 | 1 | 2 | 0 | 4 | 0 |
| 2257: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2265: | 1 | 2 | 0 | 0 | 2 | 0 | 1 | 1 |
| 2273: | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 1 |
| 2281: | 0 | 2 | 0 | 1 | 1 | 0 | 1 | 3 |
| 2289: | 0 | 1 | 1 | 4 | 1 | 3 | 2 | 1 |
| 2297: | 0 | 0 | 1 | 3 | 0 | 2 | 1 | 0 |
| 2305: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2313: | 2 | 1 | 0 | 1 | 3 | 0 | 2 | 0 |
| 2321: | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 2 |
| 2329: | 2 | 0 | 1 | 1 | 2 | 0 | 0 | 0 |
| 2337: | 0 | 2 | 0 | 1 | 0 | 1 | 1 | 1 |
| 2345: | 2 | 0 | 0 | 1 | 0 | 1 | 3 | 2 |
| 2353: | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 2361: | 0 | 0 | 0 | 3 | 2 | 0 | 2 | 0 |
| 2369: | 2 | 0 | 1 | 0 | 0 | 1 | 3 | 0 |
| 2377: | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 2385: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2393: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2401: | 1 | 1 | 3 | 1 | 1 | 0 | 2 | 1 |
| 2409: | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2417: | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 0 |
| 2425: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2433: | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 2441: | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 3 |
| 2449: | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 2 |
| 2457: | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2465: | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| 2473: | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 2481: | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 1 |
| 2489: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2497: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2505: | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 2513: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2521: | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |

2529: 1 0 1 0 0 2 1 0

Sample Title: CP5006S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|----|----|----|
| 2537: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2545: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2553: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 2561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2569: | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 2577: | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| 2585: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2593: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2601: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 2609: | 0 | 0 | 0 | 1 | 3 | 20 | 23 | 10 |
| 2617: | 6 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2625: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2633: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2657: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2665: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2673: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2681: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2689: | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 2697: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2705: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2713: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 2721: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2729: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2737: | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 2745: | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 2753: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2761: | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| 2769: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2793: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2801: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2817: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 2825: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2833: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2841: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2849: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 2857: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2873: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2881: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2889: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| 2897: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| 2905: | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 3 |
| 2913: | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |
| 2921: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2945: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2953: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

2961: 1 0 0 0 1 0 0 1

Sample Title: CP5006S01-02

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2969: | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2977: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2985: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2993: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3001: | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 |
| 3009: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3041: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3049: | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 3057: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3065: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2 |
| 3081: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3089: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3097: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3105: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3129: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3137: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3145: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3153: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3161: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3169: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3185: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3193: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3225: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3297: | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 3321: | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3345: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3353: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3377: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

3393: 0 0 0 0 0 0 0 0 1

Sample Title: CP5006S01-02

| | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3417: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3425: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3441: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 3457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3465: | 1 | 0 | 3 | 1 | 0 | 0 | 1 | 0 |
| 3473: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3481: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3505: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3513: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3609: | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 1 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3633: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3649: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3681: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3713: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3753: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3761: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3785: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3793: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3809: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

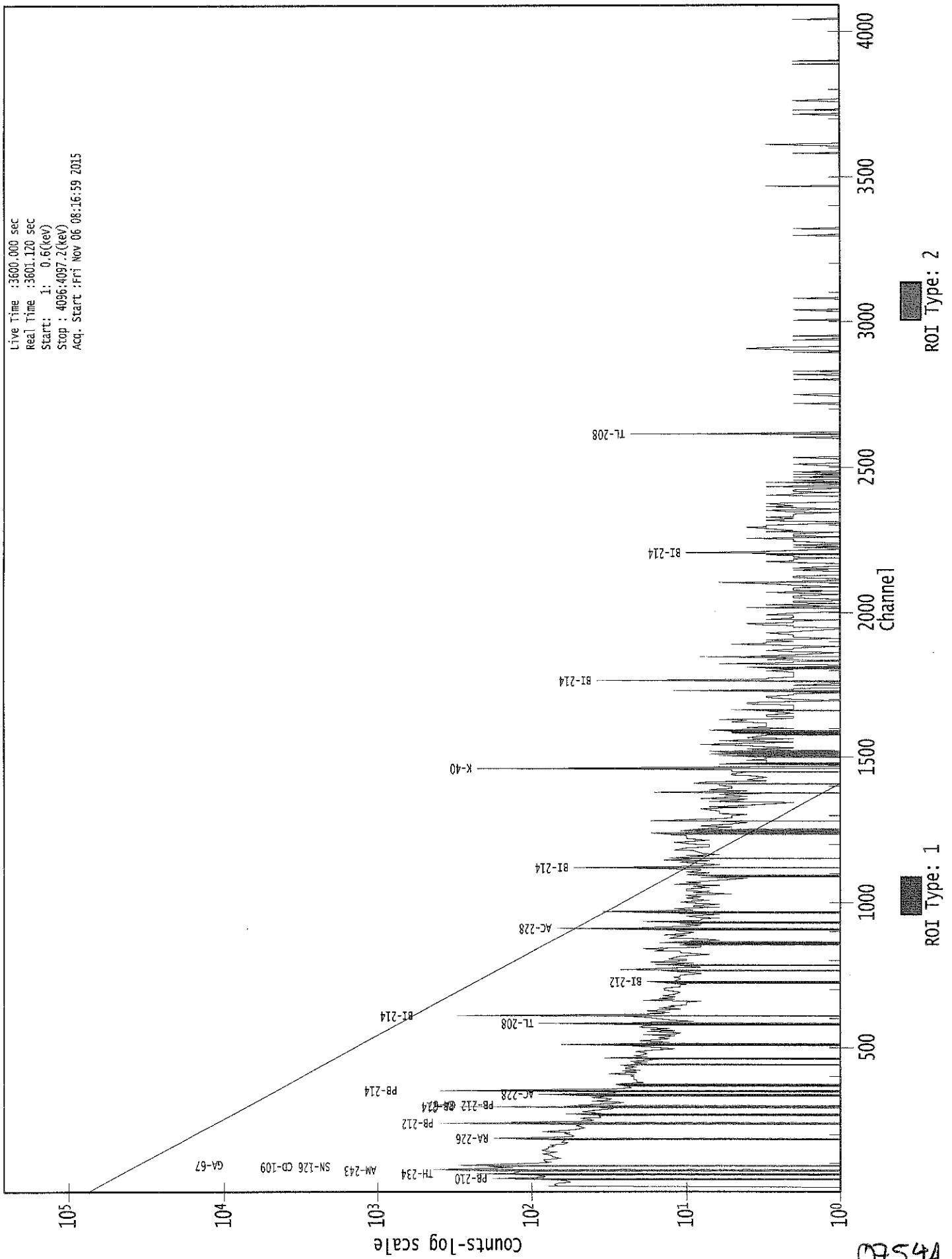
3825: 0 0 1 0 1 1 0 0

Sample Title: CP5006S01-02

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3865: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3913: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3937: | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3953: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029242.CNF

Live Time : 3600.000 sec
Real Time : 3601.120 sec
Start : 1: 0.6(keV)
Stop : 4096.4097.2(keV)
Acq. Start : Fri Nov 06 08:16:59 2015



4560

Analysis Report for 1510085-12
CP5006S03-04

1114

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-12
Sample Description : CP5006S03-04
Sample Type : SOIL

Sample Size : 5.727E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:40:58AM
Acquisition Started : 11/6/2015 8:17:05AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.4 seconds

Dead Time : 0.04 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 7 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29243

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-12
CP5006S03-04

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 9:17:22AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 63.49 | 63.59 | 0.0000 | 0.00 |
| 2 | 76.47 | 76.56 | 0.0000 | 0.00 |
| 3 | 87.47 | 87.55 | 0.0000 | 0.00 |
| 4 | 92.65 | 92.73 | 0.0000 | 0.00 |
| 5 | 129.42 | 129.48 | 0.0000 | 0.00 |
| 6 | 153.49 | 153.53 | 0.0000 | 0.00 |
| 7 | 186.05 | 186.07 | 0.0000 | 0.00 |
| 8 | 198.51 | 198.53 | 0.0000 | 0.00 |
| 9 | 207.27 | 207.28 | 0.0000 | 0.00 |
| 10 | 236.13 | 236.13 | 0.0000 | 0.00 |
| 11 | 239.01 | 239.01 | 0.0000 | 0.00 |
| 12 | 241.88 | 241.87 | 0.0000 | 0.00 |
| 13 | 270.20 | 270.18 | 0.0000 | 0.00 |
| 14 | 277.59 | 277.57 | 0.0000 | 0.00 |
| 15 | 291.32 | 291.28 | 0.0000 | 0.00 |
| 16 | 295.32 | 295.29 | 0.0000 | 0.00 |
| 17 | 328.33 | 328.28 | 0.0000 | 0.00 |
| 18 | 338.46 | 338.40 | 0.0000 | 0.00 |
| 19 | 351.94 | 351.88 | 0.0000 | 0.00 |
| 20 | 463.11 | 462.99 | 0.0000 | 0.00 |
| 21 | 507.30 | 507.16 | 0.0000 | 0.00 |
| 22 | 510.94 | 510.79 | 0.0000 | 0.00 |
| 23 | 570.18 | 570.01 | 0.0000 | 0.00 |
| 24 | 583.09 | 582.91 | 0.0000 | 0.00 |
| 25 | 597.70 | 597.52 | 0.0000 | 0.00 |
| 26 | 609.38 | 609.18 | 0.0000 | 0.00 |
| 27 | 727.35 | 727.10 | 0.0000 | 0.00 |
| 28 | 764.34 | 764.07 | 0.0000 | 0.00 |
| 29 | 768.45 | 768.18 | 0.0000 | 0.00 |
| 30 | 795.25 | 794.97 | 0.0000 | 0.00 |
| 31 | 861.21 | 860.91 | 0.0000 | 0.00 |
| 32 | 898.16 | 897.84 | 0.0000 | 0.00 |
| 33 | 911.31 | 910.99 | 0.0000 | 0.00 |
| 34 | 933.38 | 933.05 | 0.0000 | 0.00 |
| 35 | 964.13 | 963.78 | 0.0000 | 0.00 |
| 36 | 968.96 | 968.61 | 0.0000 | 0.00 |
| 37 | 1067.21 | 1066.82 | 0.0000 | 0.00 |
| 38 | 1120.18 | 1119.77 | 0.0000 | 0.00 |
| 39 | 1155.86 | 1155.44 | 0.0000 | 0.00 |
| 40 | 1238.32 | 1237.87 | 0.0000 | 0.00 |
| 41 | 1301.94 | 1301.47 | 0.0000 | 0.00 |
| 42 | 1318.21 | 1317.73 | 0.0000 | 0.00 |

Analysis Report for 1510085-12
CP5006S03-04

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1377.68 | 1377.18 | 0.0000 | 0.00 |
| 44 | 1385.92 | 1385.42 | 0.0000 | 0.00 |
| 45 | 1397.83 | 1397.32 | 0.0000 | 0.00 |
| 46 | 1401.71 | 1401.20 | 0.0000 | 0.00 |
| 47 | 1408.40 | 1407.90 | 0.0000 | 0.00 |
| 48 | 1445.66 | 1445.14 | 0.0000 | 0.00 |
| 49 | 1460.87 | 1460.35 | 0.0000 | 0.00 |
| 50 | 1537.40 | 1536.86 | 0.0000 | 0.00 |
| 51 | 1589.02 | 1588.46 | 0.0000 | 0.00 |
| 52 | 1593.06 | 1592.50 | 0.0000 | 0.00 |
| 53 | 1622.18 | 1621.62 | 0.0000 | 0.00 |
| 54 | 1631.09 | 1630.52 | 0.0000 | 0.00 |
| 55 | 1659.95 | 1659.37 | 0.0000 | 0.00 |
| 56 | 1726.21 | 1725.61 | 0.0000 | 0.00 |
| 57 | 1729.82 | 1729.22 | 0.0000 | 0.00 |
| 58 | 1764.41 | 1763.80 | 0.0000 | 0.00 |
| 59 | 1811.62 | 1811.00 | 0.0000 | 0.00 |
| 60 | 1822.73 | 1822.11 | 0.0000 | 0.00 |
| 61 | 1846.42 | 1845.80 | 0.0000 | 0.00 |
| 62 | 2101.47 | 2100.79 | 0.0000 | 0.00 |
| 63 | 2119.53 | 2118.85 | 0.0000 | 0.00 |
| 64 | 2174.72 | 2174.03 | 0.0000 | 0.00 |
| 65 | 2204.06 | 2203.37 | 0.0000 | 0.00 |
| 66 | 2291.42 | 2290.71 | 0.0000 | 0.00 |
| 67 | 2411.24 | 2410.52 | 0.0000 | 0.00 |
| 68 | 2614.50 | 2613.76 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-12

CP5006S03-04

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 9:17:22AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 63.49 | 61 - | 67 | 63.59 | 1.34E+02 | 108.00 | 2.04E+03 | 1.80 |
| 2 | 76.47 | 72 - | 82 | 76.56 | 1.57E+03 | 171.51 | 3.03E+03 | 3.77 |
| 3 | 87.47 | 86 - | 89 | 87.55 | 1.09E+02 | 74.86 | 1.31E+03 | 1.56 |
| 4 | 92.65 | 90 - | 97 | 92.73 | 3.40E+02 | 118.27 | 1.99E+03 | 1.43 |
| 5 | 129.42 | 126 - | 132 | 129.48 | 8.66E+01 | 84.93 | 1.24E+03 | 1.32 |
| 6 | 153.49 | 150 - | 157 | 153.53 | 1.10E+02 | 88.36 | 1.22E+03 | 2.83 |
| 7 | 186.05 | 183 - | 188 | 186.07 | 3.05E+02 | 72.87 | 8.12E+02 | 1.37 |
| 8 | 198.51 | 196 - | 201 | 198.53 | 6.70E+01 | 62.88 | 7.36E+02 | 3.80 |
| 9 | 207.27 | 202 - | 212 | 207.28 | 8.95E+01 | 100.85 | 1.31E+03 | 8.19 |
| M 10 | 236.13 | 235 - | 246 | 236.13 | 6.24E+01 | 28.14 | 2.21E+02 | 1.41 |
| m 11 | 239.01 | 235 - | 246 | 239.01 | 6.74E+02 | 67.41 | 4.09E+02 | 1.41 |
| m 12 | 241.88 | 235 - | 246 | 241.87 | 2.76E+02 | 54.92 | 3.73E+02 | 1.42 |
| 13 | 270.20 | 268 - | 274 | 270.18 | 7.11E+01 | 52.38 | 4.58E+02 | 1.79 |
| 14 | 277.59 | 274 - | 282 | 277.57 | 1.16E+02 | 62.75 | 5.32E+02 | 2.14 |
| M 15 | 291.32 | 290 - | 309 | 291.28 | 2.95E+01 | 26.27 | 1.79E+02 | 1.64 |
| m 16 | 295.32 | 290 - | 309 | 295.29 | 5.73E+02 | 60.19 | 2.86E+02 | 1.65 |
| 17 | 328.33 | 324 - | 332 | 328.28 | 5.06E+01 | 62.16 | 5.65E+02 | 2.54 |
| 18 | 338.46 | 335 - | 342 | 338.40 | 1.62E+02 | 54.26 | 3.79E+02 | 1.94 |
| 19 | 351.94 | 347 - | 356 | 351.88 | 1.03E+03 | 86.63 | 4.85E+02 | 1.42 |
| 20 | 463.11 | 459 - | 466 | 462.99 | 5.45E+01 | 43.59 | 2.81E+02 | 2.77 |
| M 21 | 507.30 | 505 - | 518 | 507.16 | 2.39E+01 | 27.76 | 1.34E+02 | 1.76 |
| m 22 | 510.94 | 505 - | 518 | 510.79 | 1.91E+02 | 44.12 | 2.01E+02 | 2.35 |
| 23 | 570.18 | 567 - | 573 | 570.01 | 3.90E+01 | 32.55 | 1.64E+02 | 2.75 |
| 24 | 583.09 | 578 - | 587 | 582.91 | 2.89E+02 | 53.91 | 2.50E+02 | 1.66 |
| 25 | 597.70 | 595 - | 601 | 597.52 | 3.38E+01 | 31.16 | 1.54E+02 | 3.69 |
| 26 | 609.38 | 605 - | 613 | 609.18 | 7.24E+02 | 69.60 | 2.96E+02 | 1.77 |
| 27 | 727.35 | 723 - | 731 | 727.10 | 8.91E+01 | 37.48 | 1.60E+02 | 2.32 |
| M 28 | 764.34 | 762 - | 776 | 764.07 | 1.65E+01 | 18.11 | 7.55E+01 | 2.02 |
| m 29 | 768.45 | 762 - | 776 | 768.18 | 7.09E+01 | 28.72 | 1.11E+02 | 2.02 |
| 30 | 795.25 | 791 - | 798 | 794.97 | 2.92E+01 | 32.06 | 1.52E+02 | 1.12 |
| 31 | 861.21 | 857 - | 866 | 860.91 | 4.26E+01 | 36.29 | 1.61E+02 | 1.72 |
| 32 | 898.16 | 895 - | 901 | 897.84 | 2.00E+01 | 23.89 | 8.60E+01 | 2.41 |
| 33 | 911.31 | 905 - | 915 | 910.99 | 1.63E+02 | 47.13 | 2.09E+02 | 1.83 |
| 34 | 933.38 | 929 - | 937 | 933.05 | 3.85E+01 | 29.77 | 1.13E+02 | 1.90 |
| M 35 | 964.13 | 959 - | 974 | 963.78 | 5.83E+01 | 27.71 | 8.00E+01 | 2.65 |
| m 36 | 968.96 | 959 - | 974 | 968.61 | 1.01E+02 | 27.35 | 6.00E+01 | 1.94 |
| 37 | 1067.21 | 1062 - | 1072 | 1066.82 | 3.37E+01 | 31.00 | 1.11E+02 | 8.60 |
| 38 | 1120.18 | 1116 - | 1123 | 1119.77 | 1.60E+02 | 33.47 | 8.09E+01 | 2.03 |
| 39 | 1155.86 | 1152 - | 1158 | 1155.44 | 2.59E+01 | 23.79 | 8.42E+01 | 1.33 |
| 40 | 1238.32 | 1234 - | 1242 | 1237.87 | 3.85E+01 | 35.12 | 1.65E+02 | 2.14 |

Analysis Report for 1510085-12

CP5006S03-04

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 41 | 1301.94 | 1297 - | 1307 | 1301.47 | 2.99E+01 | 23.12 | 5.62E+01 | 7.99 |
| 42 | 1318.21 | 1313 - | 1323 | 1317.73 | 2.57E+01 | 21.64 | 4.67E+01 | 2.31 |
| 43 | 1377.68 | 1373 - | 1381 | 1377.18 | 4.37E+01 | 21.22 | 4.66E+01 | 2.03 |
| 44 | 1385.92 | 1382 - | 1391 | 1385.42 | 1.90E+01 | 18.87 | 4.00E+01 | 3.25 |
| M | 45 | 1397.83 | 1396 - | 1397.32 | 1.04E+01 | 5.92 | 6.24E+00 | 2.75 |
| m | 46 | 1401.71 | 1396 - | 1401.20 | 1.96E+01 | 12.92 | 2.17E+01 | 2.04 |
| 47 | 1408.40 | 1404 - | 1413 | 1407.90 | 4.80E+01 | 21.73 | 4.00E+01 | 2.05 |
| 48 | 1445.66 | 1441 - | 1449 | 1445.14 | 1.85E+01 | 16.67 | 3.10E+01 | 6.68 |
| 49 | 1460.87 | 1453 - | 1464 | 1460.35 | 6.91E+02 | 55.35 | 4.11E+01 | 2.22 |
| 50 | 1537.40 | 1533 - | 1541 | 1536.86 | 2.20E+01 | 12.19 | 9.93E+00 | 5.84 |
| M | 51 | 1589.02 | 1584 - | 1588.46 | 2.58E+01 | 16.73 | 4.03E+01 | 3.49 |
| m | 52 | 1593.06 | 1584 - | 1592.50 | 1.27E+01 | 18.93 | 3.43E+01 | 2.89 |
| 53 | 1622.18 | 1618 - | 1626 | 1621.62 | 1.10E+01 | 12.69 | 1.80E+01 | 1.58 |
| 54 | 1631.09 | 1627 - | 1634 | 1630.52 | 1.68E+01 | 10.58 | 6.40E+00 | 3.49 |
| 55 | 1659.95 | 1655 - | 1663 | 1659.37 | 1.25E+01 | 10.42 | 9.00E+00 | 3.87 |
| M | 56 | 1726.21 | 1724 - | 1725.61 | 6.27E+00 | 2.65 | 3.95E+00 | 2.79 |
| m | 57 | 1729.82 | 1724 - | 1729.22 | 2.92E+01 | 13.86 | 1.17E+01 | 2.67 |
| 58 | 1764.41 | 1759 - | 1769 | 1763.80 | 1.32E+02 | 25.59 | 1.71E+01 | 1.83 |
| 59 | 1811.62 | 1807 - | 1813 | 1811.00 | 7.00E+00 | 5.29 | 0.00E+00 | 1.00 |
| 60 | 1822.73 | 1818 - | 1825 | 1822.11 | 8.10E+00 | 7.48 | 3.80E+00 | 2.41 |
| 61 | 1846.42 | 1842 - | 1848 | 1845.80 | 2.09E+01 | 11.86 | 1.03E+01 | 2.36 |
| 62 | 2101.47 | 2095 - | 2105 | 2100.79 | 1.25E+01 | 11.51 | 1.10E+01 | 1.46 |
| 63 | 2119.53 | 2115 - | 2122 | 2118.85 | 8.32E+00 | 10.20 | 1.14E+01 | 1.38 |
| 64 | 2174.72 | 2171 - | 2177 | 2174.03 | 6.50E+00 | 6.65 | 3.00E+00 | 2.06 |
| 65 | 2204.06 | 2198 - | 2208 | 2203.37 | 4.35E+01 | 20.53 | 3.30E+01 | 1.95 |
| 66 | 2291.42 | 2286 - | 2293 | 2290.71 | 7.00E+00 | 5.29 | 0.00E+00 | 3.31 |
| 67 | 2411.24 | 2403 - | 2416 | 2410.52 | 1.14E+01 | 10.44 | 7.27E+00 | 6.52 |
| 68 | 2614.50 | 2609 - | 2619 | 2613.76 | 8.73E+01 | 20.70 | 9.35E+00 | 3.38 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 9:17:22AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|

Analysis Report for 1510085-12

CP5006S03-04

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 1 | 63.49 | 61 - | 67 | 1.34E+02 | 108.00 | 2.04E+03 | 8.67E+01 |
| 2 | 76.47 | 72 - | 82 | 1.57E+03 | 171.51 | 3.03E+03 | 1.25E+02 |
| 3 | 87.47 | 86 - | 89 | 1.09E+02 | 74.86 | 1.31E+03 | 5.91E+01 |
| 4 | 92.65 | 90 - | 97 | 3.40E+02 | 118.27 | 1.99E+03 | 9.24E+01 |
| 5 | 129.42 | 126 - | 132 | 8.66E+01 | 84.93 | 1.24E+03 | 6.81E+01 |
| 6 | 153.49 | 150 - | 157 | 1.10E+02 | 88.36 | 1.22E+03 | 7.06E+01 |
| 7 | 186.05 | 183 - | 188 | 3.05E+02 | 72.87 | 8.12E+02 | 5.26E+01 |
| 8 | 198.51 | 196 - | 201 | 6.70E+01 | 62.88 | 7.36E+02 | 4.99E+01 |
| 9 | 207.27 | 202 - | 212 | 8.95E+01 | 100.85 | 1.31E+03 | 8.14E+01 |
| M 10 | 236.13 | 235 - | 246 | 6.24E+01 | 28.14 | 2.21E+02 | 2.44E+01 |
| m 11 | 239.01 | 235 - | 246 | 6.74E+02 | 67.41 | 4.09E+02 | 3.32E+01 |
| m 12 | 241.88 | 235 - | 246 | 2.76E+02 | 54.92 | 3.73E+02 | 3.17E+01 |
| 13 | 270.20 | 268 - | 274 | 7.11E+01 | 52.38 | 4.58E+02 | 4.08E+01 |
| 14 | 277.59 | 274 - | 282 | 1.16E+02 | 62.75 | 5.32E+02 | 4.84E+01 |
| M 15 | 291.32 | 290 - | 309 | 2.95E+01 | 26.27 | 1.79E+02 | 2.20E+01 |
| m 16 | 295.32 | 290 - | 309 | 5.73E+02 | 60.19 | 2.86E+02 | 2.78E+01 |
| 17 | 328.33 | 324 - | 332 | 5.06E+01 | 62.16 | 5.65E+02 | 4.97E+01 |
| 18 | 338.46 | 335 - | 342 | 1.62E+02 | 54.26 | 3.79E+02 | 3.94E+01 |
| 19 | 351.94 | 347 - | 356 | 1.03E+03 | 86.63 | 4.85E+02 | 4.79E+01 |
| 20 | 463.11 | 459 - | 466 | 5.45E+01 | 43.59 | 2.81E+02 | 3.37E+01 |
| M 21 | 507.30 | 505 - | 518 | 2.39E+01 | 27.76 | 1.34E+02 | 1.90E+01 |
| m 22 | 510.94 | 505 - | 518 | 1.91E+02 | 44.12 | 2.01E+02 | 2.33E+01 |
| 23 | 570.18 | 567 - | 573 | 3.90E+01 | 32.55 | 1.64E+02 | 2.47E+01 |
| 24 | 583.09 | 578 - | 587 | 2.89E+02 | 53.91 | 2.50E+02 | 3.44E+01 |
| 25 | 597.70 | 595 - | 601 | 3.38E+01 | 31.16 | 1.54E+02 | 2.38E+01 |
| 26 | 609.38 | 605 - | 613 | 7.24E+02 | 69.60 | 2.96E+02 | 3.63E+01 |
| 27 | 727.35 | 723 - | 731 | 8.91E+01 | 37.48 | 1.60E+02 | 2.66E+01 |
| M 28 | 764.34 | 762 - | 776 | 1.65E+01 | 18.11 | 7.55E+01 | 1.43E+01 |
| m 29 | 768.45 | 762 - | 776 | 7.09E+01 | 28.72 | 1.11E+02 | 1.73E+01 |
| 30 | 795.25 | 791 - | 798 | 2.92E+01 | 32.06 | 1.52E+02 | 2.48E+01 |
| 31 | 861.21 | 857 - | 866 | 4.26E+01 | 36.29 | 1.61E+02 | 1.89E+01 |
| 32 | 898.16 | 895 - | 901 | 2.00E+01 | 23.89 | 8.60E+01 | 1.82E+01 |
| 33 | 911.31 | 905 - | 915 | 1.63E+02 | 47.13 | 2.09E+02 | 3.25E+01 |
| 34 | 933.38 | 929 - | 937 | 3.85E+01 | 29.77 | 1.13E+02 | 2.22E+01 |
| M 35 | 964.13 | 959 - | 974 | 5.83E+01 | 27.71 | 8.00E+01 | 1.47E+01 |
| m 36 | 968.96 | 959 - | 974 | 1.01E+02 | 27.35 | 6.00E+01 | 1.27E+01 |
| 37 | 1067.21 | 1062 - | 1072 | 3.37E+01 | 31.00 | 1.11E+02 | 2.36E+01 |
| 38 | 1120.18 | 1116 - | 1123 | 1.60E+02 | 33.47 | 8.09E+01 | 1.80E+01 |
| 39 | 1155.86 | 1152 - | 1158 | 2.59E+01 | 23.79 | 8.42E+01 | 1.77E+01 |
| 40 | 1238.32 | 1234 - | 1242 | 3.85E+01 | 35.12 | 1.65E+02 | 2.70E+01 |
| 41 | 1301.94 | 1297 - | 1307 | 2.99E+01 | 23.12 | 5.62E+01 | 1.67E+01 |
| 42 | 1318.21 | 1313 - | 1323 | 2.57E+01 | 21.64 | 4.67E+01 | 1.57E+01 |
| 43 | 1377.68 | 1373 - | 1381 | 4.37E+01 | 21.22 | 4.66E+01 | 2.24E+01 |
| 44 | 1385.92 | 1382 - | 1391 | 1.90E+01 | 18.87 | 4.00E+01 | 1.38E+01 |
| M 45 | 1397.83 | 1396 - | 1403 | 1.04E+01 | 5.92 | 6.24E+00 | 4.11E+00 |
| m 46 | 1401.71 | 1396 - | 1403 | 1.96E+01 | 12.92 | 2.17E+01 | 7.66E+00 |
| 47 | 1408.40 | 1404 - | 1413 | 4.80E+01 | 21.73 | 4.00E+01 | 1.38E+01 |
| 48 | 1445.66 | 1441 - | 1449 | 1.85E+01 | 16.67 | 3.10E+01 | 1.17E+01 |
| 49 | 1460.87 | 1453 - | 1464 | 6.91E+02 | 55.35 | 4.11E+01 | 1.42E+01 |
| 50 | 1537.40 | 1533 - | 1541 | 2.20E+01 | 12.19 | 9.93E+00 | 6.39E+00 |
| M 51 | 1589.02 | 1584 - | 1596 | 2.58E+01 | 16.73 | 4.03E+01 | 1.04E+01 |

Analysis Report for 1510085-12

CP5006S03-04

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| m | 52 | 1593.06 | 1584 - | 1596 | 1.27E+01 | 18.93 | 3.43E+01 | 9.63E+00 |
| | 53 | 1622.18 | 1618 - | 1626 | 1.10E+01 | 12.69 | 1.80E+01 | 8.89E+00 |
| | 54 | 1631.09 | 1627 - | 1634 | 1.68E+01 | 10.58 | 6.40E+00 | 5.50E+00 |
| | 55 | 1659.95 | 1655 - | 1663 | 1.25E+01 | 10.42 | 9.00E+00 | 6.29E+00 |
| M | 56 | 1726.21 | 1724 - | 1732 | 6.27E+00 | 2.65 | 3.95E+00 | 3.27E+00 |
| m | 57 | 1729.82 | 1724 - | 1732 | 2.92E+01 | 13.86 | 1.17E+01 | 5.63E+00 |
| | 58 | 1764.41 | 1759 - | 1769 | 1.32E+02 | 25.59 | 1.71E+01 | 9.19E+00 |
| | 59 | 1811.62 | 1807 - | 1813 | 7.00E+00 | 5.29 | 0.00E+00 | 0.00E+00 |
| | 60 | 1822.73 | 1818 - | 1825 | 8.10E+00 | 7.48 | 3.80E+00 | 3.99E+00 |
| | 61 | 1846.42 | 1842 - | 1848 | 2.09E+01 | 11.86 | 1.03E+01 | 6.22E+00 |
| | 62 | 2101.47 | 2095 - | 2105 | 1.25E+01 | 11.51 | 1.10E+01 | 7.47E+00 |
| | 63 | 2119.53 | 2115 - | 2122 | 8.32E+00 | 10.20 | 1.14E+01 | 6.91E+00 |
| | 64 | 2174.72 | 2171 - | 2177 | 6.50E+00 | 6.65 | 3.00E+00 | 3.51E+00 |
| | 65 | 2204.06 | 2198 - | 2208 | 4.35E+01 | 20.53 | 3.30E+01 | 1.29E+01 |
| | 66 | 2291.42 | 2286 - | 2293 | 7.00E+00 | 5.29 | 0.00E+00 | 0.00E+00 |
| | 67 | 2411.24 | 2403 - | 2416 | 1.14E+01 | 10.44 | 7.27E+00 | 6.55E+00 |
| | 68 | 2614.50 | 2609 - | 2619 | 8.73E+01 | 20.70 | 9.35E+00 | 7.32E+00 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 9:17:22AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|--|
| 1 | 63.49 | 61 - | 67 | 63.59 | 1.34E+02 | 108.00 | 2.04E+03 | TH-234 TH-230 |
| 2 | 76.47 | 72 - | 82 | 76.56 | 1.57E+03 | 171.51 | 3.03E+03 | ..... |
| 3 | 87.47 | 86 - | 89 | 87.55 | 1.09E+02 | 74.86 | 1.31E+03 | SN-126 CD-109 LU-176 NP-237 EU-155 |

Analysis Report for 1510085-12

CP5006S03-04

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 4 | 92.65 | 90 - | 97 | 92.73 | 3.40E+02 | 118.27 | 1.99E+03 | GA-67 |
| 5 | 129.42 | 126 - | 132 | 129.48 | 8.66E+01 | 84.93 | 1.24E+03 | ..... |
| 6 | 153.49 | 150 - | 157 | 153.53 | 1.10E+02 | 88.36 | 1.22E+03 | CS-136 |
| 7 | 186.05 | 183 - | 188 | 186.07 | 3.05E+02 | 72.87 | 8.12E+02 | RA-226 |
| 8 | 198.51 | 196 - | 201 | 198.53 | 6.70E+01 | 62.88 | 7.36E+02 | ..... |
| 9 | 207.27 | 202 - | 212 | 207.28 | 8.95E+01 | 100.85 | 1.31E+03 | ..... |
| M 10 | 236.13 | 235 - | 246 | 236.13 | 6.24E+01 | 28.14 | 2.21E+02 | TH-227 NB-95M |
| m 11 | 239.01 | 235 - | 246 | 239.01 | 6.74E+02 | 67.41 | 4.09E+02 | PB-212 |
| m 12 | 241.88 | 235 - | 246 | 241.87 | 2.76E+02 | 54.92 | 3.73E+02 | RA-224 |
| 13 | 270.20 | 268 - | 274 | 270.18 | 7.11E+01 | 52.38 | 4.58E+02 | ..... |
| 14 | 277.59 | 274 - | 282 | 277.57 | 1.16E+02 | 62.75 | 5.32E+02 | CM-243 NP-239 |
| M 15 | 291.32 | 290 - | 309 | 291.28 | 2.95E+01 | 26.27 | 1.79E+02 | ..... |
| m 16 | 295.32 | 290 - | 309 | 295.29 | 5.73E+02 | 60.19 | 2.86E+02 | PB-214 |
| 17 | 328.33 | 324 - | 332 | 328.28 | 5.06E+01 | 62.16 | 5.65E+02 | LA-140 |
| 18 | 338.46 | 335 - | 342 | 338.40 | 1.62E+02 | 54.26 | 3.79E+02 | AC-228 |
| 19 | 351.94 | 347 - | 356 | 351.88 | 1.03E+03 | 86.63 | 4.85E+02 | PB-214 |
| 20 | 463.11 | 459 - | 466 | 462.99 | 5.45E+01 | 43.59 | 2.81E+02 | SB-125 |
| M 21 | 507.30 | 505 - | 518 | 507.16 | 2.39E+01 | 27.76 | 1.34E+02 | ..... |
| m 22 | 510.94 | 505 - | 518 | 510.79 | 1.91E+02 | 44.12 | 2.01E+02 | ..... |
| 23 | 570.18 | 567 - | 573 | 570.01 | 3.90E+01 | 32.55 | 1.64E+02 | BI-207 CS-134 |
| 24 | 583.09 | 578 - | 587 | 582.91 | 2.89E+02 | 53.91 | 2.50E+02 | TL-208 |
| 25 | 597.70 | 595 - | 601 | 597.52 | 3.38E+01 | 31.16 | 1.54E+02 | ..... |
| 26 | 609.38 | 605 - | 613 | 609.18 | 7.24E+02 | 69.60 | 2.96E+02 | BI-214 |
| 27 | 727.35 | 723 - | 731 | 727.10 | 8.91E+01 | 37.48 | 1.60E+02 | BI-212 |
| M 28 | 764.34 | 762 - | 776 | 764.07 | 1.65E+01 | 18.11 | 7.55E+01 | AG-110M |
| m 29 | 768.45 | 762 - | 776 | 768.18 | 7.09E+01 | 28.72 | 1.11E+02 | ..... |
| 30 | 795.25 | 791 - | 798 | 794.97 | 2.92E+01 | 32.06 | 1.52E+02 | CS-134 |
| 31 | 861.21 | 857 - | 866 | 860.91 | 4.26E+01 | 36.29 | 1.61E+02 | TL-208 |
| 32 | 898.16 | 895 - | 901 | 897.84 | 2.00E+01 | 23.89 | 8.60E+01 | Y-88 |
| 33 | 911.31 | 905 - | 915 | 910.99 | 1.63E+02 | 47.13 | 2.09E+02 | AC-228 LU-172 |
| 34 | 933.38 | 929 - | 937 | 933.05 | 3.85E+01 | 29.77 | 1.13E+02 | ..... |
| M 35 | 964.13 | 959 - | 974 | 963.78 | 5.83E+01 | 27.71 | 8.00E+01 | EU-152 |
| m 36 | 968.96 | 959 - | 974 | 968.61 | 1.01E+02 | 27.35 | 6.00E+01 | AC-228 |
| 37 | 1067.21 | 1062 - | 1072 | 1066.82 | 3.37E+01 | 31.00 | 1.11E+02 | ..... |
| 38 | 1120.18 | 1116 - | 1123 | 1119.77 | 1.60E+02 | 33.47 | 8.09E+01 | BI-214 SC-46 |
| 39 | 1155.86 | 1152 - | 1158 | 1155.44 | 2.59E+01 | 23.79 | 8.42E+01 | ..... |
| 40 | 1238.32 | 1234 - | 1242 | 1237.87 | 3.85E+01 | 35.12 | 1.65E+02 | CO-56 |
| 41 | 1301.94 | 1297 - | 1307 | 1301.47 | 2.99E+01 | 23.12 | 5.62E+01 | ..... |
| 42 | 1318.21 | 1313 - | 1323 | 1317.73 | 2.57E+01 | 21.64 | 4.67E+01 | ..... |
| 43 | 1377.68 | 1373 - | 1381 | 1377.18 | 4.37E+01 | 21.22 | 4.66E+01 | ..... |
| 44 | 1385.92 | 1382 - | 1391 | 1385.42 | 1.90E+01 | 18.87 | 4.00E+01 | ..... |
| M 45 | 1397.83 | 1396 - | 1403 | 1397.32 | 1.04E+01 | 5.92 | 6.24E+00 | ..... |
| m 46 | 1401.71 | 1396 - | 1403 | 1401.20 | 1.96E+01 | 12.92 | 2.17E+01 | ..... |
| 47 | 1408.40 | 1404 - | 1413 | 1407.90 | 4.80E+01 | 21.73 | 4.00E+01 | EU-152 |
| 48 | 1445.66 | 1441 - | 1449 | 1445.14 | 1.85E+01 | 16.67 | 3.10E+01 | ..... |
| 49 | 1460.87 | 1453 - | 1464 | 1460.35 | 6.91E+02 | 55.35 | 4.11E+01 | K-40 |
| 50 | 1537.40 | 1533 - | 1541 | 1536.86 | 2.20E+01 | 12.19 | 9.93E+00 | ..... |
| M 51 | 1589.02 | 1584 - | 1596 | 1588.46 | 2.58E+01 | 16.73 | 4.03E+01 | ..... |
| m 52 | 1593.06 | 1584 - | 1596 | 1592.50 | 1.27E+01 | 18.93 | 3.43E+01 | ..... |

Analysis Report for 1510085-12

CP5006S03-04

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|-----------------|---------------------|------------------|----------------|----------------------|----------------------|-----------------------------|-------------------------|--------------------------|
| | 53 | 1622.18 | 1618 - | 1626 | 1621.62 | 1.10E+01 | 12.69 | 1.80E+01 | ..... |
| | 54 | 1631.09 | 1627 - | 1634 | 1630.52 | 1.68E+01 | 10.58 | 6.40E+00 | ..... |
| | 55 | 1659.95 | 1655 - | 1663 | 1659.37 | 1.25E+01 | 10.42 | 9.00E+00 | ..... |
| M | 56 | 1726.21 | 1724 - | 1732 | 1725.61 | 6.27E+00 | 2.65 | 3.95E+00 | ..... |
| m | 57 | 1729.82 | 1724 - | 1732 | 1729.22 | 2.92E+01 | 13.86 | 1.17E+01 | ..... |
| | 58 | 1764.41 | 1759 - | 1769 | 1763.80 | 1.32E+02 | 25.59 | 1.71E+01 | BI-214 |
| | 59 | 1811.62 | 1807 - | 1813 | 1811.00 | 7.00E+00 | 5.29 | 0.00E+00 | ..... |
| | 60 | 1822.73 | 1818 - | 1825 | 1822.11 | 8.10E+00 | 7.48 | 3.80E+00 | ..... |
| | 61 | 1846.42 | 1842 - | 1848 | 1845.80 | 2.09E+01 | 11.86 | 1.03E+01 | ..... |
| | 62 | 2101.47 | 2095 - | 2105 | 2100.79 | 1.25E+01 | 11.51 | 1.10E+01 | ..... |
| | 63 | 2119.53 | 2115 - | 2122 | 2118.85 | 8.32E+00 | 10.20 | 1.14E+01 | ..... |
| | 64 | 2174.72 | 2171 - | 2177 | 2174.03 | 6.50E+00 | 6.65 | 3.00E+00 | ..... |
| | 65 | 2204.06 | 2198 - | 2208 | 2203.37 | 4.35E+01 | 20.53 | 3.30E+01 | BI-214 |
| | 66 | 2291.42 | 2286 - | 2293 | 2290.71 | 7.00E+00 | 5.29 | 0.00E+00 | ..... |
| | 67 | 2411.24 | 2403 - | 2416 | 2410.52 | 1.14E+01 | 10.44 | 7.27E+00 | ..... |
| | 68 | 2614.50 | 2609 - | 2619 | 2613.76 | 8.73E+01 | 20.70 | 9.35E+00 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 9:17:22AM

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 1 | 63.49 | 1.34E+02 | 108.00 | 2.38E-02 | 2.07E-03 |
| | 2 | 76.47 | 1.57E+03 | 171.51 | 2.74E-02 | 3.36E-03 |
| | 3 | 87.47 | 1.09E+02 | 74.86 | 2.84E-02 | 4.45E-03 |
| | 4 | 92.65 | 3.40E+02 | 118.27 | 2.85E-02 | 4.30E-03 |
| | 5 | 129.42 | 8.66E+01 | 84.93 | 2.60E-02 | 2.77E-03 |
| | 6 | 153.49 | 1.10E+02 | 88.36 | 2.37E-02 | 2.05E-03 |
| | 7 | 186.05 | 3.05E+02 | 72.87 | 2.11E-02 | 1.65E-03 |
| | 8 | 198.51 | 6.70E+01 | 62.88 | 2.02E-02 | 1.64E-03 |
| | 9 | 207.27 | 8.95E+01 | 100.85 | 1.96E-02 | 1.63E-03 |
| M | 10 | 236.13 | 6.24E+01 | 28.14 | 1.80E-02 | 1.60E-03 |
| m | 11 | 239.01 | 6.74E+02 | 67.41 | 1.79E-02 | 1.60E-03 |
| m | 12 | 241.88 | 2.76E+02 | 54.92 | 1.77E-02 | 1.60E-03 |
| | 13 | 270.20 | 7.11E+01 | 52.38 | 1.64E-02 | 1.57E-03 |
| | 14 | 277.59 | 1.16E+02 | 62.75 | 1.61E-02 | 1.56E-03 |

Analysis Report for 1510085-12
CP5006S03-04

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| M | 15 | 291.32 | 2.95E+01 | 26.27 | 1.56E-02 | 1.50E-03 |
| m | 16 | 295.32 | 5.73E+02 | 60.19 | 1.55E-02 | 1.48E-03 |
| | 17 | 328.33 | 5.06E+01 | 62.16 | 1.44E-02 | 1.32E-03 |
| | 18 | 338.46 | 1.62E+02 | 54.26 | 1.41E-02 | 1.27E-03 |
| | 19 | 351.94 | 1.03E+03 | 86.63 | 1.37E-02 | 1.21E-03 |
| | 20 | 463.11 | 5.45E+01 | 43.59 | 1.13E-02 | 9.47E-04 |
| M | 21 | 507.30 | 2.39E+01 | 27.76 | 1.06E-02 | 9.02E-04 |
| m | 22 | 510.94 | 1.91E+02 | 44.12 | 1.06E-02 | 8.98E-04 |
| | 23 | 570.18 | 3.90E+01 | 32.55 | 9.74E-03 | 8.38E-04 |
| | 24 | 583.09 | 2.89E+02 | 53.91 | 9.58E-03 | 8.25E-04 |
| | 25 | 597.70 | 3.38E+01 | 31.16 | 9.41E-03 | 8.10E-04 |
| | 26 | 609.38 | 7.24E+02 | 69.60 | 9.27E-03 | 7.98E-04 |
| | 27 | 727.35 | 8.91E+01 | 37.48 | 8.09E-03 | 7.03E-04 |
| M | 28 | 764.34 | 1.65E+01 | 18.11 | 7.77E-03 | 6.79E-04 |
| m | 29 | 768.45 | 7.09E+01 | 28.72 | 7.74E-03 | 6.77E-04 |
| | 30 | 795.25 | 2.92E+01 | 32.06 | 7.53E-03 | 6.59E-04 |
| | 31 | 861.21 | 4.26E+01 | 36.29 | 7.06E-03 | 6.17E-04 |
| | 32 | 898.16 | 2.00E+01 | 23.89 | 6.82E-03 | 5.93E-04 |
| | 33 | 911.31 | 1.63E+02 | 47.13 | 6.74E-03 | 5.87E-04 |
| | 34 | 933.38 | 3.85E+01 | 29.77 | 6.61E-03 | 5.75E-04 |
| M | 35 | 964.13 | 5.83E+01 | 27.71 | 6.44E-03 | 5.60E-04 |
| m | 36 | 968.96 | 1.01E+02 | 27.35 | 6.42E-03 | 5.57E-04 |
| | 37 | 1067.21 | 3.37E+01 | 31.00 | 5.93E-03 | 5.07E-04 |
| | 38 | 1120.18 | 1.60E+02 | 33.47 | 5.70E-03 | 4.80E-04 |
| | 39 | 1155.86 | 2.59E+01 | 23.79 | 5.56E-03 | 4.62E-04 |
| | 40 | 1238.32 | 3.85E+01 | 35.12 | 5.27E-03 | 4.83E-04 |
| | 41 | 1301.94 | 2.99E+01 | 23.12 | 5.07E-03 | 5.12E-04 |
| | 42 | 1318.21 | 2.57E+01 | 21.64 | 5.03E-03 | 5.20E-04 |
| | 43 | 1377.68 | 4.37E+01 | 21.22 | 4.87E-03 | 5.08E-04 |
| | 44 | 1385.92 | 1.90E+01 | 18.87 | 4.85E-03 | 5.04E-04 |
| M | 45 | 1397.83 | 1.04E+01 | 5.92 | 4.82E-03 | 4.99E-04 |
| m | 46 | 1401.71 | 1.96E+01 | 12.92 | 4.81E-03 | 4.98E-04 |
| | 47 | 1408.40 | 4.80E+01 | 21.73 | 4.79E-03 | 4.95E-04 |
| | 48 | 1445.66 | 1.85E+01 | 16.67 | 4.71E-03 | 4.80E-04 |
| | 49 | 1460.87 | 6.91E+02 | 55.35 | 4.67E-03 | 4.73E-04 |
| | 50 | 1537.40 | 2.20E+01 | 12.19 | 4.52E-03 | 4.42E-04 |
| M | 51 | 1589.02 | 2.58E+01 | 16.73 | 4.43E-03 | 4.20E-04 |
| m | 52 | 1593.06 | 1.27E+01 | 18.93 | 4.42E-03 | 4.19E-04 |
| | 53 | 1622.18 | 1.10E+01 | 12.69 | 4.37E-03 | 4.06E-04 |
| | 54 | 1631.09 | 1.68E+01 | 10.58 | 4.36E-03 | 4.03E-04 |
| | 55 | 1659.95 | 1.25E+01 | 10.42 | 4.32E-03 | 3.91E-04 |
| M | 56 | 1726.21 | 6.27E+00 | 2.65 | 4.23E-03 | 3.63E-04 |
| m | 57 | 1729.82 | 2.92E+01 | 13.86 | 4.23E-03 | 3.62E-04 |
| | 58 | 1764.41 | 1.32E+02 | 25.59 | 4.19E-03 | 3.48E-04 |
| | 59 | 1811.62 | 7.00E+00 | 5.29 | 4.14E-03 | 3.28E-04 |
| | 60 | 1822.73 | 8.10E+00 | 7.48 | 4.12E-03 | 3.23E-04 |
| | 61 | 1846.42 | 2.09E+01 | 11.86 | 4.10E-03 | 3.18E-04 |
| | 62 | 2101.47 | 1.25E+01 | 11.51 | 3.95E-03 | 3.18E-04 |
| | 63 | 2119.53 | 8.32E+00 | 10.20 | 3.95E-03 | 3.18E-04 |
| | 64 | 2174.72 | 6.50E+00 | 6.65 | 3.93E-03 | 3.18E-04 |
| | 65 | 2204.06 | 4.35E+01 | 20.53 | 3.93E-03 | 3.18E-04 |
| | 66 | 2291.42 | 7.00E+00 | 5.29 | 3.93E-03 | 3.18E-04 |
| | 67 | 2411.24 | 1.14E+01 | 10.44 | 3.95E-03 | 3.18E-04 |

Analysis Report for 1510085-12
 CP5006S03-04

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 68 | 2614.50 | 8.73E+01 | 20.70 | 4.05E-03 | 3.18E-04 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 9:17:22AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 1 | 63.49 | 1.34E+02 | 108.00 | 4.34E+01 | 1.15E+01 | 9.03E+01 | 1.09E+02 |
| 2 | 76.47 | 1.57E+03 | 171.51 | | | 1.57E+03 | 1.72E+02 |
| 3 | 87.47 | 1.09E+02 | 74.86 | 1.46E+00 | 7.88E+00 | 1.07E+02 | 7.53E+01 |
| 4 | 92.65 | 3.40E+02 | 118.27 | 5.70E+01 | 9.03E+00 | 2.84E+02 | 1.19E+02 |
| 5 | 129.42 | 8.66E+01 | 84.93 | | | 8.66E+01 | 8.49E+01 |
| 6 | 153.49 | 1.10E+02 | 88.36 | | | 1.10E+02 | 8.84E+01 |
| 7 | 186.05 | 3.05E+02 | 72.87 | 4.72E+01 | 7.97E+00 | 2.58E+02 | 7.33E+01 |
| 8 | 198.51 | 6.70E+01 | 62.88 | 6.20E+00 | 7.58E+00 | 6.08E+01 | 6.33E+01 |
| 9 | 207.27 | 8.95E+01 | 100.85 | | | 8.95E+01 | 1.01E+02 |
| M 10 | 236.13 | 6.24E+01 | 28.14 | | | 6.24E+01 | 2.81E+01 |
| m 11 | 239.01 | 6.74E+02 | 67.41 | 2.36E+01 | 1.35E+01 | 6.50E+02 | 6.87E+01 |
| m 12 | 241.88 | 2.76E+02 | 54.92 | 6.38E+00 | 3.91E+00 | 2.70E+02 | 5.51E+01 |
| 13 | 270.20 | 7.11E+01 | 52.38 | | | 7.11E+01 | 5.24E+01 |
| 14 | 277.59 | 1.16E+02 | 62.75 | | | 1.16E+02 | 6.28E+01 |
| M 15 | 291.32 | 2.95E+01 | 26.27 | | | 2.95E+01 | 2.63E+01 |
| m 16 | 295.32 | 5.73E+02 | 60.19 | 8.57E+00 | 6.10E+00 | 5.65E+02 | 6.05E+01 |
| 17 | 328.33 | 5.06E+01 | 62.16 | 0.00E+00 | 0.00E+00 | 5.06E+01 | 6.22E+01 |
| 18 | 338.46 | 1.62E+02 | 54.26 | | | 1.62E+02 | 5.43E+01 |
| 19 | 351.94 | 1.03E+03 | 86.63 | 1.40E+01 | 5.55E+00 | 1.01E+03 | 8.68E+01 |
| 20 | 463.11 | 5.45E+01 | 43.59 | | | 5.45E+01 | 4.36E+01 |
| M 21 | 507.30 | 2.39E+01 | 27.76 | | | 2.39E+01 | 2.78E+01 |
| m 22 | 510.94 | 1.91E+02 | 44.12 | 8.41E+01 | 5.50E+00 | 1.07E+02 | 4.45E+01 |
| 23 | 570.18 | 3.90E+01 | 32.55 | 3.98E+00 | 3.55E+00 | 3.50E+01 | 3.27E+01 |
| 24 | 583.09 | 2.89E+02 | 53.91 | 7.32E+00 | 4.08E+00 | 2.82E+02 | 5.41E+01 |
| 25 | 597.70 | 3.38E+01 | 31.16 | | | 3.38E+01 | 3.12E+01 |
| 26 | 609.38 | 7.24E+02 | 69.60 | 1.30E+01 | 3.89E+00 | 7.11E+02 | 6.97E+01 |
| 27 | 727.35 | 8.91E+01 | 37.48 | | | 8.91E+01 | 3.75E+01 |
| M 28 | 764.34 | 1.65E+01 | 18.11 | | | 1.65E+01 | 1.81E+01 |
| m 29 | 768.45 | 7.09E+01 | 28.72 | | | 7.09E+01 | 2.87E+01 |

Analysis Report for 1510085-12

CP5006S03-04

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| | 30 | 795.25 | 2.92E+01 | 32.06 | | | 2.92E+01 | 3.21E+01 |
| | 31 | 861.21 | 4.26E+01 | 36.29 | | | 4.26E+01 | 3.63E+01 |
| | 32 | 898.16 | 2.00E+01 | 23.89 | | | 2.00E+01 | 2.39E+01 |
| | 33 | 911.31 | 1.63E+02 | 47.13 | 5.60E+00 | 3.32E+00 | 1.58E+02 | 4.72E+01 |
| | 34 | 933.38 | 3.85E+01 | 29.77 | | | 3.85E+01 | 2.98E+01 |
| M | 35 | 964.13 | 5.83E+01 | 27.71 | | | 5.83E+01 | 2.77E+01 |
| m | 36 | 968.96 | 1.01E+02 | 27.35 | | | 1.01E+02 | 2.73E+01 |
| | 37 | 1067.21 | 3.37E+01 | 31.00 | | | 3.37E+01 | 3.10E+01 |
| | 38 | 1120.18 | 1.60E+02 | 33.47 | 3.93E+00 | 2.96E+00 | 1.56E+02 | 3.36E+01 |
| | 39 | 1155.86 | 2.59E+01 | 23.79 | | | 2.59E+01 | 2.38E+01 |
| | 40 | 1238.32 | 3.85E+01 | 35.12 | | | 3.85E+01 | 3.51E+01 |
| | 41 | 1301.94 | 2.99E+01 | 23.12 | | | 2.99E+01 | 2.31E+01 |
| | 42 | 1318.21 | 2.57E+01 | 21.64 | | | 2.57E+01 | 2.16E+01 |
| | 43 | 1377.68 | 4.37E+01 | 21.22 | | | 4.37E+01 | 2.12E+01 |
| | 44 | 1385.92 | 1.90E+01 | 18.87 | | | 1.90E+01 | 1.89E+01 |
| M | 45 | 1397.83 | 1.04E+01 | 5.92 | | | 1.04E+01 | 5.92E+00 |
| m | 46 | 1401.71 | 1.96E+01 | 12.92 | | | 1.96E+01 | 1.29E+01 |
| | 47 | 1408.40 | 4.80E+01 | 21.73 | | | 4.80E+01 | 2.17E+01 |
| | 48 | 1445.66 | 1.85E+01 | 16.67 | | | 1.85E+01 | 1.67E+01 |
| | 49 | 1460.87 | 6.91E+02 | 55.35 | 1.12E+01 | 2.55E+00 | 6.80E+02 | 5.54E+01 |
| | 50 | 1537.40 | 2.20E+01 | 12.19 | | | 2.20E+01 | 1.22E+01 |
| M | 51 | 1589.02 | 2.58E+01 | 16.73 | | | 2.58E+01 | 1.67E+01 |
| m | 52 | 1593.06 | 1.27E+01 | 18.93 | | | 1.27E+01 | 1.89E+01 |
| | 53 | 1622.18 | 1.10E+01 | 12.69 | | | 1.10E+01 | 1.27E+01 |
| | 54 | 1631.09 | 1.68E+01 | 10.58 | | | 1.68E+01 | 1.06E+01 |
| | 55 | 1659.95 | 1.25E+01 | 10.42 | | | 1.25E+01 | 1.04E+01 |
| M | 56 | 1726.21 | 6.27E+00 | 2.65 | | | 6.27E+00 | 2.65E+00 |
| m | 57 | 1729.82 | 2.92E+01 | 13.86 | | | 2.92E+01 | 1.39E+01 |
| | 58 | 1764.41 | 1.32E+02 | 25.59 | 4.23E+00 | 2.21E+00 | 1.28E+02 | 2.57E+01 |
| | 59 | 1811.62 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 60 | 1822.73 | 8.10E+00 | 7.48 | | | 8.10E+00 | 7.48E+00 |
| | 61 | 1846.42 | 2.09E+01 | 11.86 | | | 2.09E+01 | 1.19E+01 |
| | 62 | 2101.47 | 1.25E+01 | 11.51 | | | 1.25E+01 | 1.15E+01 |
| | 63 | 2119.53 | 8.32E+00 | 10.20 | | | 8.32E+00 | 1.02E+01 |
| | 64 | 2174.72 | 6.50E+00 | 6.65 | | | 6.50E+00 | 6.65E+00 |
| | 65 | 2204.06 | 4.35E+01 | 20.53 | 5.94E-01 | 1.16E+00 | 4.29E+01 | 2.06E+01 |
| | 66 | 2291.42 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 67 | 2411.24 | 1.14E+01 | 10.44 | | | 1.14E+01 | 1.04E+01 |
| | 68 | 2614.50 | 8.73E+01 | 20.70 | 7.38E+00 | 1.57E+00 | 7.99E+01 | 2.08E+01 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.00sigma

Analysis Report for 1510085-12

CP5006S03-04

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 9:17:22AM

Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 1 | 63.49 | 1.34E+02 | 108.00 | 4.34E+01 | 1.15E+01 | 9.03E+01 | 1.09E+02 |
| 2 | 76.47 | 1.57E+03 | 171.51 | | | 1.57E+03 | 1.72E+02 |
| 3 | 87.47 | 1.09E+02 | 74.86 | 1.46E+00 | 7.88E+00 | 1.07E+02 | 7.53E+01 |
| 4 | 92.65 | 3.40E+02 | 118.27 | 5.70E+01 | 9.03E+00 | 2.84E+02 | 1.19E+02 |
| 5 | 129.42 | 8.66E+01 | 84.93 | | | 8.66E+01 | 8.49E+01 |
| 6 | 153.49 | 1.10E+02 | 88.36 | | | 1.10E+02 | 8.84E+01 |
| 7 | 186.05 | 3.05E+02 | 72.87 | 4.72E+01 | 7.97E+00 | 2.58E+02 | 7.33E+01 |
| 8 | 198.51 | 6.70E+01 | 62.88 | 6.20E+00 | 7.58E+00 | 6.08E+01 | 6.33E+01 |
| 9 | 207.27 | 8.95E+01 | 100.85 | | | 8.95E+01 | 1.01E+02 |
| M | 10 | 236.13 | 6.24E+01 | | | 6.24E+01 | 2.81E+01 |
| m | 11 | 239.01 | 6.74E+02 | 2.36E+01 | 1.35E+01 | 6.50E+02 | 6.87E+01 |
| m | 12 | 241.88 | 2.76E+02 | 6.38E+00 | 3.91E+00 | 2.70E+02 | 5.51E+01 |
| | 13 | 270.20 | 7.11E+01 | | | 7.11E+01 | 5.24E+01 |
| | 14 | 277.59 | 1.16E+02 | | | 1.16E+02 | 6.28E+01 |
| M | 15 | 291.32 | 2.95E+01 | | | 2.95E+01 | 2.63E+01 |
| m | 16 | 295.32 | 5.73E+02 | 8.57E+00 | 6.10E+00 | 5.65E+02 | 6.05E+01 |
| | 17 | 328.33 | 5.06E+01 | 62.16 | 0.00E+00 | 5.06E+01 | 6.22E+01 |
| | 18 | 338.46 | 1.62E+02 | 54.26 | | 1.62E+02 | 5.43E+01 |
| | 19 | 351.94 | 1.03E+03 | 86.63 | 1.40E+01 | 5.55E+00 | 1.01E+03 |
| | 20 | 463.11 | 5.45E+01 | 43.59 | | 5.45E+01 | 4.36E+01 |
| M | 21 | 507.30 | 2.39E+01 | 27.76 | | 2.39E+01 | 2.78E+01 |
| m | 22 | 510.94 | 1.91E+02 | 44.12 | 8.41E+01 | 5.50E+00 | 1.07E+02 |
| | 23 | 570.18 | 3.90E+01 | 32.55 | 3.98E+00 | 3.55E+00 | 3.50E+01 |
| | 24 | 583.09 | 2.89E+02 | 53.91 | 7.32E+00 | 4.08E+00 | 2.82E+02 |
| | 25 | 597.70 | 3.38E+01 | 31.16 | | 3.38E+01 | 3.12E+01 |
| | 26 | 609.38 | 7.24E+02 | 69.60 | 1.30E+01 | 3.89E+00 | 7.11E+02 |
| | 27 | 727.35 | 8.91E+01 | 37.48 | | 8.91E+01 | 3.75E+01 |
| M | 28 | 764.34 | 1.65E+01 | 18.11 | | 1.65E+01 | 1.81E+01 |
| m | 29 | 768.45 | 7.09E+01 | 28.72 | | 7.09E+01 | 2.87E+01 |
| | 30 | 795.25 | 2.92E+01 | 32.06 | | 2.92E+01 | 3.21E+01 |
| | 31 | 861.21 | 4.26E+01 | 36.29 | | 4.26E+01 | 3.63E+01 |
| | 32 | 898.16 | 2.00E+01 | 23.89 | | 2.00E+01 | 2.39E+01 |
| | 33 | 911.31 | 1.63E+02 | 47.13 | 5.60E+00 | 3.32E+00 | 1.58E+02 |
| | 34 | 933.38 | 3.85E+01 | 29.77 | | 3.85E+01 | 2.98E+01 |
| M | 35 | 964.13 | 5.83E+01 | 27.71 | | 5.83E+01 | 2.77E+01 |
| m | 36 | 968.96 | 1.01E+02 | 27.35 | | 1.01E+02 | 2.73E+01 |
| | 37 | 1067.21 | 3.37E+01 | 31.00 | | 3.37E+01 | 3.10E+01 |
| | 38 | 1120.18 | 1.60E+02 | 33.47 | 3.93E+00 | 2.96E+00 | 1.56E+02 |
| | 39 | 1155.86 | 2.59E+01 | 23.79 | | 2.59E+01 | 2.38E+01 |
| | 40 | 1238.32 | 3.85E+01 | 35.12 | | 3.85E+01 | 3.51E+01 |
| | 41 | 1301.94 | 2.99E+01 | 23.12 | | 2.99E+01 | 2.31E+01 |

Analysis Report for 1510085-12

CP5006S03-04

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 42 | 1318.21 | 2.57E+01 | 21.64 | | 2.57E+01 | 2.16E+01 |
| | 43 | 1377.68 | 4.37E+01 | 21.22 | | 4.37E+01 | 2.12E+01 |
| | 44 | 1385.92 | 1.90E+01 | 18.87 | | 1.90E+01 | 1.89E+01 |
| M | 45 | 1397.83 | 1.04E+01 | 5.92 | | 1.04E+01 | 5.92E+00 |
| m | 46 | 1401.71 | 1.96E+01 | 12.92 | | 1.96E+01 | 1.29E+01 |
| | 47 | 1408.40 | 4.80E+01 | 21.73 | | 4.80E+01 | 2.17E+01 |
| | 48 | 1445.66 | 1.85E+01 | 16.67 | | 1.85E+01 | 1.67E+01 |
| | 49 | 1460.87 | 6.91E+02 | 55.35 | 1.12E+01 | 2.55E+00 | 6.80E+02 |
| | 50 | 1537.40 | 2.20E+01 | 12.19 | | 2.20E+01 | 1.22E+01 |
| M | 51 | 1589.02 | 2.58E+01 | 16.73 | | 2.58E+01 | 1.67E+01 |
| m | 52 | 1593.06 | 1.27E+01 | 18.93 | | 1.27E+01 | 1.89E+01 |
| | 53 | 1622.18 | 1.10E+01 | 12.69 | | 1.10E+01 | 1.27E+01 |
| | 54 | 1631.09 | 1.68E+01 | 10.58 | | 1.68E+01 | 1.06E+01 |
| | 55 | 1659.95 | 1.25E+01 | 10.42 | | 1.25E+01 | 1.04E+01 |
| M | 56 | 1726.21 | 6.27E+00 | 2.65 | | 6.27E+00 | 2.65E+00 |
| m | 57 | 1729.82 | 2.92E+01 | 13.86 | | 2.92E+01 | 1.39E+01 |
| | 58 | 1764.41 | 1.32E+02 | 25.59 | 4.23E+00 | 2.21E+00 | 1.28E+02 |
| | 59 | 1811.62 | 7.00E+00 | 5.29 | | 7.00E+00 | 5.29E+00 |
| | 60 | 1822.73 | 8.10E+00 | 7.48 | | 8.10E+00 | 7.48E+00 |
| | 61 | 1846.42 | 2.09E+01 | 11.86 | | 2.09E+01 | 1.19E+01 |
| | 62 | 2101.47 | 1.25E+01 | 11.51 | | 1.25E+01 | 1.15E+01 |
| | 63 | 2119.53 | 8.32E+00 | 10.20 | | 8.32E+00 | 1.02E+01 |
| | 64 | 2174.72 | 6.50E+00 | 6.65 | | 6.50E+00 | 6.65E+00 |
| | 65 | 2204.06 | 4.35E+01 | 20.53 | 5.94E-01 | 1.16E+00 | 4.29E+01 |
| | 66 | 2291.42 | 7.00E+00 | 5.29 | | 7.00E+00 | 5.29E+00 |
| | 67 | 2411.24 | 1.14E+01 | 10.44 | | 1.14E+01 | 1.04E+01 |
| | 68 | 2614.50 | 8.73E+01 | 20.70 | 7.38E+00 | 1.57E+00 | 7.99E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.999 | 1460.81 | * 10.67 | 1.79E+01 | 2.35E+00 |
| GA-67 | 0.336 | 93.31 | * 35.70 | 2.17E+02 | 8.89E+02 |
| | | 208.95 | 2.24 | | |
| | | 300.22 | 16.00 | | |

Analysis Report for 1510085-12
 CP5006S03-04

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| NB-95M | 0.686 | 235.69 * | 25.00 | 5.82E+01 | 2.68E+01 |
| CD-109 | 0.951 | 88.03 * | 3.72 | 1.39E+00 | 1.00E+00 |
| SN-126 | 0.998 | 87.57 * | 37.00 | 1.34E-01 | 9.62E-02 |
| BI-207 | 0.377 | 569.67 * | 97.72 | 4.82E-02 | 4.53E-02 |
| | | 1063.62 | 74.90 | | |
| TL-208 | 0.991 | 583.14 * | 30.22 | 1.27E+00 | 2.68E-01 |
| | | 860.37 * | 4.48 | 1.76E+00 | 1.51E+00 |
| | | 2614.66 * | 35.85 | 7.21E-01 | 1.96E-01 |
| BI-212 | 0.762 | 727.17 * | 11.80 | 1.22E+00 | 5.26E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.873 | 238.63 * | 44.60 | 1.07E+00 | 1.48E-01 |
| | | 300.09 | 3.41 | | |
| BI-214 | 0.999 | 609.31 * | 46.30 | 2.17E+00 | 2.83E-01 |
| | | 1120.29 * | 15.10 | 2.37E+00 | 5.49E-01 |
| | | 1764.49 * | 15.80 | 2.54E+00 | 5.51E-01 |
| | | 2204.22 * | 4.98 | 2.87E+00 | 1.40E+00 |
| PB-214 | 0.999 | 295.21 * | 19.19 | 2.49E+00 | 3.58E-01 |
| | | 351.92 * | 37.19 | 2.60E+00 | 3.20E-01 |
| RA-224 | 0.880 | 240.98 * | 3.95 | 5.06E+00 | 1.13E+00 |
| RA-226 | 0.996 | 186.21 * | 3.28 | 4.89E+00 | 9.06E+00 |
| AC-228 | 0.994 | 338.32 * | 11.40 | 1.33E+00 | 4.59E-01 |
| | | 911.07 * | 27.70 | 1.11E+00 | 3.45E-01 |
| | | 969.11 * | 16.60 | 1.24E+00 | 3.54E-01 |
| TH-234 | 0.993 | 63.29 * | 3.80 | 1.31E+00 | 1.58E+00 |
| NP-237 | 0.861 | 86.50 * | 12.60 | 3.94E-01 | 2.82E-01 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 9:17:22AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| 2 | 76.47 | 4.37441E-01 | 5.45 | | |
| 5 | 129.42 | 2.40513E-02 | 49.05 | | |
| 6 | 153.49 | 3.06586E-02 | 40.03 | Tol. | CS-136 |
| 8 | 198.51 | 1.68928E-02 | 52.07 | | |

Analysis Report for 1510085-12
CP5006S03-04

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide | |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|---------|
| 9 | 207.27 | 2.48693E-02 | 56.32 | | | |
| 13 | 270.20 | 1.97500E-02 | 36.83 | | | |
| 14 | 277.59 | 3.22179E-02 | 27.05 | Tol. | NP-239 CM-243 | |
| M | 15 | 291.32 | 8.18403E-03 | 44.59 | | |
| | 17 | 328.33 | 1.40670E-02 | 61.37 | Sum | |
| | 20 | 463.11 | 1.51467E-02 | 39.97 | Tol. | SB-125 |
| M | 21 | 507.30 | 6.63661E-03 | 58.09 | | |
| m | 22 | 510.94 | 2.97411E-02 | 20.76 | | |
| | 25 | 597.70 | 9.38438E-03 | 46.11 | | |
| M | 28 | 764.34 | 4.58389E-03 | 54.87 | Tol. | AG-110M |
| m | 29 | 768.45 | 1.96891E-02 | 20.26 | Sum | |
| | 30 | 795.25 | 8.12434E-03 | 54.81 | Sum | |
| | 32 | 898.16 | 5.55556E-03 | 59.71 | | |
| | 34 | 933.38 | 1.06959E-02 | 38.66 | | |
| M | 35 | 964.13 | 1.61990E-02 | 23.76 | Sum | |
| | 37 | 1067.21 | 9.35549E-03 | 46.02 | | |
| | 39 | 1155.86 | 7.18954E-03 | 45.96 | Sum | |
| | 40 | 1238.32 | 1.07048E-02 | 45.56 | | |
| | 41 | 1301.94 | 8.29981E-03 | 38.69 | | |
| | 42 | 1318.21 | 7.13152E-03 | 42.14 | | |
| | 43 | 1377.68 | 1.21358E-02 | 24.28 | | |
| | 44 | 1385.92 | 5.27778E-03 | 49.65 | | |
| M | 45 | 1397.83 | 2.88197E-03 | 28.51 | | |
| m | 46 | 1401.71 | 5.45367E-03 | 32.91 | | |
| | 47 | 1408.40 | 1.33333E-02 | 22.63 | | |
| | 48 | 1445.66 | 5.14297E-03 | 45.01 | | |
| | 50 | 1537.40 | 6.12140E-03 | 27.65 | | |
| M | 51 | 1589.02 | 7.17715E-03 | 32.38 | Sum | |
| m | 52 | 1593.06 | 3.53817E-03 | 74.30 | D-Esc | |
| | 53 | 1622.18 | 3.05556E-03 | 57.68 | | |
| | 54 | 1631.09 | 4.66667E-03 | 31.50 | | |
| | 55 | 1659.95 | 3.47222E-03 | 41.67 | | |
| M | 56 | 1726.21 | 1.74293E-03 | 21.08 | | |
| m | 57 | 1729.82 | 8.09924E-03 | 23.76 | Sum | |
| | 59 | 1811.62 | 1.94444E-03 | 37.80 | | |
| | 60 | 1822.73 | 2.25000E-03 | 46.19 | Sum | |
| | 61 | 1846.42 | 5.79594E-03 | 28.43 | | |
| | 62 | 2101.47 | 3.47222E-03 | 46.04 | | |
| | 63 | 2119.53 | 2.31151E-03 | 61.28 | | |
| | 64 | 2174.72 | 1.80556E-03 | 51.17 | | |
| | 66 | 2291.42 | 1.94444E-03 | 37.80 | Sum | |
| | 67 | 2411.24 | 3.15741E-03 | 45.93 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-12

CP5006S03-04

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|---|----------|----------------------|----------------------|
| K-40 | 0.99 | 1460.81 | * | 10.67 | 1.79E+01 | 2.35E+00 |
| GA-67 | 0.33 | 93.31 | * | 35.70 | 2.17E+02 | 8.89E+02 |
| | | 208.95 | | 2.24 | | |
| | | 300.22 | | 16.00 | | |
| | | 235.69 | * | 25.00 | 5.82E+01 | 2.68E+01 |
| NB-95M | 0.68 | 88.03 | * | 3.72 | 1.39E+00 | 1.00E+00 |
| CD-109 | 0.95 | 87.57 | * | 37.00 | 1.34E-01 | 9.62E-02 |
| SN-126 | 0.99 | 569.67 | * | 97.72 | 4.82E-02 | 4.53E-02 |
| | | 1063.62 | | 74.90 | | |
| | | 583.14 | * | 30.22 | 1.27E+00 | 2.68E-01 |
| TL-208 | 0.99 | 860.37 | * | 4.48 | 1.76E+00 | 1.51E+00 |
| | | 2614.66 | * | 35.85 | 7.21E-01 | 1.96E-01 |
| | | 727.17 | * | 11.80 | 1.22E+00 | 5.26E-01 |
| BI-212 | 0.76 | 1620.62 | | 2.75 | | |
| | | 238.63 | * | 44.60 | 1.07E+00 | 1.48E-01 |
| PB-212 | 0.87 | 300.09 | | 3.41 | | |
| | | 609.31 | * | 46.30 | 2.17E+00 | 2.83E-01 |
| BI-214 | 0.99 | 1120.29 | * | 15.10 | 2.37E+00 | 5.49E-01 |
| | | 1764.49 | * | 15.80 | 2.54E+00 | 5.51E-01 |
| | | 2204.22 | * | 4.98 | 2.87E+00 | 1.40E+00 |
| | | 295.21 | * | 19.19 | 2.49E+00 | 3.58E-01 |
| PB-214 | 0.99 | 351.92 | * | 37.19 | 2.60E+00 | 3.20E-01 |
| | | 240.98 | * | 3.95 | 5.06E+00 | 1.13E+00 |
| RA-224 | 0.88 | 186.21 | * | 3.28 | 4.89E+00 | 9.06E+00 |
| AC-228 | 0.99 | 338.32 | * | 11.40 | 1.33E+00 | 4.59E-01 |
| | | 911.07 | * | 27.70 | 1.11E+00 | 3.45E-01 |
| | | 969.11 | * | 16.60 | 1.24E+00 | 3.54E-01 |
| | | 63.29 | * | 3.80 | 1.31E+00 | 1.58E+00 |
| TH-234 | 0.99 | 86.50 | * | 12.60 | 3.94E-01 | 2.82E-01 |
| NP-237 | 0.86 | | | | | |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-12
CP5006S03-04

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-----------------|-----------------------------|------------------------------------|------------------------------------|----------|
| K-40 | 0.999 | 1.79E+01 | 2.35E+00 | |
| GA-67 | 0.336 | 2.17E+02 | 8.89E+02 | |
| NB-95M | 0.686 | 5.82E+01 | 2.68E+01 | |
| ? CD-109 | 0.951 | 1.39E+00 | 1.00E+00 | |
| ? SN-126 | 0.998 | 1.34E-01 | 9.62E-02 | |
| BI-207 | 0.377 | 4.82E-02 | 4.53E-02 | |
| TL-208 | 0.991 | 9.23E-01 | 1.57E-01 | |
| BI-212 | 0.762 | 1.22E+00 | 5.26E-01 | |
| PB-212 | 0.873 | 1.07E+00 | 1.48E-01 | |
| BI-214 | 0.999 | 2.29E+00 | 2.26E-01 | |
| PB-214 | 0.999 | 2.56E+00 | 2.39E-01 | |
| RA-224 | 0.880 | 5.06E+00 | 1.13E+00 | |
| RA-226 | 0.996 | 4.89E+00 | 9.06E+00 | |
| AC-228 | 0.994 | 1.21E+00 | 2.17E-01 | |
| TH-234 | 0.993 | 1.31E+00 | 1.58E+00 | |
| ? NP-237 | 0.861 | 3.94E-01 | 2.82E-01 | |

- ? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-12
CP5006S03-04

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 9:17:22AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide | |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|---------|
| 2 | 76.47 | 4.37441E-01 | 5.45 | | | |
| 5 | 129.42 | 2.40513E-02 | 49.05 | | | |
| 6 | 153.49 | 3.06586E-02 | 40.03 | Tol. | CS-136 | |
| 8 | 198.51 | 1.68928E-02 | 52.07 | | | |
| 9 | 207.27 | 2.48693E-02 | 56.32 | | | |
| 13 | 270.20 | 1.97500E-02 | 36.83 | | | |
| 14 | 277.59 | 3.22179E-02 | 27.05 | Tol. | NP-239 CM-243 | |
| M | 15 | 291.32 | 8.18403E-03 | 44.59 | | |
| | 17 | 328.33 | 1.40670E-02 | 61.37 | Sum | |
| | 20 | 463.11 | 1.51467E-02 | 39.97 | Tol. | SB-125 |
| M | 21 | 507.30 | 6.63661E-03 | 58.09 | | |
| m | 22 | 510.94 | 2.97411E-02 | 20.76 | | |
| | 25 | 597.70 | 9.38438E-03 | 46.11 | | |
| M | 28 | 764.34 | 4.58389E-03 | 54.87 | Tol. | AG-110M |
| m | 29 | 768.45 | 1.96891E-02 | 20.26 | Sum | |
| | 30 | 795.25 | 8.12434E-03 | 54.81 | Sum | |
| | 32 | 898.16 | 5.55556E-03 | 59.71 | | |
| | 34 | 933.38 | 1.06959E-02 | 38.66 | | |
| M | 35 | 964.13 | 1.61990E-02 | 23.76 | Sum | |
| | 37 | 1067.21 | 9.35549E-03 | 46.02 | | |
| | 39 | 1155.86 | 7.18954E-03 | 45.96 | Sum | |
| | 40 | 1238.32 | 1.07048E-02 | 45.56 | | |
| | 41 | 1301.94 | 8.29981E-03 | 38.69 | | |
| | 42 | 1318.21 | 7.13152E-03 | 42.14 | | |
| | 43 | 1377.68 | 1.21358E-02 | 24.28 | | |
| | 44 | 1385.92 | 5.27778E-03 | 49.65 | | |
| M | 45 | 1397.83 | 2.88197E-03 | 28.51 | | |
| m | 46 | 1401.71 | 5.45367E-03 | 32.91 | | |
| | 47 | 1408.40 | 1.33333E-02 | 22.63 | | |
| | 48 | 1445.66 | 5.14297E-03 | 45.01 | | |
| | 50 | 1537.40 | 6.12140E-03 | 27.65 | | |
| M | 51 | 1589.02 | 7.17715E-03 | 32.38 | Sum | |
| m | 52 | 1593.06 | 3.53817E-03 | 74.30 | D-Esc | |
| | 53 | 1622.18 | 3.05556E-03 | 57.68 | | |

Analysis Report for 1510085-12
CP5006S03-04

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| | 54 | 1631.09 | 4.66667E-03 | 31.50 | |
| | 55 | 1659.95 | 3.47222E-03 | 41.67 | |
| M | 56 | 1726.21 | 1.74293E-03 | 21.08 | |
| m | 57 | 1729.82 | 8.09924E-03 | 23.76 | Sum |
| | 59 | 1811.62 | 1.94444E-03 | 37.80 | |
| | 60 | 1822.73 | 2.25000E-03 | 46.19 | Sum |
| | 61 | 1846.42 | 5.79594E-03 | 28.43 | |
| | 62 | 2101.47 | 3.47222E-03 | 46.04 | |
| | 63 | 2119.53 | 2.31151E-03 | 61.28 | |
| | 64 | 2174.72 | 1.80556E-03 | 51.17 | |
| | 66 | 2291.42 | 1.94444E-03 | 37.80 | Sum |
| | 67 | 2411.24 | 3.15741E-03 | 45.93 | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-----------------|-----------------|----------|-------------------------|----------------------------|-------------------------|
| + | BE-7 | 477.59 | 10.42 | 3.68E-03 | 8.52E-01 | 8.52E-01 |
| + | NA-22 | 1274.54 | 99.94 | 1.86E-02 | 9.00E-02 | 9.00E-02 |
| + | NA-24 | 1368.53 | 99.99 | -1.33E+12 | 6.87E+12 | 1.74E+13 |
| | | 2754.09 | 99.86 | -3.42E+12 | | 6.87E+12 |
| + | AL-26 | 1808.65 | 99.76 | -2.12E-03 | 5.04E-02 | 5.04E-02 |
| + | K-40 | 1460.81 | * | 1.79E+01 | 8.80E-01 | 8.80E-01 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | 6.24E-04 | 5.57E-02 | 5.57E-02 |
| | | 78.34 | 96.00 | 3.80E-01 | | 8.38E-02 |
| + | SC-46 | 889.25 | 99.98 | 1.72E-02 | 9.96E-02 | 9.96E-02 |
| | | 1120.51 | 99.99 | 4.72E-01 | | 2.01E-01 |
| + | V-48 | 983.52 | 99.98 | -1.74E-01 | 2.86E-01 | 2.86E-01 |
| | | 1312.10 | 97.50 | 9.54E-02 | | 2.89E-01 |
| + | CR-51 | 320.08 | 9.83 | -3.43E-01 | 1.15E+00 | 1.15E+00 |
| + | MN-54 | 834.83 | 99.97 | 9.68E-04 | 8.63E-02 | 8.63E-02 |
| + | CO-56 | 846.75 | 99.96 | -5.97E-03 | 6.77E-02 | 9.03E-02 |

Analysis Report for 1510085-12
CP5006S03-04

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | CO-56 | 1037.75 | 14.03 | -2.33E-01 | 6.77E-02 | 6.94E-01 |
| | | 1238.25 | 67.00 | 1.93E-01 | | 2.43E-01 |
| | | 1771.40 | 15.51 | -1.55E-01 | | 4.78E-01 |
| | | 2598.48 | 16.90 | 0.00E+00 | | 6.77E-02 |
| + | CO-57 | 122.06 | 85.51 | -3.07E-02 | 6.14E-02 | 6.14E-02 |
| | | 136.48 | 10.60 | 1.13E-01 | | 5.40E-01 |
| + | CO-58 | 810.76 | 99.40 | 2.08E-02 | 9.87E-02 | 9.87E-02 |
| + | FE-59 | 1099.22 | 56.50 | -1.04E-01 | 2.19E-01 | 2.19E-01 |
| | | 1291.56 | 43.20 | -3.97E-03 | | 2.94E-01 |
| + | CO-60 | 1173.22 | 100.00 | 1.60E-02 | 6.90E-02 | 8.89E-02 |
| | | 1332.49 | 100.00 | -5.26E-03 | | 6.90E-02 |
| + | ZN-65 | 1115.52 | 50.75 | -1.89E-02 | 1.73E-01 | 1.73E-01 |
| + | GA-67 | 93.31 | * 35.70 | 2.17E+02 | 1.45E+02 | 1.45E+02 |
| | | 208.95 | 2.24 | 1.55E+03 | | 1.60E+03 |
| | | 300.22 | 16.00 | 4.81E+01 | | 2.22E+02 |
| + | SE-75 | 121.11 | 16.70 | -1.17E-03 | 1.04E-01 | 3.47E-01 |
| | | 136.00 | 59.20 | -3.62E-02 | | 1.04E-01 |
| | | 264.65 | 59.80 | 7.14E-02 | | 1.06E-01 |
| | | 279.53 | 25.20 | -9.12E-02 | | 2.63E-01 |
| | | 400.65 | 11.40 | 1.74E-01 | | 6.10E-01 |
| + | RB-82 | 776.52 | 13.00 | -2.94E-01 | 1.21E+00 | 1.21E+00 |
| + | RB-83 | 520.41 | 46.00 | 4.45E-03 | 1.50E-01 | 1.50E-01 |
| | | 529.64 | 30.30 | -5.15E-02 | | 2.29E-01 |
| | | 552.65 | 16.40 | 1.70E-01 | | 4.58E-01 |
| + | KR-85 | 513.99 | 0.43 | -9.44E+00 | 1.57E+01 | 1.57E+01 |
| + | SR-85 | 513.99 | 99.27 | -5.66E-02 | 9.44E-02 | 9.44E-02 |
| + | Y-88 | 898.02 | 93.40 | 0.00E+00 | 8.75E-02 | 9.91E-02 |
| | | 1836.01 | 99.38 | 4.68E-02 | | 8.75E-02 |
| + | NB-93M | 16.57 | 9.43 | -3.43E+03 | 5.77E+03 | 5.77E+03 |
| + | NB-94 | 702.63 | 100.00 | -1.26E-02 | 7.15E-02 | 7.16E-02 |
| | | 871.10 | 100.00 | 3.21E-02 | | 7.15E-02 |
| + | NB-95 | 765.79 | 99.81 | 2.01E-01 | 1.77E-01 | 1.77E-01 |
| + | NB-95M | 235.69 | * 25.00 | 5.82E+01 | 1.37E+02 | 1.37E+02 |
| + | ZR-95 | 724.18 | 43.70 | -9.75E-03 | 1.94E-01 | 2.80E-01 |
| | | 756.72 | 55.30 | 5.07E-02 | | 1.94E-01 |
| + | MO-99 | 181.06 | 6.20 | -7.23E+01 | 1.06E+03 | 1.75E+03 |
| | | 739.58 | 12.80 | -2.05E+02 | | 1.06E+03 |
| | | 778.00 | 4.50 | -1.70E+02 | | 3.11E+03 |
| + | RU-103 | 497.08 | 89.00 | 2.15E-02 | 1.02E-01 | 1.02E-01 |
| + | RU-106 | 621.84 | 9.80 | 8.48E-02 | 7.56E-01 | 7.56E-01 |
| + | AG-108M | 433.93 | 89.90 | 2.86E-02 | 6.39E-02 | 6.39E-02 |
| | | 614.37 | 90.40 | -1.19E-02 | | 7.38E-02 |
| | | 722.95 | 90.50 | 7.96E-03 | | 8.78E-02 |
| + | CD-109 | 88.03 | * 3.72 | 1.39E+00 | 1.58E+00 | 1.58E+00 |
| + | AG-110M | 657.75 | 93.14 | -4.51E-03 | 8.45E-02 | 8.45E-02 |
| | | 677.61 | 10.53 | 1.48E-01 | | 7.02E-01 |
| | | 706.67 | 16.46 | 1.17E-01 | | 4.93E-01 |
| | | 763.93 | 21.98 | -6.28E-01 | | 3.86E-01 |

Analysis Report for 1510085-12
CP5006S03-04

| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | AG-110M | 884.67 | 71.63 | -1.15E-02 | 8.45E-02 | 1.08E-01 |
| | | 1384.27 | 23.94 | 1.96E-02 | | 3.46E-01 |
| + | CD-113M | 263.70 | 0.02 | 9.93E+01 | 2.43E+02 | 2.43E+02 |
| + | SN-113 | 255.12 | 1.93 | 1.48E+00 | 1.05E-01 | 3.55E+00 |
| | | 391.69 | 64.90 | -3.54E-02 | | 1.05E-01 |
| + | TE123M | 159.00 | 84.10 | 8.72E-03 | 7.41E-02 | 7.41E-02 |
| + | SB-124 | 602.71 | 97.87 | 1.90E-03 | 1.04E-01 | 1.04E-01 |
| | | 645.85 | 7.26 | -3.37E-01 | | 1.21E+00 |
| | | 722.78 | 11.10 | 9.16E-02 | | 1.01E+00 |
| | | 1691.02 | 49.00 | 6.82E-02 | | 1.78E-01 |
| + | I-125 | 35.49 | 6.49 | 7.32E-01 | 5.66E+00 | 5.66E+00 |
| + | SB-125 | 176.33 | 6.89 | 5.32E-02 | 2.00E-01 | 7.95E-01 |
| | | 427.89 | 29.33 | 8.86E-02 | | 2.00E-01 |
| | | 463.38 | 10.35 | 7.71E-01 | | 6.83E-01 |
| | | 600.56 | 17.80 | -8.21E-02 | | 4.13E-01 |
| | | 635.90 | 11.32 | -2.58E-01 | | 5.77E-01 |
| + | SB-126 | 414.70 | 83.30 | 1.49E-02 | 3.59E-01 | 3.59E-01 |
| | | 666.33 | 99.60 | 1.57E-01 | | 3.94E-01 |
| | | 695.00 | 99.60 | 1.31E-01 | | 3.88E-01 |
| | | 720.50 | 53.80 | 3.98E-02 | | 7.23E-01 |
| + | SN-126 | 87.57 | * 37.00 | 1.34E-01 | 1.52E-01 | 1.52E-01 |
| + | SB-127 | 473.00 | 25.00 | -2.84E+00 | 4.06E+01 | 5.24E+01 |
| | | 685.20 | 35.70 | 5.95E+00 | | 4.06E+01 |
| | | 783.80 | 14.70 | 1.19E+02 | | 1.35E+02 |
| + | I-129 | 29.78 | 57.00 | 4.24E-01 | 1.20E+00 | 1.20E+00 |
| | | 33.60 | 13.20 | -6.32E-01 | | 2.48E+00 |
| | | 39.58 | 7.52 | -7.12E-01 | | 2.14E+00 |
| + | I-131 | 284.30 | 6.05 | -3.91E+00 | 9.31E-01 | 1.11E+01 |
| | | 364.48 | 81.20 | 7.11E-01 | | 9.31E-01 |
| | | 636.97 | 7.26 | 4.44E+00 | | 1.23E+01 |
| | | 722.89 | 1.80 | 5.33E+00 | | 5.88E+01 |
| + | TE-132 | 49.72 | 13.10 | -3.05E+01 | 3.86E+01 | 3.52E+02 |
| | | 228.16 | 88.00 | -1.01E+01 | | 3.86E+01 |
| + | BA-133 | 81.00 | 33.00 | -5.44E-02 | 9.26E-02 | 1.35E-01 |
| | | 302.84 | 17.80 | -9.66E-02 | | 3.21E-01 |
| | | 356.01 | 60.00 | 1.87E-02 | | 9.26E-02 |
| + | I-133 | 529.87 | 86.30 | -5.49E+08 | 1.69E+09 | 1.69E+09 |
| + | XE-133 | 81.00 | 38.00 | -2.49E+00 | 6.20E+00 | 6.20E+00 |
| + | CS-134 | 563.23 | 8.38 | 4.27E-01 | 1.02E-01 | 7.46E-01 |
| | | 569.32 | 15.43 | 1.01E-01 | | 4.24E-01 |
| | | 604.70 | 97.60 | 1.39E-03 | | 1.08E-01 |
| | | 795.84 | 85.40 | 9.33E-02 | | 1.02E-01 |
| | | 801.93 | 8.73 | -5.19E-01 | | 7.61E-01 |
| + | CS-135 | 268.24 | 16.00 | 7.83E-02 | 3.48E-01 | 3.48E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 3.05E+00 | 3.64E-01 | 3.79E+00 |
| | | 163.89 | 4.61 | 2.61E+00 | | 5.71E+00 |

Analysis Report for 1510085-12
CP5006S03-04

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | CS-136 | 176.55 | 13.56 | -6.35E-01 | 3.64E-01 | 1.90E+00 |
| | | 273.65 | 12.66 | -3.70E+00 | | 2.08E+00 |
| | | 340.57 | 48.50 | -6.25E-01 | | 6.14E-01 |
| | | 818.50 | 99.70 | 1.17E-01 | | 3.64E-01 |
| | | 1048.07 | 79.60 | 4.87E-02 | | 4.96E-01 |
| | | 1235.34 | 19.70 | 5.37E-02 | | 2.96E+00 |
| + | CS-137 | 661.65 | 85.12 | -4.96E-02 | 8.39E-02 | 8.39E-02 |
| + | LA-138 | 788.74 | 34.00 | 1.20E-01 | 1.01E-01 | 2.36E-01 |
| | | 1435.80 | 66.00 | -9.20E-03 | | 1.01E-01 |
| + | CE-139 | 165.85 | 80.35 | -4.45E-02 | 7.62E-02 | 7.62E-02 |
| + | BA-140 | 162.64 | 6.70 | 4.08E-01 | 1.25E+00 | 4.11E+00 |
| | | 304.84 | 4.50 | 7.85E-02 | | 6.30E+00 |
| | | 423.70 | 3.20 | 1.24E-01 | | 8.79E+00 |
| | | 437.55 | 2.00 | -6.42E+00 | | 1.34E+01 |
| | | 537.32 | 25.00 | 4.29E-01 | | 1.25E+00 |
| + | LA-140 | 328.77 | 20.50 | 1.41E+00 | 4.53E-01 | 1.61E+00 |
| | | 487.03 | 45.50 | -2.16E-02 | | 6.36E-01 |
| | | 815.85 | 23.50 | 1.60E-01 | | 1.59E+00 |
| | | 1596.49 | 95.49 | 3.53E-02 | | 4.53E-01 |
| + | CE-141 | 145.44 | 48.40 | -7.48E-02 | 2.10E-01 | 2.10E-01 |
| + | CE-143 | 57.36 | 11.80 | -7.71E+05 | 8.38E+05 | 1.77E+06 |
| | | 293.26 | 42.00 | 2.11E+05 | | 8.38E+05 |
| | | 664.55 | 5.20 | 3.42E+06 | | 5.59E+06 |
| + | CE-144 | 133.54 | 10.80 | 5.10E-02 | 5.03E-01 | 5.03E-01 |
| + | PM-144 | 476.78 | 42.00 | 6.54E-04 | 7.19E-02 | 1.51E-01 |
| | | 618.01 | 98.60 | -1.25E-02 | | 7.19E-02 |
| | | 696.49 | 99.49 | 7.09E-02 | | 7.94E-02 |
| + | PM-145 | 36.85 | 21.70 | 2.92E-01 | 5.23E-01 | 1.02E+00 |
| | | 37.36 | 39.70 | 1.50E-01 | | 5.23E-01 |
| | | 42.30 | 15.10 | 9.50E-02 | | 8.51E-01 |
| | | 72.40 | 2.31 | -2.29E+00 | | 2.27E+00 |
| + | PM-146 | 453.90 | 39.94 | 4.92E-02 | 1.45E-01 | 1.45E-01 |
| | | 735.90 | 14.01 | 1.41E-01 | | 5.04E-01 |
| | | 747.13 | 13.10 | -1.92E-01 | | 5.39E-01 |
| + | ND-147 | 91.11 | 28.90 | -7.79E-01 | 1.58E+00 | 1.58E+00 |
| | | 531.02 | 13.10 | 4.00E-01 | | 2.94E+00 |
| + | PM-149 | 285.90 | 3.10 | 3.39E+03 | 2.13E+04 | 2.13E+04 |
| + | EU-152 | 121.78 | 20.50 | -1.19E-01 | 2.38E-01 | 2.38E-01 |
| | | 244.69 | 5.40 | -3.08E+00 | | 1.13E+00 |
| | | 344.27 | 19.13 | 4.94E-02 | | 2.70E-01 |
| | | 778.89 | 9.20 | -3.85E-02 | | 8.04E-01 |
| | | 964.01 | 10.40 | -2.13E+00 | | 1.00E+00 |
| | | 1085.78 | 7.22 | 5.46E-01 | | 1.14E+00 |
| | | 1112.02 | 9.60 | 4.25E-01 | | 8.74E-01 |
| | | 1407.95 | 14.94 | 6.01E-01 | | 7.07E-01 |
| + | GD-153 | 97.43 | 31.30 | 1.05E-01 | 1.74E-01 | 1.74E-01 |
| | | 103.18 | 22.20 | -2.18E-01 | | 2.41E-01 |
| + | EU-154 | 123.07 | 40.50 | -1.98E-02 | 1.23E-01 | 1.23E-01 |
| | | 723.30 | 19.70 | 3.68E-02 | | 4.06E-01 |

Analysis Report for 1510085-12

CP5006S03-04

| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | EU-154 | 873.19 | 11.50 | 3.29E-04 | 1.23E-01 | 5.85E-01 |
| | | 996.32 | 10.30 | -1.06E+00 | | 6.64E-01 |
| | | 1004.76 | 17.90 | 1.57E-01 | | 4.59E-01 |
| | | 1274.45 | 35.50 | 5.16E-02 | | 2.49E-01 |
| + | EU-155 | 86.50 | 30.90 | -1.20E-01 | 2.17E-01 | 2.17E-01 |
| | | 105.30 | 20.70 | 1.82E-01 | | 2.49E-01 |
| + | EU-156 | 811.77 | 10.40 | 3.76E-02 | 2.72E+00 | 2.72E+00 |
| | | 1153.47 | 7.20 | 1.84E-01 | | 5.32E+00 |
| | | 1230.71 | 8.90 | 2.16E+00 | | 4.44E+00 |
| + | HO-166M | 184.41 | 72.60 | 9.69E-02 | 9.99E-02 | 9.99E-02 |
| | | 280.45 | 29.60 | -6.54E-02 | | 1.88E-01 |
| | | 410.94 | 11.10 | 1.37E-01 | | 5.20E-01 |
| | | 711.69 | 54.10 | -2.36E-02 | | 1.37E-01 |
| + | TM-171 | 66.72 | 0.14 | 1.23E+01 | 3.97E+01 | 3.97E+01 |
| + | HF-172 | 81.75 | 4.52 | -1.26E+00 | 4.65E-01 | 9.99E-01 |
| | | 125.81 | 11.30 | 6.50E-02 | | 4.65E-01 |
| + | LU-172 | 181.53 | 20.60 | 1.28E+00 | 2.82E+00 | 6.03E+00 |
| | | 810.06 | 16.63 | 2.07E+00 | | 9.83E+00 |
| | | 912.12 | 15.25 | 4.89E+01 | | 2.10E+01 |
| | | 1093.66 | 62.50 | 7.67E-01 | | 2.82E+00 |
| + | LU-173 | 100.72 | 5.24 | 1.58E-01 | 2.91E-01 | 9.96E-01 |
| | | 272.11 | 21.20 | 2.82E-01 | | 2.91E-01 |
| + | HF-175 | 343.40 | 84.00 | 9.15E-03 | 8.30E-02 | 8.30E-02 |
| + | LU-176 | 88.34 | 13.30 | 7.30E-01 | 5.76E-02 | 5.13E-01 |
| | | 201.83 | 86.00 | -7.06E-03 | | 6.88E-02 |
| | | 306.78 | 94.00 | 1.03E-02 | | 5.76E-02 |
| + | TA-182 | 67.75 | 41.20 | 1.72E-03 | 1.53E-01 | 1.53E-01 |
| | | 1121.30 | 34.90 | 1.27E+00 | | 5.40E-01 |
| | | 1189.05 | 16.23 | 7.31E-02 | | 7.26E-01 |
| | | 1221.41 | 26.98 | 1.62E-01 | | 4.56E-01 |
| | | 1231.02 | 11.44 | 3.03E-01 | | 1.05E+00 |
| + | IR-192 | 308.46 | 29.68 | 1.81E-02 | 1.56E-01 | 2.36E-01 |
| | | 468.07 | 48.10 | 1.34E-02 | | 1.56E-01 |
| + | HG-203 | 279.19 | 77.30 | 1.57E-01 | 1.24E-01 | 1.24E-01 |
| + | BI-207 | 569.67 | * 97.72 | 4.82E-02 | 7.30E-02 | 7.30E-02 |
| | | 1063.62 | 74.90 | -1.65E-02 | | 1.04E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.27E+00 | 1.81E-01 | 3.28E-01 |
| | | 860.37 | * 4.48 | 1.76E+00 | | 2.42E+00 |
| | | 2614.66 | * 35.85 | 7.21E-01 | | 1.81E-01 |
| + | BI-210M | 262.00 | 45.00 | -7.41E-02 | 1.25E-01 | 1.25E-01 |
| | | 300.00 | 23.00 | 5.63E-02 | | 2.59E-01 |
| + | PB-210 | 46.50 | 4.25 | 5.22E+00 | 2.61E+00 | 2.61E+00 |
| + | PB-211 | 404.84 | 2.90 | 2.57E-01 | 2.04E+00 | 2.04E+00 |
| | | 831.96 | 2.90 | 1.43E+00 | | 2.82E+00 |
| + | BI-212 | 727.17 | * 11.80 | 1.22E+00 | 7.69E-01 | 7.69E-01 |
| | | 1620.62 | 2.75 | 2.99E-01 | | 2.62E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.07E+00 | 2.51E-01 | 2.51E-01 |
| | | 300.09 | 3.41 | 3.80E-01 | | 1.75E+00 |

Analysis Report for 1510085-12

CP5006S03-04

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | BI-214 | 609.31 | * | 46.30 | 2.17E+00 | 2.34E-01 | 2.34E-01 |
| | | 1120.29 | * | 15.10 | 2.37E+00 | | 6.05E-01 |
| | | 1764.49 | * | 15.80 | 2.54E+00 | | 4.49E-01 |
| | | 2204.22 | * | 4.98 | 2.87E+00 | | 1.93E+00 |
| + | PB-214 | 295.21 | * | 19.19 | 2.49E+00 | 2.56E-01 | 8.06E-01 |
| | | 351.92 | * | 37.19 | 2.60E+00 | | 2.56E-01 |
| + | RN-219 | 401.80 | | 6.50 | 1.07E-01 | 9.14E-01 | 9.14E-01 |
| + | RA-223 | 323.87 | | 3.88 | 2.22E-01 | 1.38E+00 | 1.38E+00 |
| + | RA-224 | 240.98 | * | 3.95 | 5.06E+00 | 2.81E+00 | 2.81E+00 |
| + | RA-225 | 40.00 | | 31.00 | -6.77E-01 | 2.03E+00 | 2.03E+00 |
| + | RA-226 | 186.21 | * | 3.28 | 4.89E+00 | 2.11E+00 | 2.11E+00 |
| + | TH-227 | 50.10 | | 8.40 | -7.84E-02 | 7.05E-01 | 9.04E-01 |
| | | 236.00 | | 11.50 | -4.85E+00 | | 7.05E-01 |
| | | 256.20 | | 6.30 | -3.43E-01 | | 8.91E-01 |
| + | AC-228 | 338.32 | * | 11.40 | 1.33E+00 | 4.81E-01 | 6.65E-01 |
| | | 911.07 | * | 27.70 | 1.11E+00 | | 4.81E-01 |
| | | 969.11 | * | 16.60 | 1.24E+00 | | 7.91E-01 |
| + | TH-230 | 48.44 | | 16.90 | -4.00E-01 | 5.04E-01 | 5.04E-01 |
| | | 62.85 | | 4.60 | 1.82E+00 | | 1.38E+00 |
| | | 67.67 | | 0.37 | 1.59E-01 | | 1.42E+01 |
| + | PA-231 | 283.67 | | 1.60 | -1.11E+00 | 2.47E+00 | 3.14E+00 |
| | | 302.67 | | 2.30 | -7.43E-01 | | 2.47E+00 |
| + | TH-231 | 25.64 | | 14.70 | 3.33E-02 | 7.49E-01 | 1.53E+01 |
| | | 84.21 | | 6.40 | 6.69E-01 | | 7.49E-01 |
| + | PA-233 | 311.98 | | 38.60 | 2.72E-02 | 2.95E-01 | 2.95E-01 |
| + | PA-234 | 131.20 | | 20.40 | 2.48E-01 | 2.72E-01 | 2.72E-01 |
| | | 733.99 | | 8.80 | 3.71E-02 | | 7.73E-01 |
| | | 946.00 | | 12.00 | -2.75E-01 | | 5.78E-01 |
| + | PA-234M | 1001.03 | | 0.92 | 3.22E+00 | 8.91E+00 | 8.91E+00 |
| + | TH-234 | 63.29 | * | 3.80 | 1.31E+00 | 2.59E+00 | 2.59E+00 |
| + | U-235 | 143.76 | | 10.50 | 2.07E-01 | 5.06E-01 | 5.06E-01 |
| | | 163.35 | | 4.70 | 1.14E-01 | | 1.15E+00 |
| | | 205.31 | | 4.70 | 4.11E-01 | | 1.23E+00 |
| + | NP-237 | 86.50 | * | 12.60 | 3.94E-01 | 4.46E-01 | 4.46E-01 |
| + | NP-239 | 106.10 | | 22.70 | 6.33E+01 | 1.55E+03 | 1.55E+03 |
| | | 228.18 | | 10.70 | -9.63E+02 | | 3.69E+03 |
| | | 277.60 | | 14.10 | 1.41E+03 | | 3.00E+03 |
| + | AM-241 | 59.54 | | 35.90 | 4.99E-02 | 1.59E-01 | 1.59E-01 |
| + | AM-243 | 74.67 | | 66.00 | -2.46E-01 | 1.13E-01 | 1.13E-01 |
| + | CM-243 | 209.75 | | 3.29 | 1.09E+00 | 4.38E-01 | 1.84E+00 |
| | | 228.14 | | 10.60 | -1.41E-01 | | 5.38E-01 |
| | | 277.60 | | 14.00 | 2.05E-01 | | 4.38E-01 |

Analysis Report for 1510085-12

CP5006S03-04

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 8.52E-01 | 8.52E-01 | 3.68E-03 | 4.03E-01 |
| NA-22 | 1274.54 | 99.94 | 9.00E-02 | 9.00E-02 | 1.86E-02 | 4.15E-02 |
| NA-24 | 1368.53 | 99.99 | 1.74E+13 | 6.87E+12 | -1.33E+12 | 7.61E+12 |
| | 2754.09 | 99.86 | 6.87E+12 | | -3.42E+12 | 2.17E+12 |
| AL-26 | 1808.65 | 99.76 | 5.04E-02 | 5.04E-02 | -2.12E-03 | 2.09E-02 |
| + K-40 | 1460.81 | * 10.67 | 8.80E-01 | 8.80E-01 | 1.79E+01 | 4.04E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 5.57E-02 | 5.57E-02 | 6.24E-04 | 2.71E-02 |
| | 78.34 | 96.00 | 8.38E-02 | | 3.80E-01 | 4.12E-02 |
| SC-46 | 889.25 | 99.98 | 9.96E-02 | 9.96E-02 | 1.72E-02 | 4.65E-02 |
| | 1120.51 | 99.99 | 2.01E-01 | | 4.72E-01 | 9.67E-02 |
| V-48 | 983.52 | 99.98 | 2.86E-01 | 2.86E-01 | -1.74E-01 | 1.33E-01 |
| | 1312.10 | 97.50 | 2.89E-01 | | 9.54E-02 | 1.31E-01 |
| CR-51 | 320.08 | 9.83 | 1.15E+00 | 1.15E+00 | -3.43E-01 | 5.50E-01 |
| MN-54 | 834.83 | 99.97 | 8.63E-02 | 8.63E-02 | 9.68E-04 | 4.05E-02 |
| CO-56 | 846.75 | 99.96 | 9.03E-02 | 6.77E-02 | -5.97E-03 | 4.19E-02 |
| | 1037.75 | 14.03 | 6.94E-01 | | -2.33E-01 | 3.20E-01 |
| | 1238.25 | 67.00 | 2.43E-01 | | 1.93E-01 | 1.15E-01 |
| | 1771.40 | 15.51 | 4.78E-01 | | -1.55E-01 | 2.03E-01 |
| | 2598.48 | 16.90 | 6.77E-02 | | 0.00E+00 | 0.00E+00 |
| CO-57 | 122.06 | 85.51 | 6.14E-02 | 6.14E-02 | -3.07E-02 | 2.99E-02 |
| | 136.48 | 10.60 | 5.40E-01 | | 1.13E-01 | 2.63E-01 |
| CO-58 | 810.76 | 99.40 | 9.87E-02 | 9.87E-02 | 2.08E-02 | 4.61E-02 |
| FE-59 | 1099.22 | 56.50 | 2.19E-01 | 2.19E-01 | -1.04E-01 | 1.01E-01 |
| | 1291.56 | 43.20 | 2.94E-01 | | -3.97E-03 | 1.34E-01 |
| CO-60 | 1173.22 | 100.00 | 8.89E-02 | 6.90E-02 | 1.60E-02 | 4.12E-02 |
| | 1332.49 | 100.00 | 6.90E-02 | | -5.26E-03 | 3.09E-02 |
| ZN-65 | 1115.52 | 50.75 | 1.73E-01 | 1.73E-01 | -1.89E-02 | 8.00E-02 |
| + GA-67 | 93.31 | * 35.70 | 1.45E+02 | 1.45E+02 | 2.17E+02 | 7.16E+01 |

Analysis Report for 1510085-12

CP5006S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| GA-67 | 208.95 | 2.24 | 1.60E+03 | 1.45E+02 | 1.55E+03 | 7.76E+02 |
| | 300.22 | 16.00 | 2.22E+02 | | 4.81E+01 | 1.06E+02 |
| SE-75 | 121.11 | 16.70 | 3.47E-01 | 1.04E-01 | -1.17E-03 | 1.69E-01 |
| | 136.00 | 59.20 | 1.04E-01 | | -3.62E-02 | 5.07E-02 |
| | 264.65 | 59.80 | 1.06E-01 | | 7.14E-02 | 5.11E-02 |
| | 279.53 | 25.20 | 2.63E-01 | | -9.12E-02 | 1.26E-01 |
| | 400.65 | 11.40 | 6.10E-01 | | 1.74E-01 | 2.90E-01 |
| RB-82 | 776.52 | 13.00 | 1.21E+00 | 1.21E+00 | -2.94E-01 | 5.65E-01 |
| RB-83 | 520.41 | 46.00 | 1.50E-01 | 1.50E-01 | 4.45E-03 | 7.01E-02 |
| | 529.64 | 30.30 | 2.29E-01 | | -5.15E-02 | 1.07E-01 |
| | 552.65 | 16.40 | 4.58E-01 | | 1.70E-01 | 2.15E-01 |
| KR-85 | 513.99 | 0.43 | 1.57E+01 | 1.57E+01 | -9.44E+00 | 7.48E+00 |
| SR-85 | 513.99 | 99.27 | 9.44E-02 | 9.44E-02 | -5.66E-02 | 4.48E-02 |
| Y-88 | 898.02 | 93.40 | 9.91E-02 | 8.75E-02 | 0.00E+00 | 4.62E-02 |
| | 1836.01 | 99.38 | 8.75E-02 | | 4.68E-02 | 3.85E-02 |
| NB-93M | 16.57 | 9.43 | 5.77E+03 | 5.77E+03 | -3.43E+03 | 2.81E+03 |
| NB-94 | 702.63 | 100.00 | 7.16E-02 | 7.15E-02 | -1.26E-02 | 3.36E-02 |
| | 871.10 | 100.00 | 7.15E-02 | | 3.21E-02 | 3.32E-02 |
| NB-95 | 765.79 | 99.81 | 1.77E-01 | 1.77E-01 | 2.01E-01 | 8.44E-02 |
| + NB-95M | 235.69 | * | 25.00 | 1.37E+02 | 5.82E+01 | 6.71E+01 |
| ZR-95 | 724.18 | 43.70 | 2.80E-01 | 1.94E-01 | -9.75E-03 | 1.33E-01 |
| | 756.72 | 55.30 | 1.94E-01 | | 5.07E-02 | 9.14E-02 |
| MO-99 | 181.06 | 6.20 | 1.75E+03 | 1.06E+03 | -7.23E+01 | 8.49E+02 |
| | 739.58 | 12.80 | 1.06E+03 | | -2.05E+02 | 4.98E+02 |
| | 778.00 | 4.50 | 3.11E+03 | | -1.70E+02 | 1.46E+03 |
| RU-103 | 497.08 | 89.00 | 1.02E-01 | 1.02E-01 | 2.15E-02 | 4.77E-02 |
| RU-106 | 621.84 | 9.80 | 7.56E-01 | 7.56E-01 | 8.48E-02 | 3.57E-01 |
| AG-108M | 433.93 | 89.90 | 6.39E-02 | 6.39E-02 | 2.86E-02 | 3.03E-02 |
| | 614.37 | 90.40 | 7.38E-02 | | -1.19E-02 | 3.48E-02 |
| | 722.95 | 90.50 | 8.78E-02 | | 7.96E-03 | 4.15E-02 |
| + CD-109 | 88.03 | * | 3.72 | 1.58E+00 | 1.39E+00 | 7.72E-01 |
| AG-110M | 657.75 | 93.14 | 8.45E-02 | 8.45E-02 | -4.51E-03 | 3.99E-02 |
| | 677.61 | 10.53 | 7.02E-01 | | 1.48E-01 | 3.29E-01 |
| | 706.67 | 16.46 | 4.93E-01 | | 1.17E-01 | 2.32E-01 |
| | 763.93 | 21.98 | 3.86E-01 | | -6.28E-01 | 1.82E-01 |
| | 884.67 | 71.63 | 1.08E-01 | | -1.15E-02 | 5.01E-02 |
| | 1384.27 | 23.94 | 3.46E-01 | | 1.96E-02 | 1.56E-01 |
| CD-113M | 263.70 | 0.02 | 2.43E+02 | 2.43E+02 | 9.93E+01 | 1.17E+02 |
| SN-113 | 255.12 | 1.93 | 3.55E+00 | 1.05E-01 | 1.48E+00 | 1.71E+00 |
| | 391.69 | 64.90 | 1.05E-01 | | -3.54E-02 | 5.02E-02 |
| TE123M | 159.00 | 84.10 | 7.41E-02 | 7.41E-02 | 8.72E-03 | 3.60E-02 |
| SB-124 | 602.71 | 97.87 | 1.04E-01 | 1.04E-01 | 1.90E-03 | 4.92E-02 |
| | 645.85 | 7.26 | 1.21E+00 | | -3.37E-01 | 5.64E-01 |
| | 722.78 | 11.10 | 1.01E+00 | | 9.16E-02 | 4.78E-01 |
| | 1691.02 | 49.00 | 1.78E-01 | | 6.82E-02 | 7.70E-02 |
| | I-125 | 35.49 | 6.49 | 5.66E+00 | 5.66E+00 | 7.32E-01 | 2.75E+00 |
| SB-125 | 176.33 | 6.89 | 7.95E-01 | 2.00E-01 | 5.32E-02 | 3.85E-01 |
| | 427.89 | 29.33 | 2.00E-01 | | 8.86E-02 | 9.50E-02 |
| | 463.38 | 10.35 | 6.83E-01 | | 7.71E-01 | 3.26E-01 |
| | 600.56 | 17.80 | 4.13E-01 | | -8.21E-02 | 1.96E-01 |
| | 635.90 | 11.32 | 5.77E-01 | | -2.58E-01 | 2.71E-01 |
| SB-126 | 414.70 | 83.30 | 3.59E-01 | 3.59E-01 | 1.49E-02 | 1.70E-01 |
| | 666.33 | 99.60 | 3.94E-01 | | 1.57E-01 | 1.86E-01 |

Analysis Report for 1510085-12
CP5006S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| SB-126 | 695.00 | 99.60 | 3.88E-01 | 3.59E-01 | 1.31E-01 | 1.83E-01 |
| | 720.50 | 53.80 | 7.23E-01 | | 3.98E-02 | 3.40E-01 |
| + SN-126 | 87.57 * | 37.00 | 1.52E-01 | 1.52E-01 | 1.34E-01 | 7.42E-02 |
| SB-127 | 473.00 | 25.00 | 5.24E+01 | 4.06E+01 | -2.84E+00 | 2.48E+01 |
| | 685.20 | 35.70 | 4.06E+01 | | 5.95E+00 | 1.90E+01 |
| | 783.80 | 14.70 | 1.35E+02 | | 1.19E+02 | 6.38E+01 |
| I-129 | 29.78 | 57.00 | 1.20E+00 | 1.20E+00 | 4.24E-01 | 5.83E-01 |
| | 33.60 | 13.20 | 2.48E+00 | | -6.32E-01 | 1.20E+00 |
| | 39.58 | 7.52 | 2.14E+00 | | -7.12E-01 | 1.04E+00 |
| I-131 | 284.30 | 6.05 | 1.11E+01 | 9.31E-01 | -3.91E+00 | 5.31E+00 |
| | 364.48 | 81.20 | 9.31E-01 | | 7.11E-01 | 4.44E-01 |
| | 636.97 | 7.26 | 1.23E+01 | | 4.44E+00 | 5.79E+00 |
| | 722.89 | 1.80 | 5.88E+01 | | 5.33E+00 | 2.78E+01 |
| TE-132 | 49.72 | 13.10 | 3.52E+02 | 3.86E+01 | -3.05E+01 | 1.71E+02 |
| | 228.16 | 88.00 | 3.86E+01 | | -1.01E+01 | 1.87E+01 |
| BA-133 | 81.00 | 33.00 | 1.35E-01 | 9.26E-02 | -5.44E-02 | 6.56E-02 |
| | 302.84 | 17.80 | 3.21E-01 | | -9.66E-02 | 1.54E-01 |
| | 356.01 | 60.00 | 9.26E-02 | | 1.87E-02 | 4.41E-02 |
| I-133 | 529.87 | 86.30 | 1.69E+09 | 1.69E+09 | -5.49E+08 | 7.90E+08 |
| XE-133 | 81.00 | 38.00 | 6.20E+00 | 6.20E+00 | -2.49E+00 | 3.01E+00 |
| CS-134 | 563.23 | 8.38 | 7.46E-01 | 1.02E-01 | 4.27E-01 | 3.51E-01 |
| | 569.32 | 15.43 | 4.24E-01 | | 1.01E-01 | 2.00E-01 |
| | 604.70 | 97.60 | 1.08E-01 | | 1.39E-03 | 5.19E-02 |
| | 795.84 | 85.40 | 1.02E-01 | | 9.33E-02 | 4.83E-02 |
| | 801.93 | 8.73 | 7.61E-01 | | -5.19E-01 | 3.53E-01 |
| CS-135 | 268.24 | 16.00 | 3.48E-01 | 3.48E-01 | 7.83E-02 | 1.67E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.79E+00 | 3.64E-01 | 3.05E+00 | 1.84E+00 |
| | 163.89 | 4.61 | 5.71E+00 | | 2.61E+00 | 2.77E+00 |
| | 176.55 | 13.56 | 1.90E+00 | | -6.35E-01 | 9.19E-01 |
| | 273.65 | 12.66 | 2.08E+00 | | -3.70E+00 | 1.00E+00 |
| | 340.57 | 48.50 | 6.14E-01 | | -6.25E-01 | 2.94E-01 |
| | 818.50 | 99.70 | 3.64E-01 | | 1.17E-01 | 1.70E-01 |
| | 1048.07 | 79.60 | 4.96E-01 | | 4.87E-02 | 2.30E-01 |
| | 1235.34 | 19.70 | 2.96E+00 | | 5.37E-02 | 1.40E+00 |
| CS-137 | 661.65 | 85.12 | 8.39E-02 | 8.39E-02 | -4.96E-02 | 3.95E-02 |
| LA-138 | 788.74 | 34.00 | 2.36E-01 | 1.01E-01 | 1.20E-01 | 1.11E-01 |
| | 1435.80 | 66.00 | 1.01E-01 | | -9.20E-03 | 4.48E-02 |
| CE-139 | 165.85 | 80.35 | 7.62E-02 | 7.62E-02 | -4.45E-02 | 3.70E-02 |
| BA-140 | 162.64 | 6.70 | 4.11E+00 | 1.25E+00 | 4.08E-01 | 1.99E+00 |
| | 304.84 | 4.50 | 6.30E+00 | | 7.85E-02 | 3.02E+00 |
| | 423.70 | 3.20 | 8.79E+00 | | 1.24E-01 | 4.16E+00 |
| | 437.55 | 2.00 | 1.34E+01 | | -6.42E+00 | 6.32E+00 |
| | 537.32 | 25.00 | 1.25E+00 | | 4.29E-01 | 5.89E-01 |
| LA-140 | 328.77 | 20.50 | 1.61E+00 | 4.53E-01 | 1.41E+00 | 7.77E-01 |
| | 487.03 | 45.50 | 6.36E-01 | | -2.16E-02 | 3.00E-01 |
| | 815.85 | 23.50 | 1.59E+00 | | 1.60E-01 | 7.44E-01 |
| | 1596.49 | 95.49 | 4.53E-01 | | 3.53E-02 | 2.05E-01 |
| CE-141 | 145.44 | 48.40 | 2.10E-01 | 2.10E-01 | -7.48E-02 | 1.02E-01 |
| CE-143 | 57.36 | 11.80 | 1.77E+06 | 8.38E+05 | -7.71E+05 | 8.59E+05 |
| | 293.26 | 42.00 | 8.38E+05 | | 2.11E+05 | 4.09E+05 |

Analysis Report for 1510085-12

CP5006S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CE-143 | 664.55 | 5.20 | 5.59E+06 | 8.38E+05 | 3.42E+06 | 2.65E+06 |
| CE-144 | 133.54 | 10.80 | 5.03E-01 | 5.03E-01 | 5.10E-02 | 2.45E-01 |
| PM-144 | 476.78 | 42.00 | 1.51E-01 | 7.19E-02 | 6.54E-04 | 7.16E-02 |
| | 618.01 | 98.60 | 7.19E-02 | | -1.25E-02 | 3.39E-02 |
| | 696.49 | 99.49 | 7.94E-02 | | 7.09E-02 | 3.74E-02 |
| PM-145 | 36.85 | 21.70 | 1.02E+00 | 5.23E-01 | 2.92E-01 | 4.95E-01 |
| | 37.36 | 39.70 | 5.23E-01 | | 1.50E-01 | 2.54E-01 |
| | 42.30 | 15.10 | 8.51E-01 | | 9.50E-02 | 4.14E-01 |
| | 72.40 | 2.31 | 2.27E+00 | | -2.29E+00 | 1.11E+00 |
| PM-146 | 453.90 | 39.94 | 1.45E-01 | 1.45E-01 | 4.92E-02 | 6.88E-02 |
| | 735.90 | 14.01 | 5.04E-01 | | 1.41E-01 | 2.36E-01 |
| | 747.13 | 13.10 | 5.39E-01 | | -1.92E-01 | 2.52E-01 |
| ND-147 | 91.11 | 28.90 | 1.58E+00 | 1.58E+00 | -7.79E-01 | 7.78E-01 |
| | 531.02 | 13.10 | 2.94E+00 | | 4.00E-01 | 1.38E+00 |
| PM-149 | 285.90 | 3.10 | 2.13E+04 | 2.13E+04 | 3.39E+03 | 1.02E+04 |
| EU-152 | 121.78 | 20.50 | 2.38E-01 | 2.38E-01 | -1.19E-01 | 1.16E-01 |
| | 244.69 | 5.40 | 1.13E+00 | | -3.08E+00 | 5.44E-01 |
| | 344.27 | 19.13 | 2.70E-01 | | 4.94E-02 | 1.28E-01 |
| | 778.89 | 9.20 | 8.04E-01 | | -3.85E-02 | 3.77E-01 |
| | 964.01 | 10.40 | 1.00E+00 | | -2.13E+00 | 4.75E-01 |
| | 1085.78 | 7.22 | 1.14E+00 | | 5.46E-01 | 5.28E-01 |
| | 1112.02 | 9.60 | 8.74E-01 | | 4.25E-01 | 4.05E-01 |
| | 1407.95 | 14.94 | 7.07E-01 | | 6.01E-01 | 3.28E-01 |
| GD-153 | 97.43 | 31.30 | 1.74E-01 | 1.74E-01 | 1.05E-01 | 8.50E-02 |
| | 103.18 | 22.20 | 2.41E-01 | | -2.18E-01 | 1.17E-01 |
| EU-154 | 123.07 | 40.50 | 1.23E-01 | 1.23E-01 | -1.98E-02 | 5.96E-02 |
| | 723.30 | 19.70 | 4.06E-01 | | 3.68E-02 | 1.92E-01 |
| | 873.19 | 11.50 | 5.85E-01 | | 3.29E-04 | 2.70E-01 |
| | 996.32 | 10.30 | 6.64E-01 | | -1.06E+00 | 3.04E-01 |
| | 1004.76 | 17.90 | 4.59E-01 | | 1.57E-01 | 2.13E-01 |
| | 1274.45 | 35.50 | 2.49E-01 | | 5.16E-02 | 1.15E-01 |
| EU-155 | 86.50 | 30.90 | 2.17E-01 | 2.17E-01 | -1.20E-01 | 1.07E-01 |
| | 105.30 | 20.70 | 2.49E-01 | | 1.82E-01 | 1.21E-01 |
| EU-156 | 811.77 | 10.40 | 2.72E+00 | 2.72E+00 | 3.76E-02 | 1.27E+00 |
| | 1153.47 | 7.20 | 5.32E+00 | | 1.84E-01 | 2.49E+00 |
| | 1230.71 | 8.90 | 4.44E+00 | | 2.16E+00 | 2.07E+00 |
| HO-166M | 184.41 | 72.60 | 9.99E-02 | 9.99E-02 | 9.69E-02 | 4.88E-02 |
| | 280.45 | 29.60 | 1.88E-01 | | -6.54E-02 | 9.05E-02 |
| | 410.94 | 11.10 | 5.20E-01 | | 1.37E-01 | 2.47E-01 |
| | 711.69 | 54.10 | 1.37E-01 | | -2.36E-02 | 6.43E-02 |
| TM-171 | 66.72 | 0.14 | 3.97E+01 | 3.97E+01 | 1.23E+01 | 1.94E+01 |
| HF-172 | 81.75 | 4.52 | 9.99E-01 | 4.65E-01 | -1.26E+00 | 4.85E-01 |
| | 125.81 | 11.30 | 4.65E-01 | | 6.50E-02 | 2.26E-01 |
| LU-172 | 181.53 | 20.60 | 6.03E+00 | 2.82E+00 | 1.28E+00 | 2.92E+00 |
| | 810.06 | 16.63 | 9.83E+00 | | 2.07E+00 | 4.60E+00 |
| | 912.12 | 15.25 | 2.10E+01 | | 4.89E+01 | 1.01E+01 |
| | 1093.66 | 62.50 | 2.82E+00 | | 7.67E-01 | 1.30E+00 |
| LU-173 | 100.72 | 5.24 | 9.96E-01 | 2.91E-01 | 1.58E-01 | 4.86E-01 |
| | 272.11 | 21.20 | 2.91E-01 | | 2.82E-01 | 1.40E-01 |
| HF-175 | 343.40 | 84.00 | 8.30E-02 | 8.30E-02 | 9.15E-03 | 3.95E-02 |
| LU-176 | 88.34 | 13.30 | 5.13E-01 | 5.76E-02 | 7.30E-01 | 2.52E-01 |
| | 201.83 | 86.00 | 6.88E-02 | | -7.06E-03 | 3.34E-02 |
| | 306.78 | 94.00 | 5.76E-02 | | 1.03E-02 | 2.76E-02 |

Analysis Report for 1510085-12

CP5006S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| TA-182 | 67.75 | 41.20 | 1.53E-01 | 1.53E-01 | 1.72E-03 | 7.46E-02 |
| | 1121.30 | 34.90 | 5.40E-01 | | 1.27E+00 | 2.59E-01 |
| | 1189.05 | 16.23 | 7.26E-01 | | 7.31E-02 | 3.39E-01 |
| | 1221.41 | 26.98 | 4.56E-01 | | 1.62E-01 | 2.13E-01 |
| | 1231.02 | 11.44 | 1.05E+00 | | 3.03E-01 | 4.91E-01 |
| IR-192 | 308.46 | 29.68 | 2.36E-01 | 1.56E-01 | 1.81E-02 | 1.13E-01 |
| | 468.07 | 48.10 | 1.56E-01 | | 1.34E-02 | 7.35E-02 |
| HG-203 | 279.19 | 77.30 | 1.24E-01 | 1.24E-01 | 1.57E-01 | 5.97E-02 |
| + BI-207 | 569.67 * | 97.72 | 7.30E-02 | 7.30E-02 | 4.82E-02 | 3.46E-02 |
| + TL-208 | 1063.62 | 74.90 | 1.04E-01 | | -1.65E-02 | 4.80E-02 |
| | 583.14 * | 30.22 | 3.28E-01 | 1.81E-01 | 1.27E+00 | 1.58E-01 |
| + BI-210M | 860.37 * | 4.48 | 2.42E+00 | | 1.76E+00 | 1.15E+00 |
| | 2614.66 * | 35.85 | 1.81E-01 | | 7.21E-01 | 7.83E-02 |
| | 262.00 | 45.00 | 1.25E-01 | 1.25E-01 | -7.41E-02 | 5.99E-02 |
| PB-210 | 300.00 | 23.00 | 2.59E-01 | | 5.63E-02 | 1.25E-01 |
| | 46.50 | 4.25 | 2.61E+00 | 2.61E+00 | 5.22E+00 | 1.27E+00 |
| PB-211 | 404.84 | 2.90 | 2.04E+00 | 2.04E+00 | 2.57E-01 | 9.70E-01 |
| | 831.96 | 2.90 | 2.82E+00 | | 1.43E+00 | 1.33E+00 |
| + BI-212 | 727.17 * | 11.80 | 7.69E-01 | 7.69E-01 | 1.22E+00 | 3.66E-01 |
| + PB-212 | 1620.62 | 2.75 | 2.62E+00 | | 2.99E-01 | 1.16E+00 |
| | 238.63 * | 44.60 | 2.51E-01 | 2.51E-01 | 1.07E+00 | 1.23E-01 |
| + BI-214 | 300.09 | 3.41 | 1.75E+00 | | 3.80E-01 | 8.41E-01 |
| | 609.31 * | 46.30 | 2.34E-01 | 2.34E-01 | 2.17E+00 | 1.13E-01 |
| + PB-214 | 1120.29 * | 15.10 | 6.05E-01 | | 2.37E+00 | 2.82E-01 |
| | 1764.49 * | 15.80 | 4.49E-01 | | 2.54E+00 | 1.98E-01 |
| | 2204.22 * | 4.98 | 1.93E+00 | | 2.87E+00 | 8.73E-01 |
| | 295.21 * | 19.19 | 8.06E-01 | 2.56E-01 | 2.49E+00 | 3.97E-01 |
| RN-219 | 351.92 * | 37.19 | 2.56E-01 | | 2.60E+00 | 1.25E-01 |
| | 401.80 | 6.50 | 9.14E-01 | 9.14E-01 | 1.07E-01 | 4.35E-01 |
| RA-223 | 323.87 | 3.88 | 1.38E+00 | 1.38E+00 | 2.22E-01 | 6.61E-01 |
| + RA-224 | 240.98 * | 3.95 | 2.81E+00 | 2.81E+00 | 5.06E+00 | 1.38E+00 |
| RA-225 | 40.00 | 31.00 | 2.03E+00 | 2.03E+00 | -6.77E-01 | 9.87E-01 |
| + RA-226 | 186.21 * | 3.28 | 2.11E+00 | 2.11E+00 | 4.89E+00 | 1.03E+00 |
| TH-227 | 50.10 | 8.40 | 9.04E-01 | 7.05E-01 | -7.84E-02 | 4.39E-01 |
| | 236.00 | 11.50 | 7.05E-01 | | -4.85E+00 | 3.44E-01 |
| | 256.20 | 6.30 | 8.91E-01 | | -3.43E-01 | 4.29E-01 |
| + AC-228 | 338.32 * | 11.40 | 6.65E-01 | 4.81E-01 | 1.33E+00 | 3.21E-01 |
| TH-230 | 911.07 * | 27.70 | 4.81E-01 | | 1.11E+00 | 2.31E-01 |
| | 969.11 * | 16.60 | 7.91E-01 | | 1.24E+00 | 3.79E-01 |
| | 48.44 | 16.90 | 5.04E-01 | 5.04E-01 | -4.00E-01 | 2.45E-01 |
| PA-231 | 62.85 | 4.60 | 1.38E+00 | | 1.82E+00 | 6.71E-01 |
| | 67.67 | 0.37 | 1.42E+01 | | 1.59E-01 | 6.93E+00 |
| | 283.67 | 1.60 | 3.14E+00 | 2.47E+00 | -1.11E+00 | 1.50E+00 |
| TH-231 | 302.67 | 2.30 | 2.47E+00 | | -7.43E-01 | 1.19E+00 |
| | 25.64 | 14.70 | 1.53E+01 | 7.49E-01 | 3.33E-02 | 7.43E+00 |
| PA-233 | 84.21 | 6.40 | 7.49E-01 | | 6.69E-01 | 3.65E-01 |
| PA-234 | 311.98 | 38.60 | 2.95E-01 | 2.95E-01 | 2.72E-02 | 1.41E-01 |
| PA-234M | 131.20 | 20.40 | 2.72E-01 | 2.72E-01 | 2.48E-01 | 1.33E-01 |
| | 733.99 | 8.80 | 7.73E-01 | | 3.71E-02 | 3.61E-01 |
| | 946.00 | 12.00 | 5.78E-01 | | -2.75E-01 | 2.66E-01 |
| + TH-234 | 1001.03 | 0.92 | 8.91E+00 | 8.91E+00 | 3.22E+00 | 4.14E+00 |
| U-235 | 63.29 * | 3.80 | 2.59E+00 | 2.59E+00 | 1.31E+00 | 1.27E+00 |
| | 143.76 | 10.50 | 5.06E-01 | 5.06E-01 | 2.07E-01 | 2.46E-01 |

Analysis Report for 1510085-12
 CP5006S03-04

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| U-235 | 163.35 | 4.70 | 1.15E+00 | 5.06E-01 | 1.14E-01 | 5.59E-01 |
| | 205.31 | 4.70 | 1.23E+00 | | 4.11E-01 | 5.95E-01 |
| + NP-237 | 86.50 * | 12.60 | 4.46E-01 | 4.46E-01 | 3.94E-01 | 2.18E-01 |
| NP-239 | 106.10 | 22.70 | 1.55E+03 | 1.55E+03 | 6.33E+01 | 7.54E+02 |
| | 228.18 | 10.70 | 3.69E+03 | | -9.63E+02 | 1.78E+03 |
| | 277.60 | 14.10 | 3.00E+03 | | 1.41E+03 | 1.45E+03 |
| AM-241 | 59.54 | 35.90 | 1.59E-01 | 1.59E-01 | 4.99E-02 | 7.73E-02 |
| AM-243 | 74.67 | 66.00 | 1.13E-01 | 1.13E-01 | -2.46E-01 | 5.57E-02 |
| CM-243 | 209.75 | 3.29 | 1.84E+00 | 4.38E-01 | 1.09E+00 | 8.94E-01 |
| | 228.14 | 10.60 | 5.38E-01 | | -1.41E-01 | 2.60E-01 |
| | 277.60 | 14.00 | 4.38E-01 | | 2.05E-01 | 2.11E-01 |

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| Creation Date | Comment | User |
|---------------|---------|------|
|---------------|---------|------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S03-04

Elapsed Live time: 3600
Elapsed Real Time: 3601

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 184 |
| 9: | 615 | 1210 | 1048 | 434 | 721 | 1601 | 248 | 194 |
| 17: | 179 | 121 | 161 | 132 | 122 | 120 | 117 | 135 |
| 25: | 138 | 123 | 128 | 127 | 109 | 120 | 134 | 101 |
| 33: | 116 | 122 | 123 | 142 | 137 | 134 | 131 | 140 |
| 41: | 131 | 150 | 136 | 133 | 125 | 172 | 234 | 154 |
| 49: | 105 | 149 | 126 | 116 | 150 | 142 | 101 | 114 |
| 57: | 109 | 112 | 136 | 139 | 126 | 137 | 207 | 225 |
| 65: | 148 | 155 | 154 | 157 | 143 | 148 | 153 | 170 |
| 73: | 171 | 228 | 537 | 302 | 632 | 486 | 172 | 138 |
| 81: | 142 | 111 | 130 | 181 | 157 | 133 | 233 | 260 |
| 89: | 136 | 213 | 150 | 190 | 304 | 173 | 128 | 92 |
| 97: | 87 | 104 | 116 | 118 | 93 | 90 | 95 | 96 |
| 105: | 112 | 115 | 103 | 87 | 106 | 83 | 102 | 97 |
| 113: | 87 | 89 | 92 | 96 | 86 | 93 | 85 | 93 |
| 121: | 90 | 89 | 74 | 82 | 102 | 89 | 87 | 99 |
| 129: | 148 | 106 | 105 | 73 | 94 | 78 | 90 | 90 |
| 137: | 93 | 90 | 96 | 94 | 83 | 74 | 85 | 113 |
| 145: | 80 | 83 | 76 | 107 | 82 | 83 | 83 | 96 |
| 153: | 111 | 106 | 89 | 78 | 74 | 69 | 76 | 83 |
| 161: | 74 | 72 | 82 | 82 | 79 | 71 | 65 | 63 |
| 169: | 83 | 76 | 74 | 73 | 71 | 77 | 64 | 64 |
| 177: | 62 | 79 | 66 | 70 | 73 | 84 | 71 | 59 |
| 185: | 116 | 277 | 129 | 59 | 60 | 77 | 70 | 73 |
| 193: | 72 | 69 | 66 | 59 | 79 | 81 | 78 | 80 |
| 201: | 58 | 63 | 78 | 75 | 69 | 53 | 53 | 58 |
| 209: | 88 | 79 | 74 | 53 | 64 | 69 | 61 | 54 |
| 217: | 56 | 75 | 62 | 55 | 65 | 42 | 60 | 48 |
| 225: | 74 | 42 | 62 | 67 | 43 | 62 | 49 | 52 |
| 233: | 68 | 57 | 55 | 93 | 62 | 279 | 515 | 80 |
| 241: | 139 | 233 | 102 | 41 | 53 | 44 | 44 | 39 |
| 249: | 41 | 50 | 41 | 39 | 53 | 42 | 46 | 47 |
| 257: | 50 | 43 | 50 | 50 | 48 | 48 | 36 | 38 |
| 265: | 54 | 39 | 30 | 19 | 47 | 75 | 53 | 44 |
| 273: | 34 | 28 | 49 | 38 | 69 | 54 | 45 | 37 |
| 281: | 37 | 25 | 32 | 30 | 33 | 37 | 47 | 32 |
| 289: | 35 | 25 | 44 | 40 | 38 | 81 | 332 | 232 |
| 297: | 46 | 30 | 45 | 52 | 41 | 39 | 33 | 35 |
| 305: | 37 | 34 | 36 | 32 | 25 | 28 | 26 | 34 |
| 313: | 33 | 30 | 32 | 34 | 30 | 30 | 28 | 26 |
| 321: | 38 | 28 | 36 | 23 | 31 | 31 | 45 | 53 |
| 329: | 44 | 40 | 35 | 31 | 35 | 27 | 25 | 28 |
| 337: | 38 | 101 | 85 | 26 | 27 | 22 | 22 | 32 |
| 345: | 24 | 25 | 24 | 30 | 29 | 33 | 256 | 658 |
| 353: | 161 | 26 | 30 | 23 | 25 | 34 | 24 | 31 |
| 361: | 25 | 29 | 17 | 25 | 40 | 30 | 15 | 24 |

369: 24 29 22 34 31 31 36 20

Sample Title: CP5006S03-04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|-----|-----|----|----|----|----|-----|-----|
| 377: | 25 | 28 | 23 | 39 | 27 | 27 | 21 | 26 |
| 385: | 25 | 27 | 21 | 28 | 26 | 25 | 23 | 27 |
| 393: | 27 | 27 | 32 | 23 | 21 | 23 | 19 | 19 |
| 401: | 37 | 31 | 25 | 23 | 30 | 36 | 18 | 21 |
| 409: | 30 | 30 | 21 | 17 | 25 | 28 | 18 | 25 |
| 417: | 17 | 27 | 21 | 26 | 20 | 19 | 22 | 19 |
| 425: | 24 | 23 | 17 | 23 | 26 | 26 | 13 | 19 |
| 433: | 25 | 24 | 17 | 27 | 14 | 19 | 15 | 22 |
| 441: | 22 | 20 | 14 | 17 | 21 | 22 | 23 | 18 |
| 449: | 19 | 14 | 24 | 19 | 23 | 14 | 18 | 31 |
| 457: | 13 | 20 | 13 | 15 | 19 | 35 | 41 | 36 |
| 465: | 20 | 16 | 21 | 16 | 19 | 25 | 15 | 25 |
| 473: | 18 | 21 | 24 | 24 | 17 | 22 | 20 | 27 |
| 481: | 18 | 14 | 20 | 13 | 17 | 21 | 27 | 15 |
| 489: | 12 | 22 | 18 | 17 | 14 | 16 | 18 | 17 |
| 497: | 17 | 9 | 17 | 11 | 15 | 11 | 15 | 13 |
| 505: | 13 | 13 | 25 | 16 | 35 | 63 | 96 | 52 |
| 513: | 22 | 17 | 17 | 16 | 12 | 14 | 18 | 13 |
| 521: | 16 | 14 | 16 | 16 | 20 | 14 | 16 | 7 |
| 529: | 16 | 13 | 22 | 13 | 20 | 17 | 20 | 23 |
| 537: | 19 | 15 | 16 | 16 | 11 | 18 | 18 | 14 |
| 545: | 12 | 15 | 15 | 18 | 10 | 23 | 15 | 13 |
| 553: | 11 | 20 | 13 | 12 | 16 | 14 | 11 | 12 |
| 561: | 12 | 18 | 19 | 16 | 20 | 16 | 8 | 19 |
| 569: | 19 | 26 | 20 | 16 | 13 | 10 | 13 | 15 |
| 577: | 16 | 9 | 20 | 20 | 17 | 61 | 162 | 81 |
| 585: | 20 | 12 | 12 | 13 | 8 | 18 | 23 | 12 |
| 593: | 14 | 10 | 7 | 20 | 18 | 20 | 20 | 12 |
| 601: | 14 | 12 | 14 | 22 | 18 | 17 | 24 | 120 |
| 609: | 411 | 235 | 23 | 9 | 15 | 12 | 9 | 14 |
| 617: | 8 | 15 | 11 | 14 | 19 | 12 | 17 | 13 |
| 625: | 12 | 19 | 10 | 10 | 15 | 11 | 19 | 14 |
| 633: | 7 | 13 | 16 | 9 | 13 | 8 | 12 | 15 |
| 641: | 9 | 10 | 10 | 9 | 13 | 8 | 14 | 8 |
| 649: | 9 | 13 | 14 | 14 | 18 | 15 | 11 | 11 |
| 657: | 20 | 10 | 10 | 14 | 20 | 11 | 13 | 14 |
| 665: | 19 | 18 | 12 | 9 | 11 | 8 | 8 | 13 |
| 673: | 10 | 10 | 10 | 11 | 15 | 12 | 13 | 9 |
| 681: | 9 | 9 | 11 | 9 | 4 | 12 | 12 | 14 |
| 689: | 8 | 11 | 6 | 9 | 15 | 10 | 17 | 12 |
| 697: | 17 | 7 | 15 | 8 | 6 | 13 | 24 | 11 |
| 705: | 7 | 17 | 11 | 13 | 8 | 16 | 9 | 22 |
| 713: | 9 | 11 | 11 | 16 | 9 | 14 | 12 | 17 |
| 721: | 11 | 10 | 10 | 11 | 16 | 25 | 42 | 35 |
| 729: | 10 | 12 | 8 | 8 | 11 | 10 | 8 | 14 |
| 737: | 11 | 11 | 9 | 13 | 6 | 10 | 16 | 11 |
| 745: | 7 | 15 | 8 | 7 | 13 | 11 | 9 | 15 |
| 753: | 11 | 13 | 16 | 14 | 11 | 10 | 13 | 7 |
| 761: | 13 | 6 | 10 | 18 | 11 | 10 | 20 | 46 |
| 769: | 25 | 11 | 13 | 14 | 14 | 9 | 10 | 7 |
| 777: | 11 | 7 | 9 | 10 | 18 | 13 | 15 | 14 |
| 785: | 18 | 20 | 12 | 6 | 12 | 14 | 6 | 8 |
| 793: | 12 | 16 | 34 | 7 | 11 | 11 | 7 | 14 |

801: 2 13 4 10 4 12 11 15

Sample Title: CP5006S03-04

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 8 | 8 | 11 | 7 | 9 | 8 | 10 | 6 |
| 817: | 10 | 14 | 12 | 6 | 13 | 6 | 10 | 10 |
| 825: | 7 | 8 | 7 | 6 | 10 | 9 | 14 | 13 |
| 833: | 15 | 12 | 11 | 11 | 10 | 9 | 9 | 14 |
| 841: | 11 | 6 | 9 | 9 | 6 | 10 | 7 | 7 |
| 849: | 9 | 11 | 6 | 7 | 5 | 13 | 8 | 12 |
| 857: | 7 | 14 | 11 | 19 | 26 | 10 | 7 | 15 |
| 865: | 7 | 7 | 7 | 6 | 12 | 8 | 9 | 5 |
| 873: | 13 | 5 | 5 | 5 | 5 | 7 | 6 | 5 |
| 881: | 7 | 8 | 7 | 13 | 3 | 8 | 10 | 9 |
| 889: | 13 | 10 | 5 | 12 | 9 | 9 | 7 | 9 |
| 897: | 14 | 14 | 9 | 7 | 3 | 7 | 11 | 12 |
| 905: | 13 | 9 | 7 | 8 | 7 | 60 | 98 | 37 |
| 913: | 13 | 10 | 6 | 7 | 11 | 5 | 6 | 4 |
| 921: | 5 | 11 | 7 | 11 | 10 | 9 | 11 | 4 |
| 929: | 8 | 7 | 9 | 10 | 20 | 22 | 4 | 8 |
| 937: | 7 | 6 | 6 | 7 | 11 | 6 | 7 | 9 |
| 945: | 2 | 8 | 8 | 5 | 8 | 10 | 9 | 6 |
| 953: | 10 | 9 | 6 | 8 | 4 | 5 | 5 | 4 |
| 961: | 9 | 13 | 17 | 31 | 21 | 9 | 8 | 50 |
| 969: | 50 | 19 | 6 | 10 | 8 | 3 | 7 | 6 |
| 977: | 7 | 9 | 13 | 6 | 4 | 9 | 13 | 9 |
| 985: | 7 | 8 | 10 | 13 | 9 | 4 | 14 | 7 |
| 993: | 7 | 5 | 9 | 6 | 4 | 6 | 4 | 12 |
| 1001: | 18 | 8 | 7 | 6 | 9 | 7 | 5 | 7 |
| 1009: | 5 | 8 | 7 | 3 | 7 | 7 | 9 | 5 |
| 1017: | 10 | 10 | 6 | 7 | 12 | 12 | 6 | 10 |
| 1025: | 6 | 5 | 4 | 10 | 7 | 8 | 4 | 8 |
| 1033: | 12 | 5 | 5 | 7 | 5 | 13 | 7 | 5 |
| 1041: | 7 | 7 | 4 | 4 | 11 | 8 | 4 | 4 |
| 1049: | 8 | 9 | 11 | 9 | 11 | 9 | 6 | 7 |
| 1057: | 8 | 7 | 6 | 3 | 7 | 2 | 15 | 4 |
| 1065: | 11 | 7 | 7 | 7 | 10 | 9 | 12 | 5 |
| 1073: | 6 | 9 | 6 | 6 | 9 | 7 | 12 | 4 |
| 1081: | 5 | 4 | 10 | 7 | 11 | 9 | 5 | 7 |
| 1089: | 4 | 7 | 7 | 4 | 7 | 4 | 6 | 13 |
| 1097: | 8 | 3 | 6 | 5 | 5 | 6 | 8 | 14 |
| 1105: | 5 | 7 | 6 | 6 | 10 | 14 | 6 | 5 |
| 1113: | 5 | 7 | 6 | 1 | 8 | 17 | 45 | 76 |
| 1121: | 35 | 13 | 5 | 8 | 6 | 6 | 10 | 15 |
| 1129: | 9 | 8 | 12 | 7 | 4 | 14 | 10 | 3 |
| 1137: | 9 | 6 | 7 | 5 | 4 | 11 | 10 | 9 |
| 1145: | 8 | 8 | 5 | 14 | 10 | 6 | 8 | 3 |
| 1153: | 5 | 11 | 13 | 23 | 6 | 7 | 6 | 6 |
| 1161: | 9 | 7 | 9 | 5 | 8 | 2 | 8 | 6 |
| 1169: | 7 | 3 | 7 | 10 | 10 | 8 | 9 | 7 |
| 1177: | 9 | 5 | 4 | 5 | 8 | 8 | 9 | 9 |
| 1185: | 4 | 6 | 13 | 7 | 13 | 7 | 10 | 11 |
| 1193: | 13 | 9 | 9 | 3 | 12 | 5 | 5 | 11 |
| 1201: | 9 | 7 | 5 | 5 | 7 | 8 | 9 | 11 |
| 1209: | 2 | 6 | 7 | 10 | 13 | 8 | 11 | 10 |
| 1217: | 7 | 13 | 13 | 11 | 8 | 9 | 5 | 11 |
| 1225: | 6 | 9 | 10 | 11 | 7 | 14 | 8 | 6 |

1233: 10 10 2 9 28 31 17 7

Sample Title: CP5006S03-04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|-----|-----|----|----|----|
| 1241: | 10 | 7 | 10 | 0 | 9 | 10 | 6 | 13 |
| 1249: | 11 | 8 | 8 | 7 | 6 | 9 | 1 | 7 |
| 1257: | 4 | 6 | 7 | 7 | 5 | 8 | 6 | 8 |
| 1265: | 4 | 7 | 6 | 3 | 6 | 3 | 6 | 6 |
| 1273: | 12 | 5 | 6 | 8 | 4 | 5 | 8 | 9 |
| 1281: | 11 | 3 | 6 | 3 | 6 | 4 | 5 | 5 |
| 1289: | 7 | 4 | 3 | 8 | 3 | 7 | 8 | 4 |
| 1297: | 0 | 8 | 10 | 7 | 2 | 5 | 5 | 5 |
| 1305: | 9 | 6 | 1 | 5 | 6 | 5 | 8 | 4 |
| 1313: | 2 | 5 | 3 | 9 | 9 | 5 | 3 | 4 |
| 1321: | 4 | 4 | 1 | 2 | 1 | 3 | 7 | 4 |
| 1329: | 3 | 4 | 4 | 3 | 2 | 4 | 5 | 3 |
| 1337: | 2 | 2 | 4 | 9 | 4 | 7 | 6 | 7 |
| 1345: | 2 | 3 | 2 | 2 | 5 | 8 | 6 | 1 |
| 1353: | 2 | 2 | 3 | 1 | 4 | 5 | 1 | 3 |
| 1361: | 7 | 2 | 3 | 3 | 5 | 2 | 2 | 2 |
| 1369: | 3 | 2 | 1 | 2 | 3 | 1 | 2 | 14 |
| 1377: | 23 | 12 | 7 | 4 | 1 | 3 | 3 | 6 |
| 1385: | 7 | 6 | 4 | 3 | 2 | 2 | 3 | 1 |
| 1393: | 3 | 3 | 2 | 1 | 6 | 0 | 2 | 5 |
| 1401: | 12 | 7 | 0 | 4 | 6 | 5 | 11 | 18 |
| 1409: | 9 | 6 | 3 | 5 | 1 | 3 | 5 | 2 |
| 1417: | 6 | 2 | 3 | 2 | 4 | 5 | 3 | 3 |
| 1425: | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 |
| 1433: | 2 | 2 | 3 | 3 | 2 | 3 | 6 | 1 |
| 1441: | 3 | 6 | 1 | 3 | 4 | 7 | 4 | 5 |
| 1449: | 1 | 2 | 2 | 3 | 2 | 3 | 2 | 1 |
| 1457: | 4 | 22 | 98 | 283 | 218 | 66 | 13 | 0 |
| 1465: | 1 | 3 | 1 | 2 | 0 | 0 | 2 | 5 |
| 1473: | 6 | 0 | 4 | 4 | 4 | 1 | 5 | 5 |
| 1481: | 2 | 7 | 3 | 0 | 5 | 3 | 3 | 3 |
| 1489: | 4 | 4 | 2 | 0 | 0 | 3 | 3 | 2 |
| 1497: | 5 | 0 | 1 | 4 | 3 | 1 | 6 | 4 |
| 1505: | 4 | 1 | 2 | 14 | 7 | 4 | 4 | 1 |
| 1513: | 4 | 4 | 3 | 1 | 4 | 0 | 2 | 4 |
| 1521: | 0 | 0 | 1 | 3 | 3 | 1 | 3 | 1 |
| 1529: | 1 | 3 | 1 | 0 | 0 | 3 | 3 | 5 |
| 1537: | 5 | 4 | 4 | 3 | 0 | 2 | 2 | 5 |
| 1545: | 2 | 3 | 3 | 4 | 0 | 0 | 3 | 2 |
| 1553: | 1 | 2 | 3 | 3 | 6 | 1 | 6 | 6 |
| 1561: | 1 | 4 | 1 | 4 | 0 | 9 | 1 | 2 |
| 1569: | 3 | 2 | 2 | 1 | 3 | 3 | 0 | 1 |
| 1577: | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 |
| 1585: | 1 | 3 | 3 | 13 | 4 | 4 | 3 | 7 |
| 1593: | 2 | 6 | 4 | 1 | 2 | 4 | 2 | 3 |
| 1601: | 1 | 3 | 2 | 3 | 4 | 1 | 1 | 0 |
| 1609: | 1 | 2 | 2 | 1 | 1 | 4 | 1 | 2 |
| 1617: | 2 | 0 | 0 | 6 | 4 | 2 | 2 | 3 |
| 1625: | 2 | 1 | 1 | 3 | 3 | 4 | 3 | 5 |
| 1633: | 1 | 0 | 0 | 2 | 1 | 2 | 3 | 2 |
| 1641: | 2 | 2 | 0 | 0 | 1 | 3 | 1 | 3 |
| 1649: | 2 | 2 | 1 | 1 | 2 | 1 | 0 | 1 |
| 1657: | 3 | 1 | 3 | 5 | 2 | 2 | 0 | 1 |

1665: 2 1 3 3 2 0 0 1

Sample Title: CP5006S03-04

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1673: | 3 | 3 | 4 | 1 | 2 | 0 | 4 | 3 |
| 1681: | 3 | 3 | 1 | 1 | 1 | 3 | 3 | 0 |
| 1689: | 0 | 0 | 3 | 3 | 2 | 0 | 0 | 1 |
| 1697: | 1 | 0 | 2 | 0 | 0 | 1 | 3 | 3 |
| 1705: | 3 | 0 | 3 | 0 | 2 | 2 | 1 | 0 |
| 1713: | 1 | 1 | 2 | 0 | 0 | 1 | 1 | 0 |
| 1721: | 1 | 5 | 1 | 1 | 0 | 4 | 1 | 6 |
| 1729: | 13 | 10 | 2 | 0 | 1 | 2 | 2 | 1 |
| 1737: | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 3 |
| 1745: | 4 | 0 | 1 | 1 | 1 | 1 | 2 | 0 |
| 1753: | 4 | 1 | 1 | 2 | 2 | 1 | 0 | 1 |
| 1761: | 2 | 14 | 33 | 60 | 18 | 7 | 3 | 2 |
| 1769: | 1 | 1 | 1 | 1 | 0 | 2 | 0 | 3 |
| 1777: | 1 | 1 | 2 | 1 | 0 | 2 | 1 | 1 |
| 1785: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 1793: | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 1801: | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 1809: | 1 | 2 | 0 | 4 | 0 | 0 | 0 | 4 |
| 1817: | 0 | 0 | 1 | 1 | 0 | 3 | 3 | 2 |
| 1825: | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 2 |
| 1833: | 0 | 2 | 2 | 3 | 3 | 2 | 2 | 1 |
| 1841: | 1 | 0 | 3 | 1 | 5 | 8 | 9 | 0 |
| 1849: | 2 | 0 | 4 | 1 | 0 | 1 | 0 | 0 |
| 1857: | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 1 |
| 1865: | 2 | 4 | 0 | 2 | 2 | 2 | 0 | 1 |
| 1873: | 6 | 3 | 5 | 0 | 2 | 1 | 3 | 2 |
| 1881: | 2 | 0 | 1 | 1 | 1 | 3 | 3 | 2 |
| 1889: | 0 | 2 | 2 | 4 | 1 | 1 | 0 | 2 |
| 1897: | 1 | 1 | 3 | 0 | 2 | 0 | 0 | 1 |
| 1905: | 3 | 2 | 0 | 1 | 0 | 1 | 1 | 1 |
| 1913: | 1 | 4 | 0 | 3 | 0 | 0 | 2 | 2 |
| 1921: | 1 | 1 | 1 | 1 | 3 | 1 | 0 | 2 |
| 1929: | 1 | 2 | 0 | 0 | 0 | 1 | 2 | 2 |
| 1937: | 0 | 1 | 3 | 0 | 2 | 2 | 0 | 2 |
| 1945: | 1 | 0 | 1 | 1 | 2 | 2 | 0 | 0 |
| 1953: | 1 | 0 | 1 | 1 | 1 | 2 | 0 | 1 |
| 1961: | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| 1969: | 0 | 2 | 1 | 3 | 0 | 1 | 1 | 1 |
| 1977: | 1 | 0 | 0 | 2 | 2 | 0 | 1 | 0 |
| 1985: | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 1993: | 2 | 0 | 0 | 2 | 3 | 0 | 1 | 1 |
| 2001: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2009: | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 2 |
| 2017: | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 2 |
| 2025: | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| 2033: | 0 | 1 | 0 | 1 | 2 | 2 | 0 | 0 |
| 2041: | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 3 |
| 2049: | 1 | 0 | 1 | 1 | 2 | 3 | 0 | 2 |
| 2057: | 1 | 0 | 0 | 2 | 0 | 1 | 1 | 2 |
| 2065: | 1 | 0 | 3 | 1 | 1 | 0 | 1 | 1 |
| 2073: | 0 | 2 | 1 | 3 | 1 | 0 | 2 | 1 |
| 2081: | 1 | 1 | 0 | 4 | 0 | 1 | 0 | 1 |
| 2089: | 3 | 2 | 1 | 2 | 0 | 1 | 0 | 2 |

2097: 1 2 0 0 3 7 2 1

Sample Title: CP5006S03-04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|----|----|----|---|---|---|---|---|
| 2105: | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | |
| 2113: | 1 | 1 | 1 | 1 | 1 | 3 | 6 | 1 | |
| 2121: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | |
| 2129: | 1 | 0 | 0 | 2 | 0 | 2 | 0 | 1 | |
| 2137: | 0 | 0 | 2 | 0 | 3 | 0 | 3 | 1 | |
| 2145: | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 2153: | 1 | 0 | 4 | 1 | 0 | 1 | 2 | 2 | |
| 2161: | 2 | 1 | 0 | 0 | 2 | 1 | 3 | 0 | |
| 2169: | 1 | 1 | 0 | 0 | 3 | 3 | 1 | 1 | |
| 2177: | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 1 | |
| 2185: | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 0 | |
| 2193: | 2 | 0 | 1 | 0 | 2 | 1 | 2 | 1 | |
| 2201: | 3 | 10 | 19 | 10 | 6 | 5 | 2 | 1 | |
| 2209: | 2 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | |
| 2217: | 1 | 0 | 2 | 3 | 0 | 1 | 0 | 0 | |
| 2225: | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | |
| 2233: | 2 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | |
| 2241: | 0 | 0 | 2 | 3 | 0 | 1 | 2 | 1 | |
| 2249: | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | |
| 2257: | 1 | 1 | 0 | 2 | 2 | 2 | 2 | 1 | |
| 2265: | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | |
| 2273: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 2281: | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | |
| 2289: | 1 | 2 | 2 | 2 | 0 | 0 | 1 | 2 | |
| 2297: | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | |
| 2305: | 2 | 3 | 2 | 1 | 2 | 3 | 0 | 0 | |
| 2313: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2321: | 2 | 1 | 0 | 1 | 1 | 3 | 0 | 0 | |
| 2329: | 3 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | |
| 2337: | 2 | 1 | 1 | 0 | 2 | 2 | 0 | 1 | |
| 2345: | 1 | 2 | 0 | 3 | 1 | 2 | 4 | 1 | |
| 2353: | 1 | 0 | 0 | 3 | 1 | 1 | 2 | 0 | |
| 2361: | 2 | 2 | 0 | 2 | 1 | 3 | 1 | 0 | |
| 2369: | 0 | 1 | 2 | 1 | 1 | 0 | 2 | 3 | |
| 2377: | 0 | 2 | 4 | 0 | 0 | 0 | 1 | 0 | |
| 2385: | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | |
| 2393: | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | |
| 2401: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 4 | |
| 2409: | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 0 | |
| 2417: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | |
| 2425: | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | |
| 2433: | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | |
| 2441: | 1 | 0 | 0 | 2 | 7 | 3 | 2 | 0 | |
| 2449: | 1 | 1 | 1 | 0 | 1 | 3 | 0 | 0 | |
| 2457: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 2465: | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | |
| 2473: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | |
| 2481: | 0 | 1 | 0 | 2 | 1 | 0 | 1 | 3 | |
| 2489: | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | |
| 2497: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 2505: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2513: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2521: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |

2529: 1 0 0 0 1 0 0 0

Sample Title: CP5006S03-04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|----|----|----|----|---|---|
| 2537: | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2553: | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2561: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2569: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2577: | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2601: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 |
| 2609: | 0 | 1 | 2 | 16 | 26 | 23 | 16 | 3 | 3 |
| 2617: | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2625: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2633: | 1 | 0 | 2 | 0 | 1 | 0 | 2 | 1 | 1 |
| 2641: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 2649: | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 1 |
| 2657: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2665: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2673: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2681: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2689: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2697: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 2705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2713: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2721: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2729: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2737: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2745: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2753: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2761: | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 1 |
| 2769: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2809: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2817: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 2825: | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 3 |
| 2833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2841: | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 |
| 2849: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2873: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2889: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2897: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2913: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2921: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2929: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2953: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |

2961: 0 0 0 1 0 0 0 1

Sample Title: CP5006S03-04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2969: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2985: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2993: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3001: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3009: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3017: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3025: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3033: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3049: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3065: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3073: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3097: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3121: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3129: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3137: | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3153: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3169: | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3185: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3193: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3225: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3233: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3321: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3329: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3337: | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3345: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3353: | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3377: | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |
| 3385: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

3393: 0 1 0 0 1 0 1 0

Sample Title: CP5006S03-04

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 3401: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3425: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3433: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3465: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3473: | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 3497: | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3545: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3561: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3585: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3601: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 3649: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3761: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3769: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP5006S03-04

| Channel | | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|---|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3889: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 3905: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3953: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 4001: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 |
| 4017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4057: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Analysis Report for 1510085-13
CP5006S04-05

[Handwritten mark]
1114

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-13
Sample Description : CP5006S04-05
Sample Type : SOIL

Sample Size : 4.811E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:41:27AM
Acquisition Started : 11/6/2015 8:17:12AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3615.9 seconds

Dead Time : 0.44 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29244

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

Ag
11/6/15

Analysis Report for 1510085-13
CP5006S04-05

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 9:17:39AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 1 | 58.36 | 58.58 | 0.0000 | 0.00 |
| 2 | 63.41 | 63.63 | 0.0000 | 0.00 |
| 3 | 76.16 | 76.38 | 0.0000 | 0.00 |
| 4 | 87.90 | 88.11 | 0.0000 | 0.00 |
| 5 | 93.21 | 93.41 | 0.0000 | 0.00 |
| 6 | 99.81 | 100.01 | 0.0000 | 0.00 |
| 7 | 106.05 | 106.25 | 0.0000 | 0.00 |
| 8 | 129.12 | 129.30 | 0.0000 | 0.00 |
| 9 | 186.50 | 186.66 | 0.0000 | 0.00 |
| 10 | 209.53 | 209.67 | 0.0000 | 0.00 |
| 11 | 238.76 | 238.89 | 0.0000 | 0.00 |
| 12 | 242.05 | 242.17 | 0.0000 | 0.00 |
| 13 | 270.17 | 270.28 | 0.0000 | 0.00 |
| 14 | 295.55 | 295.65 | 0.0000 | 0.00 |
| 15 | 300.54 | 300.63 | 0.0000 | 0.00 |
| 16 | 321.61 | 321.70 | 0.0000 | 0.00 |
| 17 | 329.32 | 329.40 | 0.0000 | 0.00 |
| 18 | 338.63 | 338.71 | 0.0000 | 0.00 |
| 19 | 352.12 | 352.19 | 0.0000 | 0.00 |
| 20 | 356.31 | 356.38 | 0.0000 | 0.00 |
| 21 | 437.78 | 437.81 | 0.0000 | 0.00 |
| 22 | 462.55 | 462.56 | 0.0000 | 0.00 |
| 23 | 511.18 | 511.18 | 0.0000 | 0.00 |
| 24 | 546.71 | 546.69 | 0.0000 | 0.00 |
| 25 | 583.34 | 583.29 | 0.0000 | 0.00 |
| 26 | 609.48 | 609.43 | 0.0000 | 0.00 |
| 27 | 679.77 | 679.68 | 0.0000 | 0.00 |
| 28 | 727.30 | 727.18 | 0.0000 | 0.00 |
| 29 | 785.89 | 785.76 | 0.0000 | 0.00 |
| 30 | 793.72 | 793.58 | 0.0000 | 0.00 |
| 31 | 861.52 | 861.35 | 0.0000 | 0.00 |
| 32 | 911.41 | 911.22 | 0.0000 | 0.00 |
| 33 | 965.33 | 965.11 | 0.0000 | 0.00 |
| 34 | 969.00 | 968.78 | 0.0000 | 0.00 |
| 35 | 979.21 | 978.99 | 0.0000 | 0.00 |
| 36 | 989.50 | 989.27 | 0.0000 | 0.00 |
| 37 | 1120.34 | 1120.06 | 0.0000 | 0.00 |
| 38 | 1238.41 | 1238.07 | 0.0000 | 0.00 |
| 39 | 1282.44 | 1282.09 | 0.0000 | 0.00 |
| 40 | 1286.78 | 1286.43 | 0.0000 | 0.00 |
| 41 | 1291.31 | 1290.95 | 0.0000 | 0.00 |
| 42 | 1461.13 | 1460.71 | 0.0000 | 0.00 |

Analysis Report for 1510085-13
CP5006S04-05

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1473.80 | 1473.37 | 0.0000 | 0.00 |
| 44 | 1528.39 | 1527.94 | 0.0000 | 0.00 |
| 45 | 1588.12 | 1587.65 | 0.0000 | 0.00 |
| 46 | 1593.36 | 1592.89 | 0.0000 | 0.00 |
| 47 | 1630.96 | 1630.48 | 0.0000 | 0.00 |
| 48 | 1638.61 | 1638.13 | 0.0000 | 0.00 |
| 49 | 1646.76 | 1646.27 | 0.0000 | 0.00 |
| 50 | 1730.21 | 1729.69 | 0.0000 | 0.00 |
| 51 | 1764.54 | 1764.01 | 0.0000 | 0.00 |
| 52 | 1830.25 | 1829.70 | 0.0000 | 0.00 |
| 53 | 2032.10 | 2031.49 | 0.0000 | 0.00 |
| 54 | 2132.16 | 2131.51 | 0.0000 | 0.00 |
| 55 | 2149.56 | 2148.91 | 0.0000 | 0.00 |
| 56 | 2204.90 | 2204.23 | 0.0000 | 0.00 |
| 57 | 2225.00 | 2224.32 | 0.0000 | 0.00 |
| 58 | 2249.93 | 2249.25 | 0.0000 | 0.00 |
| 59 | 2448.95 | 2448.21 | 0.0000 | 0.00 |
| 60 | 2542.33 | 2541.57 | 0.0000 | 0.00 |
| 61 | 2614.87 | 2614.09 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-13
CP5006S04-05

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 9:17:39AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| M | 1 | 58.36 | 55 - | 81 | 58.58 | 1.45E+02 | 93.52 | 1.43E+03 | 2.93 |
| m | 2 | 63.41 | 55 - | 81 | 63.63 | 2.97E+02 | 139.56 | 2.31E+03 | 3.51 |
| m | 3 | 76.16 | 55 - | 81 | 76.38 | 1.26E+03 | 153.11 | 2.51E+03 | 3.56 |
| | 4 | 87.90 | 86 - | 91 | 88.11 | 2.05E+02 | 92.34 | 1.55E+03 | 3.48 |
| | 5 | 93.21 | 91 - | 96 | 93.41 | 1.78E+02 | 89.30 | 1.37E+03 | 1.33 |
| | 6 | 99.81 | 98 - | 103 | 100.01 | 6.62E+01 | 68.23 | 8.64E+02 | 2.12 |
| | 7 | 106.05 | 104 - | 109 | 106.25 | 6.25E+01 | 63.67 | 7.59E+02 | 2.40 |
| | 8 | 129.12 | 125 - | 133 | 129.30 | 1.16E+02 | 88.45 | 1.13E+03 | 3.65 |
| | 9 | 186.50 | 181 - | 191 | 186.66 | 2.11E+02 | 94.27 | 1.07E+03 | 1.91 |
| | 10 | 209.53 | 205 - | 213 | 209.67 | 1.04E+02 | 74.73 | 7.82E+02 | 1.96 |
| M | 11 | 238.76 | 233 - | 246 | 238.89 | 7.88E+02 | 72.90 | 3.94E+02 | 1.89 |
| m | 12 | 242.05 | 233 - | 246 | 242.17 | 2.03E+02 | 71.57 | 3.71E+02 | 1.89 |
| | 13 | 270.17 | 267 - | 274 | 270.28 | 6.21E+01 | 57.31 | 5.10E+02 | 1.79 |
| M | 14 | 295.55 | 289 - | 304 | 295.65 | 3.08E+02 | 47.79 | 2.59E+02 | 1.76 |
| m | 15 | 300.54 | 289 - | 304 | 300.63 | 4.76E+01 | 41.07 | 2.94E+02 | 2.07 |
| | 16 | 321.61 | 317 - | 325 | 321.70 | 5.74E+01 | 50.52 | 3.51E+02 | 5.37 |
| | 17 | 329.32 | 326 - | 334 | 329.40 | 6.32E+01 | 47.72 | 3.14E+02 | 6.06 |
| | 18 | 338.63 | 335 - | 342 | 338.71 | 1.82E+02 | 51.03 | 3.14E+02 | 1.81 |
| M | 19 | 352.12 | 348 - | 359 | 352.19 | 4.50E+02 | 50.75 | 1.72E+02 | 1.71 |
| m | 20 | 356.31 | 348 - | 359 | 356.38 | 3.33E+01 | 44.56 | 2.16E+02 | 2.20 |
| | 21 | 437.78 | 436 - | 442 | 437.81 | 2.66E+01 | 30.24 | 1.53E+02 | 1.99 |
| | 22 | 462.55 | 458 - | 468 | 462.56 | 6.19E+01 | 45.93 | 2.50E+02 | 2.00 |
| | 23 | 511.18 | 506 - | 515 | 511.18 | 1.27E+02 | 44.47 | 2.10E+02 | 1.64 |
| | 24 | 546.71 | 544 - | 549 | 546.69 | 2.50E+01 | 21.66 | 7.20E+01 | 2.83 |
| | 25 | 583.34 | 580 - | 586 | 583.29 | 1.93E+02 | 38.75 | 1.32E+02 | 1.99 |
| | 26 | 609.48 | 606 - | 614 | 609.43 | 2.76E+02 | 48.28 | 1.89E+02 | 1.94 |
| | 27 | 679.77 | 677 - | 684 | 679.68 | 2.62E+01 | 27.06 | 1.06E+02 | 4.57 |
| | 28 | 727.30 | 721 - | 732 | 727.18 | 6.55E+01 | 38.21 | 1.49E+02 | 2.01 |
| | 29 | 785.89 | 783 - | 789 | 785.76 | 3.11E+01 | 24.95 | 8.97E+01 | 4.06 |
| | 30 | 793.72 | 790 - | 797 | 793.58 | 4.10E+01 | 27.20 | 9.60E+01 | 1.32 |
| | 31 | 861.52 | 856 - | 870 | 861.35 | 4.77E+01 | 43.38 | 1.71E+02 | 3.76 |
| | 32 | 911.41 | 907 - | 915 | 911.22 | 1.48E+02 | 35.97 | 1.09E+02 | 1.93 |
| M | 33 | 965.33 | 962 - | 975 | 965.11 | 4.87E+01 | 17.46 | 2.92E+01 | 2.42 |
| m | 34 | 969.00 | 962 - | 975 | 968.78 | 7.93E+01 | 26.88 | 3.79E+01 | 2.42 |
| | 35 | 979.21 | 975 - | 984 | 978.99 | 2.19E+01 | 22.63 | 6.22E+01 | 4.98 |
| | 36 | 989.50 | 985 - | 994 | 989.27 | 2.40E+01 | 26.94 | 9.00E+01 | 3.69 |
| | 37 | 1120.34 | 1116 - | 1124 | 1120.06 | 5.00E+01 | 31.02 | 1.18E+02 | 1.93 |
| | 38 | 1238.41 | 1232 - | 1242 | 1238.07 | 3.52E+01 | 35.39 | 1.48E+02 | 3.59 |
| M | 39 | 1282.44 | 1278 - | 1288 | 1282.09 | 2.11E+01 | 16.85 | 3.36E+01 | 3.43 |
| m | 40 | 1286.78 | 1278 - | 1288 | 1286.43 | 1.20E+01 | 11.40 | 1.63E+01 | 2.30 |

Analysis Report for 1510085-13

CP5006S04-05

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 41 | 1291.31 | 1289 - | 1293 | 1290.95 | 1.37E+01 | 9.85 | 8.56E+00 | 2.93 |
| 42 | 1461.13 | 1455 - | 1466 | 1460.71 | 4.76E+02 | 46.30 | 2.97E+01 | 2.10 |
| 43 | 1473.80 | 1469 - | 1478 | 1473.37 | 1.39E+01 | 11.22 | 1.01E+01 | 2.47 |
| 44 | 1528.39 | 1524 - | 1531 | 1527.94 | 1.01E+01 | 8.00 | 3.75E+00 | 1.58 |
| 45 | 1588.12 | 1585 - | 1590 | 1587.65 | 7.33E+00 | 10.25 | 1.53E+01 | 1.81 |
| 46 | 1593.36 | 1590 - | 1596 | 1592.89 | 1.29E+01 | 11.18 | 1.23E+01 | 2.65 |
| 47 | 1630.96 | 1627 - | 1633 | 1630.48 | 1.43E+01 | 8.73 | 3.38E+00 | 3.21 |
| 48 | 1638.61 | 1636 - | 1641 | 1638.13 | 5.14E+00 | 6.08 | 3.71E+00 | 2.97 |
| 49 | 1646.76 | 1642 - | 1650 | 1646.27 | 1.05E+01 | 10.02 | 9.00E+00 | 3.46 |
| 50 | 1730.21 | 1725 - | 1733 | 1729.69 | 1.53E+01 | 13.30 | 1.75E+01 | 1.33 |
| 51 | 1764.54 | 1759 - | 1768 | 1764.01 | 5.65E+01 | 16.16 | 4.95E+00 | 2.19 |
| 52 | 1830.25 | 1826 - | 1832 | 1829.70 | 5.21E+00 | 6.34 | 3.57E+00 | 1.96 |
| 53 | 2032.10 | 2029 - | 2033 | 2031.49 | 8.85E+00 | 6.80 | 2.30E+00 | 1.19 |
| 54 | 2132.16 | 2127 - | 2135 | 2131.51 | 6.89E+00 | 7.50 | 4.22E+00 | 2.12 |
| 55 | 2149.56 | 2144 - | 2152 | 2148.91 | 9.67E+00 | 8.26 | 4.67E+00 | 6.50 |
| 56 | 2204.90 | 2199 - | 2208 | 2204.23 | 2.23E+01 | 16.16 | 2.34E+01 | 2.35 |
| 57 | 2225.00 | 2219 - | 2227 | 2224.32 | 6.19E+00 | 7.23 | 3.63E+00 | 1.05 |
| 58 | 2249.93 | 2245 - | 2252 | 2249.25 | 8.00E+00 | 5.66 | 0.00E+00 | 3.70 |
| 59 | 2448.95 | 2444 - | 2453 | 2448.21 | 1.30E+01 | 11.05 | 1.00E+01 | 4.62 |
| 60 | 2542.33 | 2537 - | 2544 | 2541.57 | 7.00E+00 | 5.29 | 0.00E+00 | 2.88 |
| 61 | 2614.87 | 2610 - | 2617 | 2614.09 | 7.50E+01 | 17.32 | 0.00E+00 | 2.74 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 9:17:39AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level | |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|----------|
| M | 1 | 58.36 | 55 - | 81 | 1.45E+02 | 93.52 | 1.43E+03 | 6.22E+01 |
| m | 2 | 63.41 | 55 - | 81 | 2.97E+02 | 139.56 | 2.31E+03 | 7.90E+01 |
| m | 3 | 76.16 | 55 - | 81 | 1.26E+03 | 153.11 | 2.51E+03 | 8.23E+01 |
| | 4 | 87.90 | 86 - | 91 | 2.05E+02 | 92.34 | 1.55E+03 | 7.22E+01 |
| | 5 | 93.21 | 91 - | 96 | 1.78E+02 | 89.30 | 1.37E+03 | 7.01E+01 |
| | 6 | 99.81 | 98 - | 103 | 6.62E+01 | 68.23 | 8.64E+02 | 5.45E+01 |
| | 7 | 106.05 | 104 - | 109 | 6.25E+01 | 63.67 | 7.59E+02 | 5.07E+01 |

Analysis Report for 1510085-13

CP5006S04-05

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| | 8 | 129.12 | 125 - | 133 | 1.16E+02 | 88.45 | 1.13E+03 | 7.05E+01 |
| | 9 | 186.50 | 181 - | 191 | 2.11E+02 | 94.27 | 1.07E+03 | 7.37E+01 |
| | 10 | 209.53 | 205 - | 213 | 1.04E+02 | 74.73 | 7.82E+02 | 5.91E+01 |
| M | 11 | 238.76 | 233 - | 246 | 7.88E+02 | 72.90 | 3.94E+02 | 3.26E+01 |
| m | 12 | 242.05 | 233 - | 246 | 2.03E+02 | 71.57 | 3.71E+02 | 3.17E+01 |
| | 13 | 270.17 | 267 - | 274 | 6.21E+01 | 57.31 | 5.10E+02 | 4.53E+01 |
| M | 14 | 295.55 | 289 - | 304 | 3.08E+02 | 47.79 | 2.59E+02 | 2.65E+01 |
| m | 15 | 300.54 | 289 - | 304 | 4.76E+01 | 41.07 | 2.94E+02 | 2.82E+01 |
| | 16 | 321.61 | 317 - | 325 | 5.74E+01 | 50.52 | 3.51E+02 | 3.96E+01 |
| | 17 | 329.32 | 326 - | 334 | 6.32E+01 | 47.72 | 3.14E+02 | 3.70E+01 |
| | 18 | 338.63 | 335 - | 342 | 1.82E+02 | 51.03 | 3.14E+02 | 3.56E+01 |
| M | 19 | 352.12 | 348 - | 359 | 4.50E+02 | 50.75 | 1.72E+02 | 2.16E+01 |
| m | 20 | 356.31 | 348 - | 359 | 3.33E+01 | 44.56 | 2.16E+02 | 2.41E+01 |
| | 21 | 437.78 | 436 - | 442 | 2.66E+01 | 30.24 | 1.53E+02 | 2.34E+01 |
| | 22 | 462.55 | 458 - | 468 | 6.19E+01 | 45.93 | 2.50E+02 | 3.55E+01 |
| | 23 | 511.18 | 506 - | 515 | 1.27E+02 | 44.47 | 2.10E+02 | 3.15E+01 |
| | 24 | 546.71 | 544 - | 549 | 2.50E+01 | 21.66 | 7.20E+01 | 1.58E+01 |
| | 25 | 583.34 | 580 - | 586 | 1.93E+02 | 38.75 | 1.32E+02 | 2.22E+01 |
| | 26 | 609.48 | 606 - | 614 | 2.76E+02 | 48.28 | 1.89E+02 | 2.88E+01 |
| | 27 | 679.77 | 677 - | 684 | 2.62E+01 | 27.06 | 1.06E+02 | 1.01E+01 |
| | 28 | 727.30 | 721 - | 732 | 6.55E+01 | 38.21 | 1.49E+02 | 2.85E+01 |
| | 29 | 785.89 | 783 - | 789 | 3.11E+01 | 24.95 | 8.97E+01 | 1.83E+01 |
| | 30 | 793.72 | 790 - | 797 | 4.10E+01 | 27.20 | 9.60E+01 | 1.97E+01 |
| | 31 | 861.52 | 856 - | 870 | 4.77E+01 | 43.38 | 1.71E+02 | 3.38E+01 |
| | 32 | 911.41 | 907 - | 915 | 1.48E+02 | 35.97 | 1.09E+02 | 2.18E+01 |
| M | 33 | 965.33 | 962 - | 975 | 4.87E+01 | 17.46 | 2.92E+01 | 8.89E+00 |
| m | 34 | 969.00 | 962 - | 975 | 7.93E+01 | 26.88 | 3.79E+01 | 1.01E+01 |
| | 35 | 979.21 | 975 - | 984 | 2.19E+01 | 22.63 | 6.22E+01 | 1.10E+01 |
| | 36 | 989.50 | 985 - | 994 | 2.40E+01 | 26.94 | 9.00E+01 | 2.06E+01 |
| | 37 | 1120.34 | 1116 - | 1124 | 5.00E+01 | 31.02 | 1.18E+02 | 2.27E+01 |
| | 38 | 1238.41 | 1232 - | 1242 | 3.52E+01 | 35.39 | 1.48E+02 | 2.74E+01 |
| M | 39 | 1282.44 | 1278 - | 1288 | 2.11E+01 | 16.85 | 3.36E+01 | 9.53E+00 |
| m | 40 | 1286.78 | 1278 - | 1288 | 1.20E+01 | 11.40 | 1.63E+01 | 6.65E+00 |
| | 41 | 1291.31 | 1289 - | 1293 | 1.37E+01 | 9.85 | 8.56E+00 | 5.33E+00 |
| | 42 | 1461.13 | 1455 - | 1466 | 4.76E+02 | 46.30 | 2.97E+01 | 1.27E+01 |
| | 43 | 1473.80 | 1469 - | 1478 | 1.39E+01 | 11.22 | 1.01E+01 | 6.89E+00 |
| | 44 | 1528.39 | 1524 - | 1531 | 1.01E+01 | 8.00 | 3.75E+00 | 3.98E+00 |
| | 45 | 1588.12 | 1585 - | 1590 | 7.33E+00 | 10.25 | 1.53E+01 | 7.15E+00 |
| | 46 | 1593.36 | 1590 - | 1596 | 1.29E+01 | 11.18 | 1.23E+01 | 7.05E+00 |
| | 47 | 1630.96 | 1627 - | 1633 | 1.43E+01 | 8.73 | 3.38E+00 | 3.58E+00 |
| | 48 | 1638.61 | 1636 - | 1641 | 5.14E+00 | 6.08 | 3.71E+00 | 3.33E+00 |
| | 49 | 1646.76 | 1642 - | 1650 | 1.05E+01 | 10.02 | 9.00E+00 | 6.29E+00 |
| | 50 | 1730.21 | 1725 - | 1733 | 1.53E+01 | 13.30 | 1.75E+01 | 8.85E+00 |
| | 51 | 1764.54 | 1759 - | 1768 | 5.65E+01 | 16.16 | 4.95E+00 | 4.86E+00 |
| | 52 | 1830.25 | 1826 - | 1832 | 5.21E+00 | 6.34 | 3.57E+00 | 3.62E+00 |
| | 53 | 2032.10 | 2029 - | 2033 | 8.85E+00 | 6.80 | 2.30E+00 | 2.71E+00 |
| | 54 | 2132.16 | 2127 - | 2135 | 6.89E+00 | 7.50 | 4.22E+00 | 4.40E+00 |
| | 55 | 2149.56 | 2144 - | 2152 | 9.67E+00 | 8.26 | 4.67E+00 | 4.47E+00 |
| | 56 | 2204.90 | 2199 - | 2208 | 2.23E+01 | 16.16 | 2.34E+01 | 1.08E+01 |
| | 57 | 2225.00 | 2219 - | 2227 | 6.19E+00 | 7.23 | 3.63E+00 | 4.31E+00 |
| | 58 | 2249.93 | 2245 - | 2252 | 8.00E+00 | 5.66 | 0.00E+00 | 0.00E+00 |

Analysis Report for 1510085-13

CP5006S04-05

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 59 | 2448.95 | 2444 - | 2453 | 1.30E+01 | 11.05 | 1.00E+01 | 6.88E+00 |
| 60 | 2542.33 | 2537 - | 2544 | 7.00E+00 | 5.29 | 0.00E+00 | 0.00E+00 |
| 61 | 2614.87 | 2610 - | 2617 | 7.50E+01 | 17.32 | 0.00E+00 | 0.00E+00 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 9:17:39AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| M 1 | 58.36 | 55 - | 81 | 58.58 | 1.45E+02 | 93.52 | 1.43E+03 | CE-143 |
| m 2 | 63.41 | 55 - | 81 | 63.63 | 2.97E+02 | 139.56 | 2.31E+03 | TH-234 TH-230 |
| m 3 | 76.16 | 55 - | 81 | 76.38 | 1.26E+03 | 153.11 | 2.51E+03 | ..... |
| 4 | 87.90 | 86 - | 91 | 88.11 | 2.05E+02 | 92.34 | 1.55E+03 | CD-109 SN-126 LU-176 |
| 5 | 93.21 | 91 - | 96 | 93.41 | 1.78E+02 | 89.30 | 1.37E+03 | GA-67 |
| 6 | 99.81 | 98 - | 103 | 100.01 | 6.62E+01 | 68.23 | 8.64E+02 | LU-173 |
| 7 | 106.05 | 104 - | 109 | 106.25 | 6.25E+01 | 63.67 | 7.59E+02 | NP-239 EU-155 |
| 8 | 129.12 | 125 - | 133 | 129.30 | 1.16E+02 | 88.45 | 1.13E+03 | ..... |
| 9 | 186.50 | 181 - | 191 | 186.66 | 2.11E+02 | 94.27 | 1.07E+03 | RA-226 |
| 10 | 209.53 | 205 - | 213 | 209.67 | 1.04E+02 | 74.73 | 7.82E+02 | CM-243 GA-67 |
| M 11 | 238.76 | 233 - | 246 | 238.89 | 7.88E+02 | 72.90 | 3.94E+02 | PB-212 |
| m 12 | 242.05 | 233 - | 246 | 242.17 | 2.03E+02 | 71.57 | 3.71E+02 | ..... |
| 13 | 270.17 | 267 - | 274 | 270.28 | 6.21E+01 | 57.31 | 5.10E+02 | ..... |
| M 14 | 295.55 | 289 - | 304 | 295.65 | 3.08E+02 | 47.79 | 2.59E+02 | PB-214 |
| m 15 | 300.54 | 289 - | 304 | 300.63 | 4.76E+01 | 41.07 | 2.94E+02 | GA-67 PB-212 BI-210M |
| 16 | 321.61 | 317 - | 325 | 321.70 | 5.74E+01 | 50.52 | 3.51E+02 | ..... |

Analysis Report for 1510085-13

CP5006S04-05

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|-----------------|---------------------|------------------|----------------|----------------------|----------------------|-----------------------------|-------------------------|---------------------------|
| | 17 | 329.32 | 326 - | 334 | 329.40 | 6.32E+01 | 47.72 | 3.14E+02 | LA-140 |
| | 18 | 338.63 | 335 - | 342 | 338.71 | 1.82E+02 | 51.03 | 3.14E+02 | AC-228 |
| M | 19 | 352.12 | 348 - | 359 | 352.19 | 4.50E+02 | 50.75 | 1.72E+02 | PB-214 |
| m | 20 | 356.31 | 348 - | 359 | 356.38 | 3.33E+01 | 44.56 | 2.16E+02 | BA-133 |
| | 21 | 437.78 | 436 - | 442 | 437.81 | 2.66E+01 | 30.24 | 1.53E+02 | BA-140 |
| | 22 | 462.55 | 458 - | 468 | 462.56 | 6.19E+01 | 45.93 | 2.50E+02 | SB-125 |
| | 23 | 511.18 | 506 - | 515 | 511.18 | 1.27E+02 | 44.47 | 2.10E+02 | ..... |
| | 24 | 546.71 | 544 - | 549 | 546.69 | 2.50E+01 | 21.66 | 7.20E+01 | ..... |
| | 25 | 583.34 | 580 - | 586 | 583.29 | 1.93E+02 | 38.75 | 1.32E+02 | TL-208 |
| | 26 | 609.48 | 606 - | 614 | 609.43 | 2.76E+02 | 48.28 | 1.89E+02 | BI-214 |
| | 27 | 679.77 | 677 - | 684 | 679.68 | 2.62E+01 | 27.06 | 1.06E+02 | ..... |
| | 28 | 727.30 | 721 - | 732 | 727.18 | 6.55E+01 | 38.21 | 1.49E+02 | BI-212 |
| | 29 | 785.89 | 783 - | 789 | 785.76 | 3.11E+01 | 24.95 | 8.97E+01 | ..... |
| | 30 | 793.72 | 790 - | 797 | 793.58 | 4.10E+01 | 27.20 | 9.60E+01 | ..... |
| | 31 | 861.52 | 856 - | 870 | 861.35 | 4.77E+01 | 43.38 | 1.71E+02 | ..... |
| | 32 | 911.41 | 907 - | 915 | 911.22 | 1.48E+02 | 35.97 | 1.09E+02 | AC-228 LU-172 |
| M | 33 | 965.33 | 962 - | 975 | 965.11 | 4.87E+01 | 17.46 | 2.92E+01 | ..... |
| m | 34 | 969.00 | 962 - | 975 | 968.78 | 7.93E+01 | 26.88 | 3.79E+01 | AC-228 |
| | 35 | 979.21 | 975 - | 984 | 978.99 | 2.19E+01 | 22.63 | 6.22E+01 | ..... |
| | 36 | 989.50 | 985 - | 994 | 989.27 | 2.40E+01 | 26.94 | 9.00E+01 | ..... |
| | 37 | 1120.34 | 1116 - | 1124 | 1120.06 | 5.00E+01 | 31.02 | 1.18E+02 | BI-214 SC-46 TA-182 |
| | 38 | 1238.41 | 1232 - | 1242 | 1238.07 | 3.52E+01 | 35.39 | 1.48E+02 | CO-56 |
| M | 39 | 1282.44 | 1278 - | 1288 | 1282.09 | 2.11E+01 | 16.85 | 3.36E+01 | ..... |
| m | 40 | 1286.78 | 1278 - | 1288 | 1286.43 | 1.20E+01 | 11.40 | 1.63E+01 | ..... |
| | 41 | 1291.31 | 1289 - | 1293 | 1290.95 | 1.37E+01 | 9.85 | 8.56E+00 | FE-59 |
| | 42 | 1461.13 | 1455 - | 1466 | 1460.71 | 4.76E+02 | 46.30 | 2.97E+01 | K-40 |
| | 43 | 1473.80 | 1469 - | 1478 | 1473.37 | 1.39E+01 | 11.22 | 1.01E+01 | ..... |
| | 44 | 1528.39 | 1524 - | 1531 | 1527.94 | 1.01E+01 | 8.00 | 3.75E+00 | ..... |
| | 45 | 1588.12 | 1585 - | 1590 | 1587.65 | 7.33E+00 | 10.25 | 1.53E+01 | ..... |
| | 46 | 1593.36 | 1590 - | 1596 | 1592.89 | 1.29E+01 | 11.18 | 1.23E+01 | ..... |
| | 47 | 1630.96 | 1627 - | 1633 | 1630.48 | 1.43E+01 | 8.73 | 3.38E+00 | ..... |
| | 48 | 1638.61 | 1636 - | 1641 | 1638.13 | 5.14E+00 | 6.08 | 3.71E+00 | ..... |
| | 49 | 1646.76 | 1642 - | 1650 | 1646.27 | 1.05E+01 | 10.02 | 9.00E+00 | ..... |
| | 50 | 1730.21 | 1725 - | 1733 | 1729.69 | 1.53E+01 | 13.30 | 1.75E+01 | ..... |
| | 51 | 1764.54 | 1759 - | 1768 | 1764.01 | 5.65E+01 | 16.16 | 4.95E+00 | BI-214 |
| | 52 | 1830.25 | 1826 - | 1832 | 1829.70 | 5.21E+00 | 6.34 | 3.57E+00 | ..... |
| | 53 | 2032.10 | 2029 - | 2033 | 2031.49 | 8.85E+00 | 6.80 | 2.30E+00 | ..... |
| | 54 | 2132.16 | 2127 - | 2135 | 2131.51 | 6.89E+00 | 7.50 | 4.22E+00 | ..... |
| | 55 | 2149.56 | 2144 - | 2152 | 2148.91 | 9.67E+00 | 8.26 | 4.67E+00 | ..... |
| | 56 | 2204.90 | 2199 - | 2208 | 2204.23 | 2.23E+01 | 16.16 | 2.34E+01 | BI-214 |
| | 57 | 2225.00 | 2219 - | 2227 | 2224.32 | 6.19E+00 | 7.23 | 3.63E+00 | ..... |
| | 58 | 2249.93 | 2245 - | 2252 | 2249.25 | 8.00E+00 | 5.66 | 0.00E+00 | ..... |
| | 59 | 2448.95 | 2444 - | 2453 | 2448.21 | 1.30E+01 | 11.05 | 1.00E+01 | ..... |
| | 60 | 2542.33 | 2537 - | 2544 | 2541.57 | 7.00E+00 | 5.29 | 0.00E+00 | ..... |
| | 61 | 2614.87 | 2610 - | 2617 | 2614.09 | 7.50E+01 | 17.32 | 0.00E+00 | TL-208 |

Analysis Report for 1510085-13
CP5006S04-05

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 9:17:39AM

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| M | 1 | 58.36 | 1.45E+02 | 93.52 | 2.02E-02 | 1.58E-03 |
| m | 2 | 63.41 | 2.97E+02 | 139.56 | 2.16E-02 | 1.71E-03 |
| m | 3 | 76.16 | 1.26E+03 | 153.11 | 2.38E-02 | 2.13E-03 |
| | 4 | 87.90 | 2.05E+02 | 92.34 | 2.44E-02 | 2.52E-03 |
| | 5 | 93.21 | 1.78E+02 | 89.30 | 2.44E-02 | 2.40E-03 |
| | 6 | 99.81 | 6.62E+01 | 68.23 | 2.43E-02 | 2.25E-03 |
| | 7 | 106.05 | 6.25E+01 | 63.67 | 2.40E-02 | 2.10E-03 |
| | 8 | 129.12 | 1.16E+02 | 88.45 | 2.25E-02 | 1.70E-03 |
| | 9 | 186.50 | 2.11E+02 | 94.27 | 1.83E-02 | 1.42E-03 |
| | 10 | 209.53 | 1.04E+02 | 74.73 | 1.68E-02 | 1.31E-03 |
| M | 11 | 238.76 | 7.88E+02 | 72.90 | 1.52E-02 | 1.18E-03 |
| m | 12 | 242.05 | 2.03E+02 | 71.57 | 1.51E-02 | 1.17E-03 |
| | 13 | 270.17 | 6.21E+01 | 57.31 | 1.38E-02 | 1.04E-03 |
| M | 14 | 295.55 | 3.08E+02 | 47.79 | 1.28E-02 | 9.74E-04 |
| m | 15 | 300.54 | 4.76E+01 | 41.07 | 1.26E-02 | 9.67E-04 |
| | 16 | 321.61 | 5.74E+01 | 50.52 | 1.19E-02 | 9.37E-04 |
| | 17 | 329.32 | 6.32E+01 | 47.72 | 1.17E-02 | 9.26E-04 |
| | 18 | 338.63 | 1.82E+02 | 51.03 | 1.14E-02 | 9.12E-04 |
| M | 19 | 352.12 | 4.50E+02 | 50.75 | 1.11E-02 | 8.93E-04 |
| m | 20 | 356.31 | 3.33E+01 | 44.56 | 1.09E-02 | 8.87E-04 |
| | 21 | 437.78 | 2.66E+01 | 30.24 | 9.17E-03 | 7.91E-04 |
| | 22 | 462.55 | 6.19E+01 | 45.93 | 8.74E-03 | 7.67E-04 |
| | 23 | 511.18 | 1.27E+02 | 44.47 | 8.01E-03 | 7.18E-04 |
| | 24 | 546.71 | 2.50E+01 | 21.66 | 7.55E-03 | 6.83E-04 |
| | 25 | 583.34 | 1.93E+02 | 38.75 | 7.14E-03 | 6.46E-04 |
| | 26 | 609.48 | 2.76E+02 | 48.28 | 6.87E-03 | 6.20E-04 |
| | 27 | 679.77 | 2.62E+01 | 27.06 | 6.25E-03 | 5.53E-04 |
| | 28 | 727.30 | 6.55E+01 | 38.21 | 5.89E-03 | 5.14E-04 |
| | 29 | 785.89 | 3.11E+01 | 24.95 | 5.51E-03 | 4.66E-04 |
| | 30 | 793.72 | 4.10E+01 | 27.20 | 5.46E-03 | 4.60E-04 |
| | 31 | 861.52 | 4.77E+01 | 43.38 | 5.09E-03 | 4.04E-04 |
| | 32 | 911.41 | 1.48E+02 | 35.97 | 4.85E-03 | 3.72E-04 |
| M | 33 | 965.33 | 4.87E+01 | 17.46 | 4.62E-03 | 3.62E-04 |
| m | 34 | 969.00 | 7.93E+01 | 26.88 | 4.60E-03 | 3.61E-04 |

Analysis Report for 1510085-13
CP5006S04-05

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 35 | 979.21 | 2.19E+01 | 22.63 | 4.56E-03 | 3.60E-04 |
| | 36 | 989.50 | 2.40E+01 | 26.94 | 4.52E-03 | 3.58E-04 |
| | 37 | 1120.34 | 5.00E+01 | 31.02 | 4.08E-03 | 3.33E-04 |
| | 38 | 1238.41 | 3.52E+01 | 35.39 | 3.75E-03 | 3.09E-04 |
| M | 39 | 1282.44 | 2.11E+01 | 16.85 | 3.65E-03 | 3.00E-04 |
| m | 40 | 1286.78 | 1.20E+01 | 11.40 | 3.64E-03 | 2.99E-04 |
| | 41 | 1291.31 | 1.37E+01 | 9.85 | 3.63E-03 | 2.98E-04 |
| | 42 | 1461.13 | 4.76E+02 | 46.30 | 3.29E-03 | 2.69E-04 |
| | 43 | 1473.80 | 1.39E+01 | 11.22 | 3.27E-03 | 2.67E-04 |
| | 44 | 1528.39 | 1.01E+01 | 8.00 | 3.18E-03 | 2.59E-04 |
| | 45 | 1588.12 | 7.33E+00 | 10.25 | 3.09E-03 | 2.50E-04 |
| | 46 | 1593.36 | 1.29E+01 | 11.18 | 3.08E-03 | 2.49E-04 |
| | 47 | 1630.96 | 1.43E+01 | 8.73 | 3.03E-03 | 2.44E-04 |
| | 48 | 1638.61 | 5.14E+00 | 6.08 | 3.02E-03 | 2.43E-04 |
| | 49 | 1646.76 | 1.05E+01 | 10.02 | 3.01E-03 | 2.41E-04 |
| | 50 | 1730.21 | 1.53E+01 | 13.30 | 2.90E-03 | 2.29E-04 |
| | 51 | 1764.54 | 5.65E+01 | 16.16 | 2.86E-03 | 2.24E-04 |
| | 52 | 1830.25 | 5.21E+00 | 6.34 | 2.78E-03 | 2.14E-04 |
| | 53 | 2032.10 | 8.85E+00 | 6.80 | 2.59E-03 | 2.13E-04 |
| | 54 | 2132.16 | 6.89E+00 | 7.50 | 2.51E-03 | 2.13E-04 |
| | 55 | 2149.56 | 9.67E+00 | 8.26 | 2.50E-03 | 2.13E-04 |
| | 56 | 2204.90 | 2.23E+01 | 16.16 | 2.46E-03 | 2.13E-04 |
| | 57 | 2225.00 | 6.19E+00 | 7.23 | 2.45E-03 | 2.13E-04 |
| | 58 | 2249.93 | 8.00E+00 | 5.66 | 2.43E-03 | 2.13E-04 |
| | 59 | 2448.95 | 1.30E+01 | 11.05 | 2.32E-03 | 2.13E-04 |
| | 60 | 2542.33 | 7.00E+00 | 5.29 | 2.27E-03 | 2.13E-04 |
| | 61 | 2614.87 | 7.50E+01 | 17.32 | 2.24E-03 | 2.13E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 9:17:39AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|-----------------|---------------------|----------------------|-------------------------------|---------------------------|------------------------|------------------------|---------------------------|
| M | 1 | 58.36 | 1.45E+02 | 93.52 | | | 1.45E+02 | 9.35E+01 |
| m | 2 | 63.41 | 2.97E+02 | 139.56 | 5.52E+01 | 2.05E+01 | 2.41E+02 | 1.41E+02 |
| m | 3 | 76.16 | 1.26E+03 | 153.11 | | | 1.26E+03 | 1.53E+02 |

Analysis Report for 1510085-13

CP5006S04-05

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 4 | 87.90 | 2.05E+02 | 92.34 | 1.52E+01 | 5.37E+00 | 1.89E+02 | 9.25E+01 |
| 5 | 93.21 | 1.78E+02 | 89.30 | 9.04E+01 | 2.62E+01 | 8.77E+01 | 9.31E+01 |
| 6 | 99.81 | 6.62E+01 | 68.23 | | | 6.62E+01 | 6.82E+01 |
| 7 | 106.05 | 6.25E+01 | 63.67 | | | 6.25E+01 | 6.37E+01 |
| 8 | 129.12 | 1.16E+02 | 88.45 | | | 1.16E+02 | 8.84E+01 |
| 9 | 186.50 | 2.11E+02 | 94.27 | 3.93E+01 | 6.56E+00 | 1.71E+02 | 9.45E+01 |
| 10 | 209.53 | 1.04E+02 | 74.73 | | | 1.04E+02 | 7.47E+01 |
| M 11 | 238.76 | 7.88E+02 | 72.90 | 1.34E+01 | 2.14E+00 | 7.74E+02 | 7.29E+01 |
| m 12 | 242.05 | 2.03E+02 | 71.57 | 2.69E+00 | 1.46E+00 | 2.00E+02 | 7.16E+01 |
| 13 | 270.17 | 6.21E+01 | 57.31 | | | 6.21E+01 | 5.73E+01 |
| M 14 | 295.55 | 3.08E+02 | 47.79 | | | 3.08E+02 | 4.78E+01 |
| m 15 | 300.54 | 4.76E+01 | 41.07 | | | 4.76E+01 | 4.11E+01 |
| 16 | 321.61 | 5.74E+01 | 50.52 | | | 5.74E+01 | 5.05E+01 |
| 17 | 329.32 | 6.32E+01 | 47.72 | | | 6.32E+01 | 4.77E+01 |
| 18 | 338.63 | 1.82E+02 | 51.03 | | | 1.82E+02 | 5.10E+01 |
| M 19 | 352.12 | 4.50E+02 | 50.75 | 3.99E+00 | 4.73E+00 | 4.46E+02 | 5.10E+01 |
| m 20 | 356.31 | 3.33E+01 | 44.56 | | | 3.33E+01 | 4.46E+01 |
| 21 | 437.78 | 2.66E+01 | 30.24 | | | 2.66E+01 | 3.02E+01 |
| 22 | 462.55 | 6.19E+01 | 45.93 | | | 6.19E+01 | 4.59E+01 |
| 23 | 511.18 | 1.27E+02 | 44.47 | 5.78E+01 | 4.60E+00 | 6.94E+01 | 4.47E+01 |
| 24 | 546.71 | 2.50E+01 | 21.66 | | | 2.50E+01 | 2.17E+01 |
| 25 | 583.34 | 1.93E+02 | 38.75 | 5.96E+00 | 3.46E+00 | 1.87E+02 | 3.89E+01 |
| 26 | 609.48 | 2.76E+02 | 48.28 | 6.71E+00 | 3.44E+00 | 2.69E+02 | 4.84E+01 |
| 27 | 679.77 | 2.62E+01 | 27.06 | | | 2.62E+01 | 2.71E+01 |
| 28 | 727.30 | 6.55E+01 | 38.21 | | | 6.55E+01 | 3.82E+01 |
| 29 | 785.89 | 3.11E+01 | 24.95 | | | 3.11E+01 | 2.49E+01 |
| 30 | 793.72 | 4.10E+01 | 27.20 | | | 4.10E+01 | 2.72E+01 |
| 31 | 861.52 | 4.77E+01 | 43.38 | | | 4.77E+01 | 4.34E+01 |
| 32 | 911.41 | 1.48E+02 | 35.97 | 2.32E+00 | 2.73E+00 | 1.45E+02 | 3.61E+01 |
| M 33 | 965.33 | 4.87E+01 | 17.46 | | | 4.87E+01 | 1.75E+01 |
| m 34 | 969.00 | 7.93E+01 | 26.88 | | | 7.93E+01 | 2.69E+01 |
| 35 | 979.21 | 2.19E+01 | 22.63 | | | 2.19E+01 | 2.26E+01 |
| 36 | 989.50 | 2.40E+01 | 26.94 | | | 2.40E+01 | 2.69E+01 |
| 37 | 1120.34 | 5.00E+01 | 31.02 | 2.00E+00 | 2.20E+00 | 4.80E+01 | 3.11E+01 |
| 38 | 1238.41 | 3.52E+01 | 35.39 | | | 3.52E+01 | 3.54E+01 |
| M 39 | 1282.44 | 2.11E+01 | 16.85 | | | 2.11E+01 | 1.69E+01 |
| m 40 | 1286.78 | 1.20E+01 | 11.40 | | | 1.20E+01 | 1.14E+01 |
| 41 | 1291.31 | 1.37E+01 | 9.85 | | | 1.37E+01 | 9.85E+00 |
| 42 | 1461.13 | 4.76E+02 | 46.30 | | | 4.76E+02 | 4.63E+01 |
| 43 | 1473.80 | 1.39E+01 | 11.22 | | | 1.39E+01 | 1.12E+01 |
| 44 | 1528.39 | 1.01E+01 | 8.00 | | | 1.01E+01 | 8.00E+00 |
| 45 | 1588.12 | 7.33E+00 | 10.25 | | | 7.33E+00 | 1.02E+01 |
| 46 | 1593.36 | 1.29E+01 | 11.18 | | | 1.29E+01 | 1.12E+01 |
| 47 | 1630.96 | 1.43E+01 | 8.73 | | | 1.43E+01 | 8.73E+00 |
| 48 | 1638.61 | 5.14E+00 | 6.08 | | | 5.14E+00 | 6.08E+00 |
| 49 | 1646.76 | 1.05E+01 | 10.02 | | | 1.05E+01 | 1.00E+01 |
| 50 | 1730.21 | 1.53E+01 | 13.30 | | | 1.53E+01 | 1.33E+01 |
| 51 | 1764.54 | 5.65E+01 | 16.16 | 1.45E+00 | 1.16E+00 | 5.51E+01 | 1.62E+01 |
| 52 | 1830.25 | 5.21E+00 | 6.34 | | | 5.21E+00 | 6.34E+00 |
| 53 | 2032.10 | 8.85E+00 | 6.80 | | | 8.85E+00 | 6.80E+00 |
| 54 | 2132.16 | 6.89E+00 | 7.50 | | | 6.89E+00 | 7.50E+00 |
| 55 | 2149.56 | 9.67E+00 | 8.26 | | | 9.67E+00 | 8.26E+00 |
| 56 | 2204.90 | 2.23E+01 | 16.16 | | | 2.23E+01 | 1.62E+01 |
| 57 | 2225.00 | 6.19E+00 | 7.23 | | | 6.19E+00 | 7.23E+00 |

Analysis Report for 1510085-13

CP5006S04-05

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 58 | 2249.93 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| 59 | 2448.95 | 1.30E+01 | 11.05 | | | 1.30E+01 | 1.10E+01 |
| 60 | 2542.33 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| 61 | 2614.87 | 7.50E+01 | 17.32 | | | 7.50E+01 | 1.73E+01 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 9:17:39AM

Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| M 1 | 58.36 | 1.45E+02 | 93.52 | | | 1.45E+02 | 9.35E+01 |
| m 2 | 63.41 | 2.97E+02 | 139.56 | 5.52E+01 | 2.05E+01 | 2.41E+02 | 1.41E+02 |
| m 3 | 76.16 | 1.26E+03 | 153.11 | | | 1.26E+03 | 1.53E+02 |
| 4 | 87.90 | 2.05E+02 | 92.34 | 1.52E+01 | 5.37E+00 | 1.89E+02 | 9.25E+01 |
| 5 | 93.21 | 1.78E+02 | 89.30 | 9.04E+01 | 2.62E+01 | 8.77E+01 | 9.31E+01 |
| 6 | 99.81 | 6.62E+01 | 68.23 | | | 6.62E+01 | 6.82E+01 |
| 7 | 106.05 | 6.25E+01 | 63.67 | | | 6.25E+01 | 6.37E+01 |
| 8 | 129.12 | 1.16E+02 | 88.45 | | | 1.16E+02 | 8.84E+01 |
| 9 | 186.50 | 2.11E+02 | 94.27 | 3.93E+01 | 6.56E+00 | 1.71E+02 | 9.45E+01 |
| 10 | 209.53 | 1.04E+02 | 74.73 | | | 1.04E+02 | 7.47E+01 |
| M 11 | 238.76 | 7.88E+02 | 72.90 | 1.34E+01 | 2.14E+00 | 7.74E+02 | 7.29E+01 |
| m 12 | 242.05 | 2.03E+02 | 71.57 | 2.69E+00 | 1.46E+00 | 2.00E+02 | 7.16E+01 |
| 13 | 270.17 | 6.21E+01 | 57.31 | | | 6.21E+01 | 5.73E+01 |
| M 14 | 295.55 | 3.08E+02 | 47.79 | | | 3.08E+02 | 4.78E+01 |
| m 15 | 300.54 | 4.76E+01 | 41.07 | | | 4.76E+01 | 4.11E+01 |
| 16 | 321.61 | 5.74E+01 | 50.52 | | | 5.74E+01 | 5.05E+01 |
| 17 | 329.32 | 6.32E+01 | 47.72 | | | 6.32E+01 | 4.77E+01 |
| 18 | 338.63 | 1.82E+02 | 51.03 | | | 1.82E+02 | 5.10E+01 |
| M 19 | 352.12 | 4.50E+02 | 50.75 | 3.99E+00 | 4.73E+00 | 4.46E+02 | 5.10E+01 |
| m 20 | 356.31 | 3.33E+01 | 44.56 | | | 3.33E+01 | 4.46E+01 |
| 21 | 437.78 | 2.66E+01 | 30.24 | | | 2.66E+01 | 3.02E+01 |
| 22 | 462.55 | 6.19E+01 | 45.93 | | | 6.19E+01 | 4.59E+01 |
| 23 | 511.18 | 1.27E+02 | 44.47 | 5.78E+01 | 4.60E+00 | 6.94E+01 | 4.47E+01 |
| 24 | 546.71 | 2.50E+01 | 21.66 | | | 2.50E+01 | 2.17E+01 |

Analysis Report for 1510085-13

CP5006S04-05

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 25 | 583.34 | 1.93E+02 | 38.75 | 5.96E+00 | 3.46E+00 | 1.87E+02 | 3.89E+01 |
| 26 | 609.48 | 2.76E+02 | 48.28 | 6.71E+00 | 3.44E+00 | 2.69E+02 | 4.84E+01 |
| 27 | 679.77 | 2.62E+01 | 27.06 | | | 2.62E+01 | 2.71E+01 |
| 28 | 727.30 | 6.55E+01 | 38.21 | | | 6.55E+01 | 3.82E+01 |
| 29 | 785.89 | 3.11E+01 | 24.95 | | | 3.11E+01 | 2.49E+01 |
| 30 | 793.72 | 4.10E+01 | 27.20 | | | 4.10E+01 | 2.72E+01 |
| 31 | 861.52 | 4.77E+01 | 43.38 | | | 4.77E+01 | 4.34E+01 |
| 32 | 911.41 | 1.48E+02 | 35.97 | 2.32E+00 | 2.73E+00 | 1.45E+02 | 3.61E+01 |
| M 33 | 965.33 | 4.87E+01 | 17.46 | | | 4.87E+01 | 1.75E+01 |
| m 34 | 969.00 | 7.93E+01 | 26.88 | | | 7.93E+01 | 2.69E+01 |
| 35 | 979.21 | 2.19E+01 | 22.63 | | | 2.19E+01 | 2.26E+01 |
| 36 | 989.50 | 2.40E+01 | 26.94 | | | 2.40E+01 | 2.69E+01 |
| 37 | 1120.34 | 5.00E+01 | 31.02 | 2.00E+00 | 2.20E+00 | 4.80E+01 | 3.11E+01 |
| 38 | 1238.41 | 3.52E+01 | 35.39 | | | 3.52E+01 | 3.54E+01 |
| M 39 | 1282.44 | 2.11E+01 | 16.85 | | | 2.11E+01 | 1.69E+01 |
| m 40 | 1286.78 | 1.20E+01 | 11.40 | | | 1.20E+01 | 1.14E+01 |
| 41 | 1291.31 | 1.37E+01 | 9.85 | | | 1.37E+01 | 9.85E+00 |
| 42 | 1461.13 | 4.76E+02 | 46.30 | | | 4.76E+02 | 4.63E+01 |
| 43 | 1473.80 | 1.39E+01 | 11.22 | | | 1.39E+01 | 1.12E+01 |
| 44 | 1528.39 | 1.01E+01 | 8.00 | | | 1.01E+01 | 8.00E+00 |
| 45 | 1588.12 | 7.33E+00 | 10.25 | | | 7.33E+00 | 1.02E+01 |
| 46 | 1593.36 | 1.29E+01 | 11.18 | | | 1.29E+01 | 1.12E+01 |
| 47 | 1630.96 | 1.43E+01 | 8.73 | | | 1.43E+01 | 8.73E+00 |
| 48 | 1638.61 | 5.14E+00 | 6.08 | | | 5.14E+00 | 6.08E+00 |
| 49 | 1646.76 | 1.05E+01 | 10.02 | | | 1.05E+01 | 1.00E+01 |
| 50 | 1730.21 | 1.53E+01 | 13.30 | | | 1.53E+01 | 1.33E+01 |
| 51 | 1764.54 | 5.65E+01 | 16.16 | 1.45E+00 | 1.16E+00 | 5.51E+01 | 1.62E+01 |
| 52 | 1830.25 | 5.21E+00 | 6.34 | | | 5.21E+00 | 6.34E+00 |
| 53 | 2032.10 | 8.85E+00 | 6.80 | | | 8.85E+00 | 6.80E+00 |
| 54 | 2132.16 | 6.89E+00 | 7.50 | | | 6.89E+00 | 7.50E+00 |
| 55 | 2149.56 | 9.67E+00 | 8.26 | | | 9.67E+00 | 8.26E+00 |
| 56 | 2204.90 | 2.23E+01 | 16.16 | | | 2.23E+01 | 1.62E+01 |
| 57 | 2225.00 | 6.19E+00 | 7.23 | | | 6.19E+00 | 7.23E+00 |
| 58 | 2249.93 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| 59 | 2448.95 | 1.30E+01 | 11.05 | | | 1.30E+01 | 1.10E+01 |
| 60 | 2542.33 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| 61 | 2614.87 | 7.50E+01 | 17.32 | | | 7.50E+01 | 1.73E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Analysis Report for 1510085-13
CP5006S04-05

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.983 | 1460.81 * | 10.67 | 2.12E+01 | 2.72E+00 |
| GA-67 | 0.649 | 93.31 * | 35.70 | 9.32E+01 | 3.92E+02 |
| | | 208.95 * | 2.24 | 2.56E+03 | 1.02E+04 |
| | | 300.22 * | 16.00 | 2.18E+02 | 9.08E+02 |
| CD-109 | 0.997 | 88.03 * | 3.72 | 3.41E+00 | 1.71E+00 |
| SN-126 | 0.982 | 87.57 * | 37.00 | 3.27E-01 | 1.63E-01 |
| TL-208 | 0.882 | 583.14 * | 30.22 | 1.35E+00 | 3.07E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 1.46E+00 | 3.64E-01 |
| BI-212 | 0.768 | 727.17 * | 11.80 | 1.47E+00 | 8.67E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.995 | 238.63 * | 44.60 | 1.78E+00 | 2.17E-01 |
| | | 300.09 * | 3.41 | 1.72E+00 | 1.49E+00 |
| BI-214 | 0.993 | 609.31 * | 46.30 | 1.32E+00 | 2.66E-01 |
| | | 1120.29 * | 15.10 | 1.22E+00 | 7.95E-01 |
| | | 1764.49 * | 15.80 | 1.90E+00 | 5.79E-01 |
| | | 2204.22 * | 4.98 | 2.84E+00 | 2.07E+00 |
| PB-214 | 0.990 | 295.21 * | 19.19 | 1.96E+00 | 3.38E-01 |
| | | 351.92 * | 37.19 | 1.69E+00 | 2.37E-01 |
| RA-226 | 0.987 | 186.21 * | 3.28 | 4.46E+00 | 8.54E+00 |
| AC-228 | 0.987 | 338.32 * | 11.40 | 2.18E+00 | 6.36E-01 |
| | | 911.07 * | 27.70 | 1.69E+00 | 4.39E-01 |
| | | 969.11 * | 16.60 | 1.62E+00 | 5.63E-01 |
| TH-234 | 0.998 | 63.29 * | 3.80 | 4.59E+00 | 2.70E+00 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 9:17:39AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| M 1 | 58.36 | 4.01433E-02 | 32.36 | | |
| m 3 | 76.16 | 3.48859E-01 | 6.10 | | |

Analysis Report for 1510085-13
CP5006S04-05

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| 6 | 99.81 | 1.83936E-02 | 51.52 | Tol. | LU-173 |
| 7 | 106.05 | 1.73668E-02 | 50.92 | Tol. | EU-155 NP-239 |
| 8 | 129.12 | 3.22835E-02 | 38.05 | | |
| m 12 | 242.05 | 5.55888E-02 | 17.89 | | |
| 13 | 270.17 | 1.72397E-02 | 46.17 | | |
| 16 | 321.61 | 1.59382E-02 | 44.02 | | |
| 17 | 329.32 | 1.75537E-02 | 37.76 | Tol. | LA-140 |
| m 20 | 356.31 | 9.25206E-03 | 66.89 | Tol. | BA-133 |
| 21 | 437.78 | 7.37594E-03 | 56.94 | Tol. | BA-140 |
| 22 | 462.55 | 1.72074E-02 | 37.07 | Tol. | SB-125 |
| 23 | 511.18 | 1.92780E-02 | 32.21 | | |
| 24 | 546.71 | 6.93761E-03 | 43.36 | | |
| 27 | 679.77 | 7.26793E-03 | 51.70 | | |
| 29 | 785.89 | 8.64766E-03 | 40.07 | | |
| 30 | 793.72 | 1.13889E-02 | 33.17 | Sum | |
| 31 | 861.52 | 1.32446E-02 | 45.49 | | |
| M 33 | 965.33 | 1.35166E-02 | 17.94 | Sum | |
| 35 | 979.21 | 6.09015E-03 | 51.60 | | |
| 36 | 989.50 | 6.66667E-03 | 56.13 | | |
| 38 | 1238.41 | 9.78084E-03 | 50.26 | Tol. | CO-56 |
| M 39 | 1282.44 | 5.86855E-03 | 39.88 | | |
| m 40 | 1286.78 | 3.34340E-03 | 47.36 | | |
| 41 | 1291.31 | 3.81173E-03 | 35.89 | | |
| 43 | 1473.80 | 3.87427E-03 | 40.24 | | |
| 44 | 1528.39 | 2.81250E-03 | 39.51 | | |
| 45 | 1588.12 | 2.03704E-03 | 69.87 | | |
| 46 | 1593.36 | 3.57456E-03 | 43.44 | D-Esc | |
| 47 | 1630.96 | 3.97569E-03 | 30.51 | | |
| 48 | 1638.61 | 1.42857E-03 | 59.14 | Sum | |
| 49 | 1646.76 | 2.91667E-03 | 47.74 | Sum | |
| 50 | 1730.21 | 4.23611E-03 | 43.62 | Sum | |
| 52 | 1830.25 | 1.44841E-03 | 60.84 | | |
| 53 | 2032.10 | 2.45833E-03 | 38.42 | Sum | |
| 54 | 2132.16 | 1.91358E-03 | 54.44 | | |
| 55 | 2149.56 | 2.68519E-03 | 42.73 | | |
| 57 | 2225.00 | 1.71875E-03 | 58.41 | | |
| 58 | 2249.93 | 2.22222E-03 | 35.36 | | |
| 59 | 2448.95 | 3.61111E-03 | 42.48 | | |
| 60 | 2542.33 | 1.94444E-03 | 37.80 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-13
CP5006S04-05

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|---|----------|----------------------|----------------------|
| K-40 | 0.98 | 1460.81 | * | 10.67 | 2.12E+01 | 2.72E+00 |
| GA-67 | 0.64 | 93.31 | * | 35.70 | 9.32E+01 | 3.92E+02 |
| | | 208.95 | * | 2.24 | 2.56E+03 | 1.02E+04 |
| | | 300.22 | * | 16.00 | 2.18E+02 | 9.08E+02 |
| CD-109 | 0.99 | 88.03 | * | 3.72 | 3.41E+00 | 1.71E+00 |
| SN-126 | 0.98 | 87.57 | * | 37.00 | 3.27E-01 | 1.63E-01 |
| TL-208 | 0.88 | 583.14 | * | 30.22 | 1.35E+00 | 3.07E-01 |
| | | 860.37 | | 4.48 | | |
| | | 2614.66 | * | 35.85 | 1.46E+00 | 3.64E-01 |
| BI-212 | 0.76 | 727.17 | * | 11.80 | 1.47E+00 | 8.67E-01 |
| | | 1620.62 | | 2.75 | | |
| PB-212 | 0.99 | 238.63 | * | 44.60 | 1.78E+00 | 2.17E-01 |
| | | 300.09 | * | 3.41 | 1.72E+00 | 1.49E+00 |
| BI-214 | 0.99 | 609.31 | * | 46.30 | 1.32E+00 | 2.66E-01 |
| | | 1120.29 | * | 15.10 | 1.22E+00 | 7.95E-01 |
| | | 1764.49 | * | 15.80 | 1.90E+00 | 5.79E-01 |
| | | 2204.22 | * | 4.98 | 2.84E+00 | 2.07E+00 |
| PB-214 | 0.99 | 295.21 | * | 19.19 | 1.96E+00 | 3.38E-01 |
| | | 351.92 | * | 37.19 | 1.69E+00 | 2.37E-01 |
| RA-226 | 0.98 | 186.21 | * | 3.28 | 4.46E+00 | 8.54E+00 |
| AC-228 | 0.98 | 338.32 | * | 11.40 | 2.18E+00 | 6.36E-01 |
| | | 911.07 | * | 27.70 | 1.69E+00 | 4.39E-01 |
| | | 969.11 | * | 16.60 | 1.62E+00 | 5.63E-01 |
| TH-234 | 0.99 | 63.29 | * | 3.80 | 4.59E+00 | 2.70E+00 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Analysis Report for 1510085-13
CP5006S04-05

| <i>Nuclide Name</i> | <i>Nuclide Id Confidence</i> | <i>Wt mean Activity (pCi/grams)</i> | <i>Wt mean Activity Uncertainty</i> | <i>Comments</i> |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | 0.983 | 2.12E+01 | 2.72E+00 | |
| GA-67 | 0.649 | 7.74E+01 | 3.16E+02 | |
| ? CD-109 | 0.997 | 3.41E+00 | 1.71E+00 | |
| ? SN-126 | 0.982 | 3.27E-01 | 1.63E-01 | |
| TL-208 | 0.882 | 1.40E+00 | 2.35E-01 | |
| BI-212 | 0.768 | 1.47E+00 | 8.67E-01 | |
| PB-212 | 0.995 | 1.77E+00 | 2.15E-01 | |
| BI-214 | 0.993 | 1.42E+00 | 2.30E-01 | |
| PB-214 | 0.990 | 1.78E+00 | 1.94E-01 | |
| RA-226 | 0.987 | 4.46E+00 | 8.54E+00 | |
| AC-228 | 0.987 | 1.78E+00 | 3.04E-01 | |
| TH-234 | 0.998 | 4.59E+00 | 2.70E+00 | |

- ? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-13
CP5006S04-05

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 9:17:39AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| | Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|---|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| M | 1 | 58.36 | 4.01433E-02 | 32.36 | | |
| m | 3 | 76.16 | 3.48859E-01 | 6.10 | | |
| | 6 | 99.81 | 1.83936E-02 | 51.52 | Tol. | LU-173 |
| | 7 | 106.05 | 1.73668E-02 | 50.92 | Tol. | EU-155 NP-239 |
| | 8 | 129.12 | 3.22835E-02 | 38.05 | | |
| m | 12 | 242.05 | 5.55888E-02 | 17.89 | | |
| | 13 | 270.17 | 1.72397E-02 | 46.17 | | |
| | 16 | 321.61 | 1.59382E-02 | 44.02 | | |
| | 17 | 329.32 | 1.75537E-02 | 37.76 | Tol. | LA-140 |
| m | 20 | 356.31 | 9.25206E-03 | 66.89 | Tol. | BA-133 |
| | 21 | 437.78 | 7.37594E-03 | 56.94 | Tol. | BA-140 |
| | 22 | 462.55 | 1.72074E-02 | 37.07 | Tol. | SB-125 |
| | 23 | 511.18 | 1.92780E-02 | 32.21 | | |
| | 24 | 546.71 | 6.93761E-03 | 43.36 | | |
| | 27 | 679.77 | 7.26793E-03 | 51.70 | | |
| | 29 | 785.89 | 8.64766E-03 | 40.07 | | |
| | 30 | 793.72 | 1.13889E-02 | 33.17 | Sum | |
| | 31 | 861.52 | 1.32446E-02 | 45.49 | | |
| M | 33 | 965.33 | 1.35166E-02 | 17.94 | Sum | |
| | 35 | 979.21 | 6.09015E-03 | 51.60 | | |
| | 36 | 989.50 | 6.66667E-03 | 56.13 | | |
| | 38 | 1238.41 | 9.78084E-03 | 50.26 | Tol. | CO-56 |
| M | 39 | 1282.44 | 5.86855E-03 | 39.88 | | |
| m | 40 | 1286.78 | 3.34340E-03 | 47.36 | | |
| | 41 | 1291.31 | 3.81173E-03 | 35.89 | | |
| | 43 | 1473.80 | 3.87427E-03 | 40.24 | | |
| | 44 | 1528.39 | 2.81250E-03 | 39.51 | | |
| | 45 | 1588.12 | 2.03704E-03 | 69.87 | | |
| | 46 | 1593.36 | 3.57456E-03 | 43.44 | D-Esc | |
| | 47 | 1630.96 | 3.97569E-03 | 30.51 | | |
| | 48 | 1638.61 | 1.42857E-03 | 59.14 | Sum | |
| | 49 | 1646.76 | 2.91667E-03 | 47.74 | Sum | |
| | 50 | 1730.21 | 4.23611E-03 | 43.62 | Sum | |
| | 52 | 1830.25 | 1.44841E-03 | 60.84 | | |

Analysis Report for 1510085-13
CP5006S04-05

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 53 | 2032.10 | 2.45833E-03 | 38.42 | Sum | |
| 54 | 2132.16 | 1.91358E-03 | 54.44 | | |
| 55 | 2149.56 | 2.68519E-03 | 42.73 | | |
| 57 | 2225.00 | 1.71875E-03 | 58.41 | | |
| 58 | 2249.93 | 2.22222E-03 | 35.36 | | |
| 59 | 2448.95 | 3.61111E-03 | 42.48 | | |
| 60 | 2542.33 | 1.94444E-03 | 37.80 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-----------------|-----------------|----------|-------------------------|----------------------------|-------------------------|
| + | BE-7 | 477.59 | 10.42 | -1.01E+00 | 1.14E+00 | 1.14E+00 |
| + | NA-22 | 1274.54 | 99.94 | 4.49E-02 | 1.40E-01 | 1.40E-01 |
| + | NA-24 | 1368.53 | 99.99 | -7.90E+12 | 1.97E+13 | 3.07E+13 |
| | | 2754.09 | 99.86 | -2.12E+12 | | 1.97E+13 |
| + | AL-26 | 1808.65 | 99.76 | -6.63E-03 | 8.37E-02 | 8.37E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.12E+01 | 1.25E+00 | 1.25E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -5.65E-02 | 8.83E-02 | 8.83E-02 |
| | | 78.34 | 96.00 | 2.49E-01 | | 1.13E-01 |
| + | SC-46 | 889.25 | 99.98 | 8.32E-02 | 1.49E-01 | 1.49E-01 |
| | | 1120.51 | 99.99 | 2.60E-01 | | 2.40E-01 |
| + | V-48 | 983.52 | 99.98 | -2.07E-01 | 3.92E-01 | 3.92E-01 |
| | | 1312.10 | 97.50 | 8.48E-02 | | 4.78E-01 |
| + | CR-51 | 320.08 | 9.83 | 1.03E+00 | 1.87E+00 | 1.87E+00 |
| + | MN-54 | 834.83 | 99.97 | 1.97E-02 | 1.20E-01 | 1.20E-01 |
| + | CO-56 | 846.75 | 99.96 | -9.33E-02 | 1.31E-01 | 1.31E-01 |
| | | 1037.75 | 14.03 | -5.14E-02 | | 1.03E+00 |
| | | 1238.25 | 67.00 | 2.22E-01 | | 3.56E-01 |
| | | 1771.40 | 15.51 | -3.83E-02 | | 7.30E-01 |
| | | 2598.48 | 16.90 | 1.68E-01 | | 7.02E-01 |
| + | CO-57 | 122.06 | 85.51 | 1.69E-03 | 7.72E-02 | 7.72E-02 |
| | | 136.48 | 10.60 | 4.00E-01 | | 6.48E-01 |

Analysis Report for 1510085-13
CP5006S04-05

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | CO-58 | 810.76 | 99.40 | -4.52E-02 | 1.28E-01 | 1.28E-01 |
| + | FE-59 | 1099.22 | 56.50 | -1.48E-01 | 3.42E-01 | 3.42E-01 |
| | | 1291.56 | 43.20 | -1.37E-01 | | 4.34E-01 |
| + | CO-60 | 1173.22 | 100.00 | 2.36E-02 | 1.29E-01 | 1.38E-01 |
| | | 1332.49 | 100.00 | 5.11E-02 | | 1.29E-01 |
| + | ZN-65 | 1115.52 | 50.75 | 4.34E-02 | 2.89E-01 | 2.89E-01 |
| + | GA-67 | 93.31 | * 35.70 | 9.32E+01 | 1.62E+02 | 1.62E+02 |
| | | 208.95 | * 2.24 | 2.56E+03 | | 2.98E+03 |
| | | 300.22 | * 16.00 | 2.18E+02 | | 6.51E+02 |
| + | SE-75 | 121.11 | 16.70 | 2.41E-01 | 1.23E-01 | 4.42E-01 |
| | | 136.00 | 59.20 | -2.94E-02 | | 1.23E-01 |
| | | 264.65 | 59.80 | -1.14E-02 | | 1.62E-01 |
| | | 279.53 | 25.20 | -3.75E-03 | | 4.04E-01 |
| | | 400.65 | 11.40 | 3.02E-01 | | 9.67E-01 |
| + | RB-82 | 776.52 | 13.00 | -1.03E+00 | 1.86E+00 | 1.86E+00 |
| + | RB-83 | 520.41 | 46.00 | -8.31E-03 | 2.50E-01 | 2.50E-01 |
| | | 529.64 | 30.30 | 3.70E-02 | | 3.91E-01 |
| | | 552.65 | 16.40 | -6.10E-02 | | 7.22E-01 |
| + | KR-85 | 513.99 | 0.43 | -4.10E-01 | 2.87E+01 | 2.87E+01 |
| + | SR-85 | 513.99 | 99.27 | -2.46E-03 | 1.72E-01 | 1.72E-01 |
| + | Y-88 | 898.02 | 93.40 | -5.17E-03 | 9.69E-02 | 1.36E-01 |
| | | 1836.01 | 99.38 | -9.16E-04 | | 9.69E-02 |
| + | NB-93M | 16.57 | 9.43 | -6.42E+01 | 9.65E+01 | 9.65E+01 |
| + | NB-94 | 702.63 | 100.00 | 1.84E-02 | 9.23E-02 | 1.08E-01 |
| | | 871.10 | 100.00 | 2.21E-03 | | 9.23E-02 |
| + | NB-95 | 765.79 | 99.81 | 5.35E-02 | 2.16E-01 | 2.16E-01 |
| + | NB-95M | 235.69 | 25.00 | 5.38E+02 | 1.84E+02 | 1.84E+02 |
| + | ZR-95 | 724.18 | 43.70 | -2.22E-02 | 2.84E-01 | 3.79E-01 |
| | | 756.72 | 55.30 | 5.94E-02 | | 2.84E-01 |
| + | MO-99 | 181.06 | 6.20 | 1.55E+02 | 1.52E+03 | 1.98E+03 |
| | | 739.58 | 12.80 | -7.04E+02 | | 1.52E+03 |
| | | 778.00 | 4.50 | -3.35E+02 | | 4.62E+03 |
| + | RU-103 | 497.08 | 89.00 | -5.70E-03 | 1.64E-01 | 1.64E-01 |
| + | RU-106 | 621.84 | 9.80 | -2.28E-01 | 1.07E+00 | 1.07E+00 |
| + | AG-108M | 433.93 | 89.90 | -2.53E-03 | 9.34E-02 | 9.34E-02 |
| | | 614.37 | 90.40 | -1.25E-02 | | 1.19E-01 |
| | | 722.95 | 90.50 | -1.70E-01 | | 1.17E-01 |
| + | CD-109 | 88.03 | * 3.72 | 3.41E+00 | 2.66E+00 | 2.66E+00 |
| + | AG-110M | 657.75 | 93.14 | -1.64E-02 | 1.15E-01 | 1.15E-01 |
| | | 677.61 | 10.53 | -2.57E-01 | | 1.04E+00 |
| | | 706.67 | 16.46 | 2.33E-02 | | 7.01E-01 |
| | | 763.93 | 21.98 | -4.32E-01 | | 5.46E-01 |
| | | 884.67 | 71.63 | 1.01E-02 | | 1.68E-01 |
| | | 1384.27 | 23.94 | -2.37E-01 | | 5.26E-01 |
| + | CD-113M | 263.70 | 0.02 | -1.08E+02 | 3.45E+02 | 3.45E+02 |
| + | SN-113 | 255.12 | 1.93 | -3.69E-01 | 1.68E-01 | 4.85E+00 |
| | | 391.69 | 64.90 | 4.40E-02 | | 1.68E-01 |

Analysis Report for 1510085-13
CP5006S04-05

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|--------------|--------------|----------|----------------------|-------------------------|----------------------|
| + | TE123M | 159.00 | 84.10 | -7.57E-03 | 9.07E-02 | 9.07E-02 |
| + | SB-124 | 602.71 | 97.87 | 6.39E-02 | 1.51E-01 | 1.51E-01 |
| | | 645.85 | 7.26 | -9.66E-01 | | 1.66E+00 |
| | | 722.78 | 11.10 | -1.96E+00 | | 1.35E+00 |
| | | 1691.02 | 49.00 | -3.05E-02 | | 2.98E-01 |
| + | I-125 | 35.49 | 6.49 | 3.84E+00 | 3.96E+00 | 3.96E+00 |
| + | SB-125 | 176.33 | 6.89 | 1.23E-01 | 2.99E-01 | 9.91E-01 |
| | | 427.89 | 29.33 | -2.47E-02 | | 2.99E-01 |
| | | 463.38 | 10.35 | 8.35E-01 | | 1.01E+00 |
| | | 600.56 | 17.80 | 2.57E-02 | | 6.02E-01 |
| | | 635.90 | 11.32 | 3.52E-01 | | 9.75E-01 |
| + | SB-126 | 414.70 | 83.30 | -1.33E-01 | 5.59E-01 | 5.59E-01 |
| | | 666.33 | 99.60 | 1.61E-01 | | 5.89E-01 |
| | | 695.00 | 99.60 | -1.51E-02 | | 5.97E-01 |
| | | 720.50 | 53.80 | -1.64E-02 | | 1.02E+00 |
| + | SN-126 | 87.57 | * 37.00 | 3.27E-01 | 2.56E-01 | 2.56E-01 |
| + | SB-127 | 473.00 | 25.00 | 4.33E+01 | 6.51E+01 | 8.38E+01 |
| | | 685.20 | 35.70 | 1.75E+01 | | 6.51E+01 |
| | | 783.80 | 14.70 | -8.82E+00 | | 1.89E+02 |
| + | I-129 | 29.78 | 57.00 | 2.76E-01 | 5.78E-01 | 5.78E-01 |
| | | 33.60 | 13.20 | -4.57E-01 | | 1.63E+00 |
| | | 39.58 | 7.52 | -1.13E+00 | | 1.81E+00 |
| + | I-131 | 284.30 | 6.05 | 2.57E+00 | 1.42E+00 | 1.84E+01 |
| | | 364.48 | 81.20 | 3.48E-01 | | 1.42E+00 |
| | | 636.97 | 7.26 | 6.29E+00 | | 1.93E+01 |
| | | 722.89 | 1.80 | -1.14E+02 | | 7.85E+01 |
| + | TE-132 | 49.72 | 13.10 | -7.42E+02 | 5.70E+01 | 4.50E+02 |
| | | 228.16 | 88.00 | 2.30E+01 | | 5.70E+01 |
| + | BA-133 | 81.00 | 33.00 | -5.25E-02 | 1.94E-01 | 2.29E-01 |
| | | 302.84 | 17.80 | -1.03E-02 | | 4.88E-01 |
| | | 356.01 | 60.00 | -2.15E-01 | | 1.94E-01 |
| + | I-133 | 529.87 | 86.30 | 2.79E+08 | 2.95E+09 | 2.95E+09 |
| + | XE-133 | 81.00 | 38.00 | -2.41E+00 | 1.05E+01 | 1.05E+01 |
| + | CS-134 | 563.23 | 8.38 | -1.66E-01 | 1.22E-01 | 1.18E+00 |
| | | 569.32 | 15.43 | -2.85E-02 | | 6.47E-01 |
| | | 604.70 | 97.60 | 4.27E-02 | | 1.22E-01 |
| | | 795.84 | 85.40 | 1.03E-02 | | 1.48E-01 |
| | | 801.93 | 8.73 | 1.62E-01 | | 1.24E+00 |
| + | CS-135 | 268.24 | 16.00 | -1.63E-02 | 5.59E-01 | 5.59E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 1.21E+00 | 5.42E-01 | 4.35E+00 |
| | | 163.89 | 4.61 | 8.57E-01 | | 6.87E+00 |
| | | 176.55 | 13.56 | 5.27E-01 | | 2.38E+00 |
| | | 273.65 | 12.66 | -2.39E-01 | | 3.48E+00 |
| | | 340.57 | 48.50 | -1.26E-01 | | 1.18E+00 |
| | | 818.50 | 99.70 | 1.59E-01 | | 5.42E-01 |
| | | 1048.07 | 79.60 | -3.73E-01 | | 6.52E-01 |

Analysis Report for 1510085-13

CP5006S04-05

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | CS-136 | 1235.34 | 19.70 | 1.77E-01 | 5.42E-01 | 4.27E+00 |
| + | CS-137 | 661.65 | 85.12 | 1.12E-02 | 1.25E-01 | 1.25E-01 |
| + | LA-138 | 788.74 | 34.00 | -8.49E-02 | 1.33E-01 | 3.62E-01 |
| | | 1435.80 | 66.00 | -9.92E-02 | | 1.33E-01 |
| + | CE-139 | 165.85 | 80.35 | 1.70E-02 | 9.35E-02 | 9.35E-02 |
| + | BA-140 | 162.64 | 6.70 | -8.33E-01 | 1.73E+00 | 4.88E+00 |
| | | 304.84 | 4.50 | 5.39E-01 | | 8.69E+00 |
| | | 423.70 | 3.20 | -7.70E-01 | | 1.32E+01 |
| | | 437.55 | 2.00 | -5.96E+00 | | 2.09E+01 |
| | | 537.32 | 25.00 | -4.52E-01 | | 1.73E+00 |
| + | LA-140 | 328.77 | 20.50 | 7.28E-01 | 6.37E-01 | 2.13E+00 |
| | | 487.03 | 45.50 | 1.10E-01 | | 9.85E-01 |
| | | 815.85 | 23.50 | 1.20E-01 | | 2.32E+00 |
| | | 1596.49 | 95.49 | 0.00E+00 | | 6.37E-01 |
| + | CE-141 | 145.44 | 48.40 | 4.38E-02 | 2.55E-01 | 2.55E-01 |
| + | CE-143 | 57.36 | 11.80 | 3.82E+06 | 1.13E+06 | 3.06E+06 |
| | | 293.26 | 42.00 | 3.00E+06 | | 1.13E+06 |
| | | 664.55 | 5.20 | -1.79E+06 | | 7.81E+06 |
| + | CE-144 | 133.54 | 10.80 | 1.20E-01 | 6.19E-01 | 6.19E-01 |
| + | PM-144 | 476.78 | 42.00 | -5.73E-02 | 1.13E-01 | 2.17E-01 |
| | | 618.01 | 98.60 | 2.74E-02 | | 1.13E-01 |
| | | 696.49 | 99.49 | 1.49E-02 | | 1.20E-01 |
| + | PM-145 | 36.85 | 21.70 | -6.94E-01 | 3.95E-01 | 7.31E-01 |
| | | 37.36 | 39.70 | -5.08E-02 | | 3.95E-01 |
| | | 42.30 | 15.10 | -7.99E-01 | | 8.19E-01 |
| | | 72.40 | 2.31 | -4.83E+00 | | 4.46E+00 |
| + | PM-146 | 453.90 | 39.94 | 7.31E-02 | 2.28E-01 | 2.28E-01 |
| | | 735.90 | 14.01 | -1.57E-01 | | 6.87E-01 |
| | | 747.13 | 13.10 | 1.45E-01 | | 7.78E-01 |
| + | ND-147 | 91.11 | 28.90 | 2.47E-01 | 2.03E+00 | 2.03E+00 |
| | | 531.02 | 13.10 | 4.33E-01 | | 4.65E+00 |
| + | PM-149 | 285.90 | 3.10 | 4.97E+03 | 3.31E+04 | 3.31E+04 |
| + | EU-152 | 121.78 | 20.50 | 6.56E-03 | 2.99E-01 | 2.99E-01 |
| | | 244.69 | 5.40 | 2.35E-01 | | 1.85E+00 |
| | | 344.27 | 19.13 | 1.04E-01 | | 4.50E-01 |
| | | 778.89 | 9.20 | -7.23E-02 | | 1.21E+00 |
| | | 964.01 | 10.40 | -1.88E+00 | | 1.39E+00 |
| | | 1085.78 | 7.22 | 1.56E-02 | | 1.67E+00 |
| | | 1112.02 | 9.60 | 9.95E-02 | | 1.29E+00 |
| | | 1407.95 | 14.94 | 3.48E-01 | | 7.89E-01 |
| + | GD-153 | 97.43 | 31.30 | -6.13E-02 | 2.25E-01 | 2.25E-01 |
| | | 103.18 | 22.20 | -3.14E-01 | | 2.86E-01 |
| + | EU-154 | 123.07 | 40.50 | 6.75E-03 | 1.53E-01 | 1.53E-01 |
| | | 723.30 | 19.70 | -7.85E-01 | | 5.42E-01 |
| | | 873.19 | 11.50 | -4.43E-01 | | 8.42E-01 |
| | | 996.32 | 10.30 | 5.93E-02 | | 9.70E-01 |
| | | 1004.76 | 17.90 | -5.25E-02 | | 6.53E-01 |
| | | 1274.45 | 35.50 | 1.24E-01 | | 3.88E-01 |
| + | EU-155 | 86.50 | 30.90 | 2.03E-02 | 2.77E-01 | 2.77E-01 |

Analysis Report for 1510085-13
CP5006S04-05

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | EU-155 | 105.30 | 20.70 | 1.36E-01 | 2.77E-01 | 2.98E-01 |
| + | EU-156 | 811.77 | 10.40 | 2.16E-01 | 3.74E+00 | 3.74E+00 |
| | | 1153.47 | 7.20 | 1.25E+00 | | 7.28E+00 |
| | | 1230.71 | 8.90 | -1.01E-01 | | 6.69E+00 |
| + | HO-166M | 184.41 | 72.60 | 1.98E-01 | 1.16E-01 | 1.16E-01 |
| | | 280.45 | 29.60 | 3.25E-02 | | 2.88E-01 |
| | | 410.94 | 11.10 | 1.25E-01 | | 8.44E-01 |
| | | 711.69 | 54.10 | -2.00E-02 | | 1.97E-01 |
| + | TM-171 | 66.72 | 0.14 | -7.10E+01 | 6.24E+01 | 6.24E+01 |
| + | HF-172 | 81.75 | 4.52 | 4.63E-01 | 5.61E-01 | 1.74E+00 |
| | | 125.81 | 11.30 | -5.30E-01 | | 5.61E-01 |
| + | LU-172 | 181.53 | 20.60 | -1.48E+01 | 4.74E+00 | 6.93E+00 |
| | | 810.06 | 16.63 | 1.67E+00 | | 1.34E+01 |
| | | 912.12 | 15.25 | 6.86E+01 | | 3.18E+01 |
| | | 1093.66 | 62.50 | 1.22E+00 | | 4.74E+00 |
| + | LU-173 | 100.72 | 5.24 | 5.26E-01 | 4.54E-01 | 1.24E+00 |
| | | 272.11 | 21.20 | 2.81E-01 | | 4.54E-01 |
| + | HF-175 | 343.40 | 84.00 | 4.93E-02 | 1.45E-01 | 1.45E-01 |
| + | LU-176 | 88.34 | 13.30 | 1.03E+00 | 8.13E-02 | 6.77E-01 |
| | | 201.83 | 86.00 | 3.62E-02 | | 9.46E-02 |
| | | 306.78 | 94.00 | -4.24E-03 | | 8.13E-02 |
| + | TA-182 | 67.75 | 41.20 | -1.55E-01 | 2.43E-01 | 2.43E-01 |
| | | 1121.30 | 34.90 | 6.93E-01 | | 6.42E-01 |
| | | 1189.05 | 16.23 | -6.81E-01 | | 9.10E-01 |
| | | 1221.41 | 26.98 | -7.46E-02 | | 6.32E-01 |
| | | 1231.02 | 11.44 | -7.23E-02 | | 1.61E+00 |
| + | IR-192 | 308.46 | 29.68 | -2.76E-02 | 2.38E-01 | 3.37E-01 |
| | | 468.07 | 48.10 | -6.39E-02 | | 2.38E-01 |
| + | HG-203 | 279.19 | 77.30 | -2.54E-02 | 1.72E-01 | 1.72E-01 |
| + | BI-207 | 569.67 | 97.72 | 3.63E-02 | 1.04E-01 | 1.04E-01 |
| | | 1063.62 | 74.90 | 7.46E-02 | | 1.73E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.35E+00 | 5.26E-02 | 3.49E-01 |
| | | 860.37 | 4.48 | 2.16E+00 | | 3.13E+00 |
| | | 2614.66 | * 35.85 | 1.46E+00 | | 5.26E-02 |
| + | BI-210M | 262.00 | 45.00 | 4.94E-02 | 1.81E-01 | 1.81E-01 |
| | | 300.00 | 23.00 | -1.85E+00 | | 3.84E-01 |
| + | PB-210 | 46.50 | 4.25 | 3.34E+00 | 2.78E+00 | 2.78E+00 |
| + | PB-211 | 404.84 | 2.90 | -2.40E+00 | 3.07E+00 | 3.07E+00 |
| | | 831.96 | 2.90 | -1.47E+00 | | 3.79E+00 |
| + | BI-212 | 727.17 | * 11.80 | 1.47E+00 | 1.34E+00 | 1.34E+00 |
| | | 1620.62 | 2.75 | 4.66E-01 | | 3.51E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.78E+00 | 3.28E-01 | 3.28E-01 |
| | | 300.09 | * 3.41 | 1.72E+00 | | 5.15E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.32E+00 | 3.01E-01 | 3.01E-01 |
| | | 1120.29 | * 15.10 | 1.22E+00 | | 1.23E+00 |
| | | 1764.49 | * 15.80 | 1.90E+00 | | 4.62E-01 |
| | | 2204.22 | * 4.98 | 2.84E+00 | | 3.09E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.96E+00 | 3.45E-01 | 8.98E-01 |

Analysis Report for 1510085-13
CP5006S04-05

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | PB-214 | 351.92 | * | 37.19 | 1.69E+00 | 3.45E-01 | 3.45E-01 |
| + | RN-219 | 401.80 | | 6.50 | -5.97E-01 | 1.36E+00 | 1.36E+00 |
| + | RA-223 | 323.87 | | 3.88 | -1.22E+00 | 2.19E+00 | 2.19E+00 |
| + | RA-224 | 240.98 | | 3.95 | 2.48E+01 | 4.28E+00 | 4.28E+00 |
| + | RA-225 | 40.00 | | 31.00 | -1.10E+00 | 1.75E+00 | 1.75E+00 |
| + | RA-226 | 186.21 | * | 3.28 | 4.46E+00 | 3.96E+00 | 3.96E+00 |
| + | TH-227 | 50.10 | | 8.40 | -1.92E+00 | 1.16E+00 | 1.16E+00 |
| | | 236.00 | | 11.50 | 3.65E+00 | | 1.25E+00 |
| | | 256.20 | | 6.30 | 4.10E-01 | | 1.26E+00 |
| + | AC-228 | 338.32 | * | 11.40 | 2.18E+00 | 5.44E-01 | 8.86E-01 |
| | | 911.07 | * | 27.70 | 1.69E+00 | | 5.44E-01 |
| | | 969.11 | * | 16.60 | 1.62E+00 | | 8.88E-01 |
| + | TH-230 | 48.44 | | 16.90 | 4.67E-01 | 6.52E-01 | 6.52E-01 |
| | | 62.85 | | 4.60 | 1.59E+00 | | 2.07E+00 |
| | | 67.67 | | 0.37 | -1.44E+01 | | 2.26E+01 |
| + | PA-231 | 283.67 | | 1.60 | 7.28E-01 | 3.75E+00 | 5.20E+00 |
| | | 302.67 | | 2.30 | -7.92E-02 | | 3.75E+00 |
| + | TH-231 | 25.64 | | 14.70 | -6.14E-01 | 1.18E+00 | 4.10E+00 |
| | | 84.21 | | 6.40 | -7.47E-01 | | 1.18E+00 |
| + | PA-233 | 311.98 | | 38.60 | -1.43E-01 | 4.19E-01 | 4.19E-01 |
| + | PA-234 | 131.20 | | 20.40 | 1.88E-01 | 3.25E-01 | 3.25E-01 |
| | | 733.99 | | 8.80 | -1.07E-01 | | 1.13E+00 |
| | | 946.00 | | 12.00 | 2.53E-01 | | 9.29E-01 |
| + | PA-234M | 1001.03 | | 0.92 | -7.57E-01 | 1.11E+01 | 1.11E+01 |
| + | TH-234 | 63.29 | * | 3.80 | 4.59E+00 | 9.17E+00 | 9.17E+00 |
| + | U-235 | 143.76 | | 10.50 | 6.38E-02 | 6.12E-01 | 6.12E-01 |
| | | 163.35 | | 4.70 | 1.72E-01 | | 1.38E+00 |
| | | 205.31 | | 4.70 | 8.76E-02 | | 1.75E+00 |
| + | NP-237 | 86.50 | | 12.60 | 4.93E-02 | 6.72E-01 | 6.72E-01 |
| + | NP-239 | 106.10 | | 22.70 | 1.02E+03 | 1.85E+03 | 1.85E+03 |
| | | 228.18 | | 10.70 | 2.19E+03 | | 5.44E+03 |
| | | 277.60 | | 14.10 | 7.35E+02 | | 4.20E+03 |
| + | AM-241 | 59.54 | | 35.90 | -2.00E-01 | 2.61E-01 | 2.61E-01 |
| + | AM-243 | 74.67 | | 66.00 | 4.44E-01 | 1.82E-01 | 1.82E-01 |
| + | CM-243 | 209.75 | | 3.29 | 2.12E+00 | 6.12E-01 | 2.70E+00 |
| | | 228.14 | | 10.60 | 3.20E-01 | | 7.95E-01 |
| | | 277.60 | | 14.00 | 1.07E-01 | | 6.12E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510085-13
CP5006S04-05

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 1.14E+00 | 1.14E+00 | -1.01E+00 | 5.35E-01 |
| NA-22 | 1274.54 | 99.94 | 1.40E-01 | 1.40E-01 | 4.49E-02 | 6.40E-02 |
| NA-24 | 1368.53 | 99.99 | 3.07E+13 | 1.97E+13 | -7.90E+12 | 1.35E+13 |
| | 2754.09 | 99.86 | 1.97E+13 | | -2.12E+12 | 6.97E+12 |
| AL-26 | 1808.65 | 99.76 | 8.37E-02 | 8.37E-02 | -6.63E-03 | 3.43E-02 |
| + K-40 | 1460.81 | * 10.67 | 1.25E+00 | 1.25E+00 | 2.12E+01 | 5.65E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 8.83E-02 | 8.83E-02 | -5.65E-02 | 4.32E-02 |
| | 78.34 | 96.00 | 1.13E-01 | | 2.49E-01 | 5.56E-02 |
| SC-46 | 889.25 | 99.98 | 1.49E-01 | 1.49E-01 | 8.32E-02 | 6.90E-02 |
| | 1120.51 | 99.99 | 2.40E-01 | | 2.60E-01 | 1.14E-01 |
| V-48 | 983.52 | 99.98 | 3.92E-01 | 3.92E-01 | -2.07E-01 | 1.79E-01 |
| | 1312.10 | 97.50 | 4.78E-01 | | 8.48E-02 | 2.17E-01 |
| CR-51 | 320.08 | 9.83 | 1.87E+00 | 1.87E+00 | 1.03E+00 | 8.98E-01 |
| MN-54 | 834.83 | 99.97 | 1.20E-01 | 1.20E-01 | 1.97E-02 | 5.55E-02 |
| CO-56 | 846.75 | 99.96 | 1.31E-01 | 1.31E-01 | -9.33E-02 | 6.00E-02 |
| | 1037.75 | 14.03 | 1.03E+00 | | -5.14E-02 | 4.72E-01 |
| | 1238.25 | 67.00 | 3.56E-01 | | 2.22E-01 | 1.67E-01 |
| | 1771.40 | 15.51 | 7.30E-01 | | -3.83E-02 | 3.03E-01 |
| | 2598.48 | 16.90 | 7.02E-01 | | 1.68E-01 | 2.79E-01 |
| CO-57 | 122.06 | 85.51 | 7.72E-02 | 7.72E-02 | 1.69E-03 | 3.74E-02 |
| | 136.48 | 10.60 | 6.48E-01 | | 4.00E-01 | 3.14E-01 |
| CO-58 | 810.76 | 99.40 | 1.28E-01 | 1.28E-01 | -4.52E-02 | 5.85E-02 |
| FE-59 | 1099.22 | 56.50 | 3.42E-01 | 3.42E-01 | -1.48E-01 | 1.56E-01 |
| | 1291.56 | 43.20 | 4.34E-01 | | -1.37E-01 | 1.95E-01 |
| CO-60 | 1173.22 | 100.00 | 1.38E-01 | 1.29E-01 | 2.36E-02 | 6.34E-02 |
| | 1332.49 | 100.00 | 1.29E-01 | | 5.11E-02 | 5.86E-02 |
| ZN-65 | 1115.52 | 50.75 | 2.89E-01 | 2.89E-01 | 4.34E-02 | 1.33E-01 |
| + GA-67 | 93.31 | * 35.70 | 1.62E+02 | 1.62E+02 | 9.32E+01 | 7.97E+01 |
| | 208.95 | * 2.24 | 2.98E+03 | | 2.56E+03 | 1.46E+03 |
| | 300.22 | * 16.00 | 6.51E+02 | | 2.18E+02 | 3.19E+02 |
| SE-75 | 121.11 | 16.70 | 4.42E-01 | 1.23E-01 | 2.41E-01 | 2.14E-01 |
| | 136.00 | 59.20 | 1.23E-01 | | -2.94E-02 | 5.96E-02 |
| | 264.65 | 59.80 | 1.62E-01 | | -1.14E-02 | 7.80E-02 |
| | 279.53 | 25.20 | 4.04E-01 | | -3.75E-03 | 1.95E-01 |
| | 400.65 | 11.40 | 9.67E-01 | | 3.02E-01 | 4.61E-01 |
| RB-82 | 776.52 | 13.00 | 1.86E+00 | 1.86E+00 | -1.03E+00 | 8.63E-01 |
| RB-83 | 520.41 | 46.00 | 2.50E-01 | 2.50E-01 | -8.31E-03 | 1.17E-01 |
| | 529.64 | 30.30 | 3.91E-01 | | 3.70E-02 | 1.84E-01 |
| | 552.65 | 16.40 | 7.22E-01 | | -6.10E-02 | 3.39E-01 |

Analysis Report for 1510085-13
CP5006S04-05

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| KR-85 | 513.99 | 0.43 | 2.87E+01 | 2.87E+01 | -4.10E-01 | 1.38E+01 |
| SR-85 | 513.99 | 99.27 | 1.72E-01 | 1.72E-01 | -2.46E-03 | 8.25E-02 |
| Y-88 | 898.02 | 93.40 | 1.36E-01 | 9.69E-02 | -5.17E-03 | 6.23E-02 |
| | 1836.01 | 99.38 | 9.69E-02 | | -9.16E-04 | 3.92E-02 |
| NB-93M | 16.57 | 9.43 | 9.65E+01 | 9.65E+01 | -6.42E+01 | 4.69E+01 |
| NB-94 | 702.63 | 100.00 | 1.08E-01 | 9.23E-02 | 1.84E-02 | 5.07E-02 |
| | 871.10 | 100.00 | 9.23E-02 | | 2.21E-03 | 4.20E-02 |
| NB-95 | 765.79 | 99.81 | 2.16E-01 | 2.16E-01 | 5.35E-02 | 1.01E-01 |
| NB-95M | 235.69 | 25.00 | 1.84E+02 | 1.84E+02 | 5.38E+02 | 9.04E+01 |
| ZR-95 | 724.18 | 43.70 | 3.79E-01 | 2.84E-01 | -2.22E-02 | 1.78E-01 |
| | 756.72 | 55.30 | 2.84E-01 | | 5.94E-02 | 1.33E-01 |
| MO-99 | 181.06 | 6.20 | 1.98E+03 | 1.52E+03 | 1.55E+02 | 9.55E+02 |
| | 739.58 | 12.80 | 1.52E+03 | | -7.04E+02 | 7.03E+02 |
| | 778.00 | 4.50 | 4.62E+03 | | -3.35E+02 | 2.15E+03 |
| RU-103 | 497.08 | 89.00 | 1.64E-01 | 1.64E-01 | -5.70E-03 | 7.73E-02 |
| RU-106 | 621.84 | 9.80 | 1.07E+00 | 1.07E+00 | -2.28E-01 | 4.99E-01 |
| AG-108M | 433.93 | 89.90 | 9.34E-02 | 9.34E-02 | -2.53E-03 | 4.42E-02 |
| | 614.37 | 90.40 | 1.19E-01 | | -1.25E-02 | 5.59E-02 |
| | 722.95 | 90.50 | 1.17E-01 | | -1.70E-01 | 5.46E-02 |
| + CD-109 | 88.03 | * | 2.66E+00 | 2.66E+00 | 3.41E+00 | 1.31E+00 |
| AG-110M | 657.75 | 93.14 | 1.15E-01 | 1.15E-01 | -1.64E-02 | 5.35E-02 |
| | 677.61 | 10.53 | 1.04E+00 | | -2.57E-01 | 4.86E-01 |
| | 706.67 | 16.46 | 7.01E-01 | | 2.33E-02 | 3.27E-01 |
| | 763.93 | 21.98 | 5.46E-01 | | -4.32E-01 | 2.54E-01 |
| | 884.67 | 71.63 | 1.68E-01 | | 1.01E-02 | 7.75E-02 |
| | 1384.27 | 23.94 | 5.26E-01 | | -2.37E-01 | 2.35E-01 |
| CD-113M | 263.70 | 0.02 | 3.45E+02 | 3.45E+02 | -1.08E+02 | 1.66E+02 |
| SN-113 | 255.12 | 1.93 | 4.85E+00 | 1.68E-01 | -3.69E-01 | 2.34E+00 |
| | 391.69 | 64.90 | 1.68E-01 | | 4.40E-02 | 8.00E-02 |
| TE123M | 159.00 | 84.10 | 9.07E-02 | 9.07E-02 | -7.57E-03 | 4.38E-02 |
| SB-124 | 602.71 | 97.87 | 1.51E-01 | 1.51E-01 | 6.39E-02 | 7.09E-02 |
| | 645.85 | 7.26 | 1.66E+00 | | -9.66E-01 | 7.65E-01 |
| | 722.78 | 11.10 | 1.35E+00 | | -1.96E+00 | 6.29E-01 |
| | 1691.02 | 49.00 | 2.98E-01 | | -3.05E-02 | 1.28E-01 |
| I-125 | 35.49 | 6.49 | 3.96E+00 | 3.96E+00 | 3.84E+00 | 1.93E+00 |
| SB-125 | 176.33 | 6.89 | 9.91E-01 | 2.99E-01 | 1.23E-01 | 4.79E-01 |
| | 427.89 | 29.33 | 2.99E-01 | | -2.47E-02 | 1.42E-01 |
| | 463.38 | 10.35 | 1.01E+00 | | 8.35E-01 | 4.80E-01 |
| | 600.56 | 17.80 | 6.02E-01 | | 2.57E-02 | 2.84E-01 |
| | 635.90 | 11.32 | 9.75E-01 | | 3.52E-01 | 4.59E-01 |
| SB-126 | 414.70 | 83.30 | 5.59E-01 | 5.59E-01 | -1.33E-01 | 2.65E-01 |
| | 666.33 | 99.60 | 5.89E-01 | | 1.61E-01 | 2.77E-01 |
| | 695.00 | 99.60 | 5.97E-01 | | -1.51E-02 | 2.80E-01 |
| | 720.50 | 53.80 | 1.02E+00 | | -1.64E-02 | 4.76E-01 |
| + SN-126 | 87.57 | * | 2.56E-01 | 2.56E-01 | 3.27E-01 | 1.26E-01 |
| SB-127 | 473.00 | 25.00 | 8.38E+01 | 6.51E+01 | 4.33E+01 | 3.97E+01 |
| | 685.20 | 35.70 | 6.51E+01 | | 1.75E+01 | 3.04E+01 |
| | 783.80 | 14.70 | 1.89E+02 | | -8.82E+00 | 8.88E+01 |
| I-129 | 29.78 | 57.00 | 5.78E-01 | 5.78E-01 | 2.76E-01 | 2.81E-01 |
| | 33.60 | 13.20 | 1.63E+00 | | -4.57E-01 | 7.94E-01 |
| | 39.58 | 7.52 | 1.81E+00 | | -1.13E+00 | 8.80E-01 |
| I-131 | 284.30 | 6.05 | 1.84E+01 | 1.42E+00 | 2.57E+00 | 8.83E+00 |
| | 364.48 | 81.20 | 1.42E+00 | | 3.48E-01 | 6.80E-01 |

Analysis Report for 1510085-13

CP5006S04-05

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| I-131 | 636.97 | 7.26 | 1.93E+01 | 1.42E+00 | 6.29E+00 | 9.08E+00 |
| | 722.89 | 1.80 | 7.85E+01 | | -1.14E+02 | 3.66E+01 |
| TE-132 | 49.72 | 13.10 | 4.50E+02 | 5.70E+01 | -7.42E+02 | 2.19E+02 |
| | 228.16 | 88.00 | 5.70E+01 | | 2.30E+01 | 2.76E+01 |
| BA-133 | 81.00 | 33.00 | 2.29E-01 | 1.94E-01 | -5.25E-02 | 1.12E-01 |
| | 302.84 | 17.80 | 4.88E-01 | | -1.03E-02 | 2.34E-01 |
| | 356.01 | 60.00 | 1.94E-01 | | -2.15E-01 | 9.38E-02 |
| I-133 | 529.87 | 86.30 | 2.95E+09 | 2.95E+09 | 2.79E+08 | 1.39E+09 |
| XE-133 | 81.00 | 38.00 | 1.05E+01 | 1.05E+01 | -2.41E+00 | 5.13E+00 |
| CS-134 | 563.23 | 8.38 | 1.18E+00 | 1.22E-01 | -1.66E-01 | 5.55E-01 |
| | 569.32 | 15.43 | 6.47E-01 | | -2.85E-02 | 3.04E-01 |
| | 604.70 | 97.60 | 1.22E-01 | | 4.27E-02 | 5.77E-02 |
| | 795.84 | 85.40 | 1.48E-01 | | 1.03E-02 | 6.94E-02 |
| | 801.93 | 8.73 | 1.24E+00 | | 1.62E-01 | 5.75E-01 |
| CS-135 | 268.24 | 16.00 | 5.59E-01 | 5.59E-01 | -1.63E-02 | 2.70E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 4.35E+00 | 5.42E-01 | 1.21E+00 | 2.11E+00 |
| | 163.89 | 4.61 | 6.87E+00 | | 8.57E-01 | 3.32E+00 |
| | 176.55 | 13.56 | 2.38E+00 | | 5.27E-01 | 1.15E+00 |
| | 273.65 | 12.66 | 3.48E+00 | | -2.39E-01 | 1.68E+00 |
| | 340.57 | 48.50 | 1.18E+00 | | -1.26E-01 | 5.71E-01 |
| | 818.50 | 99.70 | 5.42E-01 | | 1.59E-01 | 2.52E-01 |
| | 1048.07 | 79.60 | 6.52E-01 | | -3.73E-01 | 2.96E-01 |
| | 1235.34 | 19.70 | 4.27E+00 | | 1.77E-01 | 1.99E+00 |
| CS-137 | 661.65 | 85.12 | 1.25E-01 | 1.25E-01 | 1.12E-02 | 5.86E-02 |
| LA-138 | 788.74 | 34.00 | 3.62E-01 | 1.33E-01 | -8.49E-02 | 1.69E-01 |
| | 1435.80 | 66.00 | 1.33E-01 | | -9.92E-02 | 5.71E-02 |
| CE-139 | 165.85 | 80.35 | 9.35E-02 | 9.35E-02 | 1.70E-02 | 4.52E-02 |
| BA-140 | 162.64 | 6.70 | 4.88E+00 | 1.73E+00 | -8.33E-01 | 2.36E+00 |
| | 304.84 | 4.50 | 8.69E+00 | | 5.39E-01 | 4.15E+00 |
| | 423.70 | 3.20 | 1.32E+01 | | -7.70E-01 | 6.22E+00 |
| | 437.55 | 2.00 | 2.09E+01 | | -5.96E+00 | 9.88E+00 |
| | 537.32 | 25.00 | 1.73E+00 | | -4.52E-01 | 8.07E-01 |
| LA-140 | 328.77 | 20.50 | 2.13E+00 | 6.37E-01 | 7.28E-01 | 1.02E+00 |
| | 487.03 | 45.50 | 9.85E-01 | | 1.10E-01 | 4.64E-01 |
| | 815.85 | 23.50 | 2.32E+00 | | 1.20E-01 | 1.07E+00 |
| | 1596.49 | 95.49 | 6.37E-01 | | 0.00E+00 | 2.82E-01 |
| CE-141 | 145.44 | 48.40 | 2.55E-01 | 2.55E-01 | 4.38E-02 | 1.24E-01 |
| CE-143 | 57.36 | 11.80 | 3.06E+06 | 1.13E+06 | 3.82E+06 | 1.50E+06 |
| | 293.26 | 42.00 | 1.13E+06 | | 3.00E+06 | 5.50E+05 |
| | 664.55 | 5.20 | 7.81E+06 | | -1.79E+06 | 3.66E+06 |
| CE-144 | 133.54 | 10.80 | 6.19E-01 | 6.19E-01 | 1.20E-01 | 3.00E-01 |
| PM-144 | 476.78 | 42.00 | 2.17E-01 | 1.13E-01 | -5.73E-02 | 1.02E-01 |
| | 618.01 | 98.60 | 1.13E-01 | | 2.74E-02 | 5.30E-02 |
| | 696.49 | 99.49 | 1.20E-01 | | 1.49E-02 | 5.62E-02 |
| PM-145 | 36.85 | 21.70 | 7.31E-01 | 3.95E-01 | -6.94E-01 | 3.55E-01 |
| | 37.36 | 39.70 | 3.95E-01 | | -5.08E-02 | 1.92E-01 |
| | 42.30 | 15.10 | 8.19E-01 | | -7.99E-01 | 3.99E-01 |
| | 72.40 | 2.31 | 4.46E+00 | | -4.83E+00 | 2.19E+00 |
| PM-146 | 453.90 | 39.94 | 2.28E-01 | 2.28E-01 | 7.31E-02 | 1.08E-01 |
| | 735.90 | 14.01 | 6.87E-01 | | -1.57E-01 | 3.17E-01 |

Analysis Report for 1510085-13

CP5006S04-05

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| PM-146 | 747.13 | 13.10 | 7.78E-01 | 2.28E-01 | 1.45E-01 | 3.61E-01 |
| ND-147 | 91.11 | 28.90 | 2.03E+00 | 2.03E+00 | 2.47E-01 | 9.93E-01 |
| | 531.02 | 13.10 | 4.65E+00 | | 4.33E-01 | 2.18E+00 |
| PM-149 | 285.90 | 3.10 | 3.31E+04 | 3.31E+04 | 4.97E+03 | 1.59E+04 |
| EU-152 | 121.78 | 20.50 | 2.99E-01 | 2.99E-01 | 6.56E-03 | 1.45E-01 |
| | 244.69 | 5.40 | 1.85E+00 | | 2.35E-01 | 8.98E-01 |
| | 344.27 | 19.13 | 4.50E-01 | | 1.04E-01 | 2.15E-01 |
| | 778.89 | 9.20 | 1.21E+00 | | -7.23E-02 | 5.62E-01 |
| | 964.01 | 10.40 | 1.39E+00 | | -1.88E+00 | 6.52E-01 |
| | 1085.78 | 7.22 | 1.67E+00 | | 1.56E-02 | 7.63E-01 |
| | 1112.02 | 9.60 | 1.29E+00 | | 9.95E-02 | 5.93E-01 |
| | 1407.95 | 14.94 | 7.89E-01 | | 3.48E-01 | 3.53E-01 |
| GD-153 | 97.43 | 31.30 | 2.25E-01 | 2.25E-01 | -6.13E-02 | 1.09E-01 |
| | 103.18 | 22.20 | 2.86E-01 | | -3.14E-01 | 1.39E-01 |
| EU-154 | 123.07 | 40.50 | 1.53E-01 | 1.53E-01 | 6.75E-03 | 7.42E-02 |
| | 723.30 | 19.70 | 5.42E-01 | | -7.85E-01 | 2.53E-01 |
| | 873.19 | 11.50 | 8.42E-01 | | -4.43E-01 | 3.84E-01 |
| | 996.32 | 10.30 | 9.70E-01 | | 5.93E-02 | 4.39E-01 |
| | 1004.76 | 17.90 | 6.53E-01 | | -5.25E-02 | 3.00E-01 |
| | 1274.45 | 35.50 | 3.88E-01 | | 1.24E-01 | 1.77E-01 |
| EU-155 | 86.50 | 30.90 | 2.77E-01 | 2.77E-01 | 2.03E-02 | 1.36E-01 |
| | 105.30 | 20.70 | 2.98E-01 | | 1.36E-01 | 1.44E-01 |
| EU-156 | 811.77 | 10.40 | 3.74E+00 | 3.74E+00 | 2.16E-01 | 1.72E+00 |
| | 1153.47 | 7.20 | 7.28E+00 | | 1.25E+00 | 3.35E+00 |
| | 1230.71 | 8.90 | 6.69E+00 | | -1.01E-01 | 3.10E+00 |
| HO-166M | 184.41 | 72.60 | 1.16E-01 | 1.16E-01 | 1.98E-01 | 5.62E-02 |
| | 280.45 | 29.60 | 2.88E-01 | | 3.25E-02 | 1.39E-01 |
| | 410.94 | 11.10 | 8.44E-01 | | 1.25E-01 | 4.03E-01 |
| | 711.69 | 54.10 | 1.97E-01 | | -2.00E-02 | 9.22E-02 |
| TM-171 | 66.72 | 0.14 | 6.24E+01 | 6.24E+01 | -7.10E+01 | 3.05E+01 |
| HF-172 | 81.75 | 4.52 | 1.74E+00 | 5.61E-01 | 4.63E-01 | 8.48E-01 |
| | 125.81 | 11.30 | 5.61E-01 | | -5.30E-01 | 2.72E-01 |
| LU-172 | 181.53 | 20.60 | 6.93E+00 | 4.74E+00 | -1.48E+01 | 3.34E+00 |
| | 810.06 | 16.63 | 1.34E+01 | | 1.67E+00 | 6.18E+00 |
| | 912.12 | 15.25 | 3.18E+01 | | 6.86E+01 | 1.53E+01 |
| | 1093.66 | 62.50 | 4.74E+00 | | 1.22E+00 | 2.19E+00 |
| LU-173 | 100.72 | 5.24 | 1.24E+00 | 4.54E-01 | 5.26E-01 | 6.03E-01 |
| | 272.11 | 21.20 | 4.54E-01 | | 2.81E-01 | 2.19E-01 |
| HF-175 | 343.40 | 84.00 | 1.45E-01 | 1.45E-01 | 4.93E-02 | 6.93E-02 |
| LU-176 | 88.34 | 13.30 | 6.77E-01 | 8.13E-02 | 1.03E+00 | 3.32E-01 |
| | 201.83 | 86.00 | 9.46E-02 | | 3.62E-02 | 4.59E-02 |
| | 306.78 | 94.00 | 8.13E-02 | | -4.24E-03 | 3.88E-02 |
| TA-182 | 67.75 | 41.20 | 2.43E-01 | 2.43E-01 | -1.55E-01 | 1.19E-01 |
| | 1121.30 | 34.90 | 6.42E-01 | | 6.93E-01 | 3.03E-01 |
| | 1189.05 | 16.23 | 9.10E-01 | | -6.81E-01 | 4.15E-01 |
| | 1221.41 | 26.98 | 6.32E-01 | | -7.46E-02 | 2.91E-01 |
| | 1231.02 | 11.44 | 1.61E+00 | | -7.23E-02 | 7.48E-01 |
| IR-192 | 308.46 | 29.68 | 3.37E-01 | 2.38E-01 | -2.76E-02 | 1.61E-01 |
| | 468.07 | 48.10 | 2.38E-01 | | -6.39E-02 | 1.12E-01 |
| HG-203 | 279.19 | 77.30 | 1.72E-01 | 1.72E-01 | -2.54E-02 | 8.26E-02 |
| BI-207 | 569.67 | 97.72 | 1.04E-01 | 1.04E-01 | 3.63E-02 | 4.90E-02 |
| | 1063.62 | 74.90 | 1.73E-01 | | 7.46E-02 | 7.98E-02 |
| + TL-208 | 583.14 | * 30.22 | 3.49E-01 | 5.26E-02 | 1.35E+00 | 1.65E-01 |

Analysis Report for 1510085-13
CP5006S04-05

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| TL-208 | 860.37 | 4.48 | 3.13E+00 | 5.26E-02 | 2.16E+00 | 1.47E+00 |
| | 2614.66 * | 35.85 | 5.26E-02 | | 1.46E+00 | 0.00E+00 |
| BI-210M | 262.00 | 45.00 | 1.81E-01 | 1.81E-01 | 4.94E-02 | 8.73E-02 |
| | 300.00 | 23.00 | 3.84E-01 | | -1.85E+00 | 1.85E-01 |
| PB-210 | 46.50 | 4.25 | 2.78E+00 | 2.78E+00 | 3.34E+00 | 1.36E+00 |
| PB-211 | 404.84 | 2.90 | 3.07E+00 | 3.07E+00 | -2.40E+00 | 1.46E+00 |
| | 831.96 | 2.90 | 3.79E+00 | | -1.47E+00 | 1.75E+00 |
| + BI-212 | 727.17 * | 11.80 | 1.34E+00 | 1.34E+00 | 1.47E+00 | 6.39E-01 |
| | 1620.62 | 2.75 | 3.51E+00 | | 4.66E-01 | 1.50E+00 |
| + PB-212 | 238.63 * | 44.60 | 3.28E-01 | 3.28E-01 | 1.78E+00 | 1.61E-01 |
| | 300.09 * | 3.41 | 5.15E+00 | | 1.72E+00 | 2.52E+00 |
| + BI-214 | 609.31 * | 46.30 | 3.01E-01 | 3.01E-01 | 1.32E+00 | 1.44E-01 |
| | 1120.29 * | 15.10 | 1.23E+00 | | 1.22E+00 | 5.80E-01 |
| | 1764.49 * | 15.80 | 4.62E-01 | | 1.90E+00 | 1.84E-01 |
| | 2204.22 * | 4.98 | 3.09E+00 | | 2.84E+00 | 1.37E+00 |
| + PB-214 | 295.21 * | 19.19 | 8.98E-01 | 3.45E-01 | 1.96E+00 | 4.40E-01 |
| | 351.92 * | 37.19 | 3.45E-01 | | 1.69E+00 | 1.67E-01 |
| RN-219 | 401.80 | 6.50 | 1.36E+00 | 1.36E+00 | -5.97E-01 | 6.45E-01 |
| RA-223 | 323.87 | 3.88 | 2.19E+00 | 2.19E+00 | -1.22E+00 | 1.05E+00 |
| RA-224 | 240.98 | 3.95 | 4.28E+00 | 4.28E+00 | 2.48E+01 | 2.11E+00 |
| RA-225 | 40.00 | 31.00 | 1.75E+00 | 1.75E+00 | -1.10E+00 | 8.51E-01 |
| + RA-226 | 186.21 * | 3.28 | 3.96E+00 | 3.96E+00 | 4.46E+00 | 1.95E+00 |
| TH-227 | 50.10 | 8.40 | 1.16E+00 | 1.16E+00 | -1.92E+00 | 5.66E-01 |
| | 236.00 | 11.50 | 1.25E+00 | | 3.65E+00 | 6.14E-01 |
| | 256.20 | 6.30 | 1.26E+00 | | 4.10E-01 | 6.09E-01 |
| + AC-228 | 338.32 * | 11.40 | 8.86E-01 | 5.44E-01 | 2.18E+00 | 4.27E-01 |
| | 911.07 * | 27.70 | 5.44E-01 | | 1.69E+00 | 2.56E-01 |
| | 969.11 * | 16.60 | 8.88E-01 | | 1.62E+00 | 4.16E-01 |
| TH-230 | 48.44 | 16.90 | 6.52E-01 | 6.52E-01 | 4.67E-01 | 3.18E-01 |
| | 62.85 | 4.60 | 2.07E+00 | | 1.59E+00 | 1.02E+00 |
| | 67.67 | 0.37 | 2.26E+01 | | -1.44E+01 | 1.10E+01 |
| PA-231 | 283.67 | 1.60 | 5.20E+00 | 3.75E+00 | 7.28E-01 | 2.50E+00 |
| | 302.67 | 2.30 | 3.75E+00 | | -7.92E-02 | 1.80E+00 |
| TH-231 | 25.64 | 14.70 | 4.10E+00 | 1.18E+00 | -6.14E-01 | 2.00E+00 |
| | 84.21 | 6.40 | 1.18E+00 | | -7.47E-01 | 5.78E-01 |
| PA-233 | 311.98 | 38.60 | 4.19E-01 | 4.19E-01 | -1.43E-01 | 2.00E-01 |
| PA-234 | 131.20 | 20.40 | 3.25E-01 | 3.25E-01 | 1.88E-01 | 1.58E-01 |
| | 733.99 | 8.80 | 1.13E+00 | | -1.07E-01 | 5.23E-01 |
| | 946.00 | 12.00 | 9.29E-01 | | 2.53E-01 | 4.27E-01 |
| PA-234M | 1001.03 | 0.92 | 1.11E+01 | 1.11E+01 | -7.57E-01 | 5.06E+00 |
| + TH-234 | 63.29 * | 3.80 | 9.17E+00 | 9.17E+00 | 4.59E+00 | 4.56E+00 |
| U-235 | 143.76 | 10.50 | 6.12E-01 | 6.12E-01 | 6.38E-02 | 2.97E-01 |
| | 163.35 | 4.70 | 1.38E+00 | | 1.72E-01 | 6.68E-01 |
| | 205.31 | 4.70 | 1.75E+00 | | 8.76E-02 | 8.47E-01 |
| NP-237 | 86.50 | 12.60 | 6.72E-01 | 6.72E-01 | 4.93E-02 | 3.29E-01 |
| NP-239 | 106.10 | 22.70 | 1.85E+03 | 1.85E+03 | 1.02E+03 | 8.97E+02 |
| | 228.18 | 10.70 | 5.44E+03 | | 2.19E+03 | 2.63E+03 |
| | 277.60 | 14.10 | 4.20E+03 | | 7.35E+02 | 2.02E+03 |
| AM-241 | 59.54 | 35.90 | 2.61E-01 | 2.61E-01 | -2.00E-01 | 1.28E-01 |
| AM-243 | 74.67 | 66.00 | 1.82E-01 | 1.82E-01 | 4.44E-01 | 8.98E-02 |
| CM-243 | 209.75 | 3.29 | 2.70E+00 | 6.12E-01 | 2.12E+00 | 1.31E+00 |
| | 228.14 | 10.60 | 7.95E-01 | | 3.20E-01 | 3.85E-01 |
| | 277.60 | 14.00 | 6.12E-01 | | 1.07E-01 | 2.95E-01 |

Analysis Report for 1510085-13
CP5006S04-05

-
- + = Nuclide identified during the nuclide identification
 - * = Energy line found in the spectrum
 - > = MDA value not calculated
 - @ = Half-life too short to be able to perform the decay correction
-

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S04-05

Elapsed Live time: 3600
Elapsed Real Time: 3616

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 19 | 164 | 162 | 138 | 132 | 125 | 88 | 101 |
| 17: | 89 | 76 | 74 | 83 | 60 | 78 | 92 | 75 |
| 25: | 82 | 86 | 90 | 86 | 83 | 75 | 86 | 100 |
| 33: | 67 | 92 | 74 | 82 | 90 | 69 | 60 | 93 |
| 41: | 86 | 88 | 92 | 79 | 89 | 115 | 162 | 101 |
| 49: | 100 | 91 | 109 | 86 | 113 | 109 | 92 | 110 |
| 57: | 110 | 137 | 141 | 150 | 105 | 139 | 181 | 193 |
| 65: | 145 | 119 | 129 | 118 | 141 | 135 | 143 | 137 |
| 73: | 138 | 197 | 434 | 261 | 455 | 426 | 124 | 120 |
| 81: | 113 | 124 | 115 | 142 | 134 | 99 | 235 | 188 |
| 89: | 119 | 197 | 144 | 134 | 246 | 156 | 98 | 84 |
| 97: | 78 | 88 | 95 | 99 | 76 | 65 | 75 | 55 |
| 105: | 82 | 92 | 80 | 69 | 64 | 60 | 73 | 67 |
| 113: | 74 | 63 | 72 | 76 | 56 | 63 | 76 | 66 |
| 121: | 74 | 76 | 75 | 63 | 69 | 73 | 74 | 71 |
| 129: | 97 | 93 | 68 | 80 | 55 | 65 | 65 | 74 |
| 137: | 62 | 57 | 90 | 49 | 66 | 68 | 69 | 83 |
| 145: | 63 | 54 | 66 | 75 | 67 | 59 | 67 | 58 |
| 153: | 69 | 76 | 68 | 60 | 65 | 54 | 57 | 64 |
| 161: | 58 | 58 | 60 | 58 | 56 | 64 | 58 | 51 |
| 169: | 59 | 44 | 60 | 62 | 62 | 55 | 60 | 66 |
| 177: | 53 | 51 | 49 | 52 | 45 | 47 | 52 | 52 |
| 185: | 65 | 143 | 116 | 59 | 56 | 66 | 46 | 52 |
| 193: | 38 | 49 | 47 | 60 | 39 | 41 | 56 | 55 |
| 201: | 44 | 58 | 33 | 62 | 44 | 55 | 49 | 49 |
| 209: | 79 | 90 | 51 | 45 | 33 | 39 | 48 | 46 |
| 217: | 39 | 43 | 37 | 31 | 41 | 54 | 48 | 44 |
| 225: | 47 | 36 | 56 | 42 | 47 | 35 | 49 | 33 |
| 233: | 37 | 37 | 42 | 48 | 49 | 211 | 468 | 169 |
| 241: | 91 | 131 | 90 | 39 | 30 | 32 | 28 | 44 |
| 249: | 27 | 32 | 24 | 29 | 33 | 33 | 33 | 28 |
| 257: | 33 | 35 | 36 | 37 | 27 | 37 | 28 | 32 |
| 265: | 37 | 27 | 29 | 39 | 33 | 47 | 60 | 40 |
| 273: | 34 | 35 | 35 | 26 | 40 | 44 | 28 | 34 |
| 281: | 27 | 29 | 30 | 37 | 33 | 28 | 29 | 27 |
| 289: | 28 | 31 | 29 | 29 | 33 | 32 | 145 | 171 |
| 297: | 29 | 28 | 25 | 46 | 47 | 20 | 24 | 24 |
| 305: | 24 | 21 | 24 | 22 | 14 | 27 | 28 | 15 |
| 313: | 20 | 22 | 19 | 24 | 24 | 20 | 30 | 24 |
| 321: | 33 | 34 | 24 | 29 | 15 | 17 | 25 | 33 |
| 329: | 32 | 23 | 27 | 19 | 27 | 17 | 20 | 19 |
| 337: | 26 | 78 | 116 | 40 | 23 | 17 | 24 | 20 |
| 345: | 38 | 19 | 21 | 18 | 27 | 25 | 80 | 257 |
| 353: | 151 | 23 | 17 | 33 | 30 | 21 | 10 | 20 |
| 361: | 22 | 14 | 20 | 28 | 23 | 22 | 20 | 23 |

369: 17 19 17 19 21 27 15 22

Sample Title: CP5006S04-05

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 19 | 19 | 15 | 17 | 17 | 14 | 16 | 28 |
| 385: | 28 | 21 | 27 | 17 | 24 | 22 | 16 | 22 |
| 393: | 21 | 19 | 21 | 19 | 13 | 30 | 19 | 16 |
| 401: | 23 | 19 | 16 | 22 | 15 | 24 | 21 | 14 |
| 409: | 22 | 36 | 15 | 13 | 20 | 22 | 14 | 19 |
| 417: | 19 | 12 | 12 | 16 | 17 | 11 | 13 | 15 |
| 425: | 17 | 17 | 13 | 19 | 13 | 15 | 16 | 17 |
| 433: | 19 | 16 | 4 | 9 | 21 | 19 | 14 | 16 |
| 441: | 13 | 11 | 17 | 16 | 16 | 12 | 11 | 13 |
| 449: | 17 | 16 | 16 | 20 | 12 | 19 | 14 | 17 |
| 457: | 11 | 9 | 13 | 20 | 17 | 20 | 32 | 23 |
| 465: | 15 | 10 | 16 | 12 | 13 | 14 | 14 | 18 |
| 473: | 22 | 19 | 13 | 10 | 10 | 13 | 11 | 14 |
| 481: | 7 | 15 | 13 | 14 | 15 | 17 | 10 | 6 |
| 489: | 12 | 17 | 8 | 14 | 7 | 13 | 13 | 8 |
| 497: | 14 | 11 | 15 | 10 | 13 | 14 | 17 | 14 |
| 505: | 11 | 11 | 12 | 13 | 18 | 29 | 68 | 36 |
| 513: | 17 | 19 | 9 | 11 | 10 | 10 | 10 | 11 |
| 521: | 14 | 16 | 14 | 15 | 14 | 17 | 12 | 12 |
| 529: | 21 | 9 | 13 | 8 | 13 | 8 | 11 | 8 |
| 537: | 8 | 9 | 12 | 14 | 13 | 12 | 6 | 9 |
| 545: | 10 | 13 | 9 | 16 | 4 | 6 | 8 | 18 |
| 553: | 12 | 11 | 12 | 14 | 14 | 14 | 13 | 9 |
| 561: | 14 | 16 | 15 | 9 | 11 | 10 | 10 | 15 |
| 569: | 12 | 19 | 8 | 10 | 18 | 10 | 12 | 12 |
| 577: | 14 | 20 | 10 | 11 | 8 | 33 | 104 | 82 |
| 585: | 13 | 8 | 9 | 13 | 8 | 14 | 13 | 11 |
| 593: | 11 | 16 | 8 | 17 | 13 | 11 | 12 | 12 |
| 601: | 11 | 16 | 11 | 17 | 15 | 6 | 13 | 31 |
| 609: | 147 | 118 | 23 | 8 | 14 | 10 | 11 | 12 |
| 617: | 12 | 13 | 15 | 15 | 7 | 9 | 10 | 8 |
| 625: | 10 | 11 | 12 | 10 | 12 | 9 | 12 | 10 |
| 633: | 9 | 16 | 6 | 13 | 17 | 9 | 16 | 4 |
| 641: | 14 | 5 | 12 | 6 | 7 | 4 | 6 | 9 |
| 649: | 6 | 14 | 7 | 15 | 8 | 13 | 7 | 7 |
| 657: | 6 | 9 | 8 | 16 | 13 | 10 | 10 | 10 |
| 665: | 10 | 18 | 7 | 17 | 9 | 11 | 6 | 11 |
| 673: | 9 | 9 | 4 | 8 | 4 | 20 | 10 | 9 |
| 681: | 11 | 15 | 6 | 4 | 10 | 8 | 13 | 13 |
| 689: | 12 | 9 | 11 | 10 | 13 | 13 | 9 | 8 |
| 697: | 15 | 9 | 12 | 12 | 9 | 14 | 11 | 14 |
| 705: | 6 | 6 | 8 | 9 | 10 | 15 | 10 | 4 |
| 713: | 14 | 4 | 11 | 13 | 10 | 8 | 9 | 9 |
| 721: | 5 | 10 | 10 | 9 | 12 | 10 | 28 | 23 |
| 729: | 10 | 4 | 15 | 4 | 7 | 12 | 4 | 7 |
| 737: | 6 | 8 | 6 | 7 | 8 | 13 | 13 | 12 |
| 745: | 5 | 5 | 12 | 5 | 7 | 9 | 3 | 2 |
| 753: | 9 | 12 | 8 | 6 | 12 | 13 | 7 | 11 |
| 761: | 8 | 14 | 11 | 7 | 8 | 15 | 1 | 16 |
| 769: | 17 | 7 | 8 | 17 | 12 | 9 | 5 | 5 |
| 777: | 13 | 7 | 7 | 11 | 10 | 9 | 5 | 17 |
| 785: | 10 | 16 | 12 | 11 | 5 | 7 | 12 | 13 |
| 793: | 9 | 14 | 26 | 6 | 2 | 10 | 8 | 8 |

801: 9 6 9 7 6 9 6 4

Sample Title: CP5006S04-05

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 5 | 7 | 9 | 4 | 11 | 1 | 8 | 7 |
| 817: | 7 | 7 | 12 | 8 | 8 | 6 | 8 | 8 |
| 825: | 4 | 9 | 7 | 7 | 9 | 10 | 8 | 9 |
| 833: | 4 | 7 | 7 | 9 | 14 | 6 | 6 | 5 |
| 841: | 10 | 10 | 6 | 6 | 6 | 7 | 10 | 8 |
| 849: | 1 | 5 | 13 | 8 | 8 | 5 | 9 | 6 |
| 857: | 12 | 8 | 10 | 14 | 19 | 9 | 14 | 10 |
| 865: | 6 | 7 | 5 | 4 | 4 | 5 | 4 | 7 |
| 873: | 1 | 9 | 4 | 7 | 8 | 14 | 10 | 7 |
| 881: | 5 | 9 | 11 | 7 | 5 | 7 | 5 | 5 |
| 889: | 6 | 8 | 11 | 12 | 4 | 3 | 9 | 5 |
| 897: | 4 | 5 | 8 | 7 | 4 | 7 | 9 | 6 |
| 905: | 4 | 6 | 5 | 4 | 9 | 28 | 80 | 52 |
| 913: | 15 | 5 | 4 | 9 | 7 | 6 | 10 | 7 |
| 921: | 3 | 7 | 3 | 4 | 7 | 10 | 8 | 4 |
| 929: | 7 | 8 | 7 | 5 | 5 | 10 | 5 | 8 |
| 937: | 4 | 5 | 7 | 4 | 6 | 3 | 4 | 4 |
| 945: | 7 | 2 | 8 | 9 | 10 | 5 | 6 | 8 |
| 953: | 6 | 6 | 5 | 8 | 6 | 5 | 8 | 7 |
| 961: | 3 | 3 | 7 | 11 | 24 | 14 | 12 | 29 |
| 969: | 37 | 26 | 5 | 7 | 3 | 2 | 1 | 4 |
| 977: | 6 | 7 | 11 | 4 | 4 | 9 | 5 | 2 |
| 985: | 7 | 6 | 6 | 7 | 9 | 8 | 11 | 8 |
| 993: | 4 | 3 | 6 | 5 | 5 | 3 | 5 | 4 |
| 1001: | 6 | 7 | 5 | 3 | 3 | 7 | 8 | 10 |
| 1009: | 10 | 6 | 6 | 5 | 10 | 5 | 7 | 5 |
| 1017: | 6 | 5 | 5 | 2 | 6 | 10 | 3 | 4 |
| 1025: | 5 | 9 | 6 | 5 | 7 | 6 | 2 | 7 |
| 1033: | 6 | 4 | 4 | 6 | 5 | 2 | 6 | 2 |
| 1041: | 12 | 5 | 7 | 6 | 10 | 1 | 3 | 8 |
| 1049: | 2 | 5 | 4 | 7 | 8 | 5 | 8 | 3 |
| 1057: | 7 | 4 | 4 | 9 | 5 | 6 | 5 | 7 |
| 1065: | 8 | 9 | 6 | 5 | 11 | 9 | 5 | 6 |
| 1073: | 3 | 9 | 5 | 8 | 4 | 8 | 6 | 5 |
| 1081: | 6 | 3 | 7 | 8 | 3 | 6 | 3 | 6 |
| 1089: | 7 | 9 | 4 | 4 | 7 | 7 | 9 | 9 |
| 1097: | 3 | 7 | 5 | 5 | 4 | 7 | 8 | 7 |
| 1105: | 6 | 7 | 2 | 9 | 1 | 9 | 3 | 8 |
| 1113: | 8 | 5 | 7 | 5 | 6 | 10 | 14 | 32 |
| 1121: | 23 | 8 | 6 | 5 | 9 | 5 | 7 | 1 |
| 1129: | 9 | 5 | 6 | 2 | 4 | 4 | 9 | 5 |
| 1137: | 6 | 8 | 1 | 9 | 4 | 8 | 9 | 6 |
| 1145: | 5 | 8 | 5 | 5 | 5 | 10 | 4 | 7 |
| 1153: | 3 | 9 | 7 | 5 | 9 | 3 | 11 | 3 |
| 1161: | 2 | 8 | 8 | 7 | 5 | 3 | 3 | 6 |
| 1169: | 7 | 3 | 7 | 5 | 5 | 13 | 5 | 8 |
| 1177: | 5 | 5 | 5 | 10 | 7 | 5 | 7 | 5 |
| 1185: | 8 | 7 | 8 | 6 | 3 | 3 | 4 | 5 |
| 1193: | 11 | 8 | 6 | 10 | 4 | 4 | 8 | 3 |
| 1201: | 7 | 6 | 7 | 8 | 5 | 5 | 5 | 8 |
| 1209: | 5 | 7 | 6 | 12 | 5 | 12 | 6 | 7 |
| 1217: | 6 | 4 | 8 | 7 | 5 | 6 | 9 | 8 |
| 1225: | 7 | 9 | 8 | 7 | 4 | 11 | 8 | 7 |

1233: 8 10 12 7 6 20 12 8

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| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|---|----|-----|-----|----|----|---|
| 1241: | 14 | 5 | 7 | 5 | 8 | 5 | 8 | 4 |
| 1249: | 3 | 5 | 4 | 7 | 6 | 4 | 3 | 5 |
| 1257: | 2 | 6 | 6 | 5 | 4 | 6 | 5 | 6 |
| 1265: | 7 | 4 | 2 | 5 | 6 | 4 | 7 | 4 |
| 1273: | 7 | 5 | 5 | 3 | 2 | 3 | 1 | 4 |
| 1281: | 11 | 6 | 7 | 4 | 3 | 8 | 4 | 1 |
| 1289: | 2 | 6 | 4 | 6 | 0 | 1 | 4 | 0 |
| 1297: | 6 | 3 | 6 | 6 | 3 | 3 | 4 | 3 |
| 1305: | 1 | 3 | 4 | 2 | 4 | 1 | 3 | 4 |
| 1313: | 11 | 1 | 1 | 5 | 3 | 2 | 7 | 2 |
| 1321: | 4 | 7 | 6 | 7 | 2 | 2 | 2 | 4 |
| 1329: | 2 | 3 | 4 | 5 | 5 | 5 | 1 | 3 |
| 1337: | 3 | 2 | 3 | 1 | 0 | 8 | 2 | 4 |
| 1345: | 4 | 5 | 3 | 3 | 2 | 3 | 4 | 3 |
| 1353: | 4 | 3 | 0 | 7 | 2 | 2 | 5 | 2 |
| 1361: | 3 | 2 | 4 | 2 | 0 | 1 | 3 | 4 |
| 1369: | 0 | 2 | 3 | 4 | 2 | 3 | 3 | 3 |
| 1377: | 4 | 9 | 5 | 4 | 2 | 4 | 3 | 3 |
| 1385: | 3 | 1 | 0 | 4 | 1 | 3 | 1 | 2 |
| 1393: | 2 | 3 | 3 | 4 | 4 | 2 | 2 | 2 |
| 1401: | 4 | 4 | 2 | 1 | 1 | 4 | 4 | 4 |
| 1409: | 3 | 2 | 2 | 3 | 0 | 0 | 3 | 1 |
| 1417: | 1 | 3 | 2 | 4 | 1 | 2 | 1 | 1 |
| 1425: | 3 | 0 | 2 | 4 | 1 | 3 | 2 | 2 |
| 1433: | 0 | 2 | 2 | 0 | 1 | 2 | 1 | 3 |
| 1441: | 4 | 2 | 0 | 2 | 3 | 4 | 3 | 6 |
| 1449: | 4 | 3 | 6 | 1 | 3 | 0 | 3 | 3 |
| 1457: | 2 | 5 | 33 | 143 | 211 | 78 | 11 | 1 |
| 1465: | 1 | 0 | 2 | 0 | 0 | 2 | 0 | 2 |
| 1473: | 5 | 3 | 3 | 1 | 1 | 2 | 0 | 1 |
| 1481: | 3 | 3 | 2 | 3 | 1 | 3 | 1 | 2 |
| 1489: | 2 | 4 | 1 | 2 | 2 | 3 | 0 | 4 |
| 1497: | 2 | 2 | 0 | 0 | 1 | 4 | 1 | 2 |
| 1505: | 1 | 2 | 0 | 2 | 3 | 4 | 2 | 2 |
| 1513: | 2 | 1 | 1 | 5 | 1 | 0 | 2 | 0 |
| 1521: | 1 | 4 | 1 | 0 | 1 | 2 | 2 | 2 |
| 1529: | 4 | 1 | 0 | 0 | 0 | 3 | 0 | 0 |
| 1537: | 2 | 4 | 4 | 3 | 1 | 3 | 5 | 1 |
| 1545: | 2 | 3 | 1 | 0 | 2 | 1 | 2 | 1 |
| 1553: | 1 | 0 | 2 | 1 | 2 | 1 | 1 | 0 |
| 1561: | 1 | 3 | 2 | 0 | 0 | 2 | 0 | 1 |
| 1569: | 0 | 2 | 2 | 1 | 0 | 1 | 1 | 0 |
| 1577: | 1 | 2 | 3 | 1 | 3 | 0 | 3 | 1 |
| 1585: | 1 | 1 | 5 | 5 | 1 | 2 | 1 | 7 |
| 1593: | 3 | 4 | 2 | 0 | 1 | 1 | 0 | 2 |
| 1601: | 1 | 1 | 0 | 0 | 4 | 2 | 0 | 2 |
| 1609: | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| 1617: | 0 | 2 | 3 | 0 | 2 | 3 | 1 | 0 |
| 1625: | 2 | 1 | 0 | 2 | 2 | 5 | 2 | 5 |
| 1633: | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 1 |
| 1641: | 0 | 1 | 1 | 1 | 2 | 4 | 1 | 4 |
| 1649: | 1 | 0 | 1 | 1 | 3 | 2 | 0 | 0 |
| 1657: | 3 | 2 | 0 | 2 | 3 | 1 | 3 | 1 |

1665: 0 3 0 0 0 2 1 0

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| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1673: | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 2 |
| 1681: | 0 | 0 | 1 | 3 | 2 | 0 | 1 | 1 |
| 1689: | 4 | 0 | 1 | 0 | 1 | 1 | 4 | 1 |
| 1697: | 0 | 4 | 0 | 3 | 0 | 3 | 1 | 1 |
| 1705: | 1 | 2 | 0 | 1 | 1 | 0 | 3 | 1 |
| 1713: | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 1721: | 1 | 0 | 3 | 0 | 1 | 0 | 0 | 3 |
| 1729: | 3 | 11 | 4 | 2 | 0 | 3 | 0 | 1 |
| 1737: | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |
| 1745: | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 |
| 1753: | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 2 |
| 1761: | 1 | 2 | 10 | 23 | 16 | 3 | 2 | 0 |
| 1769: | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 1 |
| 1777: | 0 | 1 | 0 | 2 | 1 | 0 | 2 | 1 |
| 1785: | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 2 |
| 1793: | 3 | 0 | 1 | 1 | 1 | 3 | 3 | 1 |
| 1801: | 1 | 1 | 2 | 2 | 0 | 1 | 0 | 2 |
| 1809: | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 2 |
| 1817: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1825: | 1 | 0 | 0 | 1 | 2 | 3 | 1 | 0 |
| 1833: | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 0 |
| 1841: | 0 | 1 | 0 | 3 | 1 | 1 | 2 | 0 |
| 1849: | 2 | 2 | 2 | 2 | 1 | 2 | 0 | 0 |
| 1857: | 1 | 2 | 1 | 2 | 1 | 2 | 0 | 0 |
| 1865: | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 |
| 1873: | 0 | 1 | 0 | 0 | 2 | 0 | 2 | 2 |
| 1881: | 2 | 1 | 1 | 0 | 1 | 2 | 1 | 1 |
| 1889: | 1 | 0 | 1 | 2 | 1 | 2 | 0 | 1 |
| 1897: | 0 | 1 | 3 | 1 | 0 | 0 | 2 | 2 |
| 1905: | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 2 |
| 1913: | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 0 |
| 1921: | 0 | 2 | 0 | 1 | 1 | 3 | 1 | 2 |
| 1929: | 1 | 0 | 1 | 0 | 1 | 2 | 1 | 0 |
| 1937: | 0 | 0 | 1 | 3 | 0 | 1 | 1 | 1 |
| 1945: | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 |
| 1953: | 1 | 0 | 2 | 1 | 2 | 1 | 3 | 0 |
| 1961: | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 1 |
| 1969: | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 2 |
| 1977: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 |
| 1985: | 0 | 1 | 1 | 1 | 0 | 2 | 0 | 1 |
| 1993: | 0 | 0 | 2 | 1 | 0 | 1 | 3 | 0 |
| 2001: | 2 | 2 | 0 | 1 | 0 | 2 | 0 | 0 |
| 2009: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2017: | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 |
| 2025: | 4 | 0 | 1 | 0 | 1 | 1 | 2 | 6 |
| 2033: | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 |
| 2041: | 2 | 0 | 1 | 1 | 0 | 2 | 1 | 0 |
| 2049: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 |
| 2057: | 0 | 2 | 1 | 1 | 3 | 0 | 0 | 1 |
| 2065: | 1 | 1 | 0 | 2 | 2 | 0 | 0 | 1 |
| 2073: | 0 | 3 | 0 | 0 | 1 | 4 | 0 | 1 |
| 2081: | 2 | 2 | 0 | 0 | 1 | 1 | 0 | 2 |
| 2089: | 2 | 2 | 2 | 0 | 1 | 1 | 1 | 1 |

2097: 0 2 0 2 0 2 2 3

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| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 2105: | 1 | 2 | 0 | 1 | 0 | 1 | 1 | 0 |
| 2113: | 2 | 1 | 0 | 0 | 2 | 3 | 1 | 0 |
| 2121: | 1 | 0 | 3 | 0 | 1 | 0 | 1 | 0 |
| 2129: | 0 | 1 | 3 | 2 | 1 | 1 | 0 | 0 |
| 2137: | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 0 |
| 2145: | 2 | 1 | 0 | 1 | 3 | 2 | 3 | 0 |
| 2153: | 0 | 3 | 1 | 1 | 1 | 2 | 1 | 0 |
| 2161: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2169: | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 |
| 2177: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2185: | 2 | 0 | 1 | 0 | 2 | 2 | 1 | 0 |
| 2193: | 0 | 0 | 0 | 2 | 1 | 2 | 2 | 2 |
| 2201: | 2 | 3 | 5 | 9 | 7 | 2 | 2 | 0 |
| 2209: | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| 2217: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 2225: | 1 | 5 | 0 | 1 | 0 | 2 | 1 | 0 |
| 2233: | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 1 |
| 2241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2249: | 2 | 1 | 2 | 0 | 0 | 2 | 0 | 0 |
| 2257: | 1 | 2 | 0 | 0 | 2 | 2 | 0 | 2 |
| 2265: | 0 | 0 | 1 | 2 | 2 | 1 | 0 | 1 |
| 2273: | 2 | 2 | 2 | 0 | 1 | 0 | 1 | 1 |
| 2281: | 1 | 1 | 2 | 2 | 1 | 0 | 0 | 2 |
| 2289: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2297: | 3 | 1 | 0 | 2 | 1 | 1 | 0 | 1 |
| 2305: | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| 2313: | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 2 |
| 2321: | 0 | 2 | 3 | 0 | 0 | 2 | 0 | 1 |
| 2329: | 1 | 1 | 0 | 3 | 2 | 0 | 0 | 1 |
| 2337: | 1 | 3 | 0 | 2 | 1 | 1 | 1 | 2 |
| 2345: | 1 | 1 | 3 | 0 | 3 | 0 | 2 | 1 |
| 2353: | 3 | 2 | 2 | 1 | 0 | 0 | 1 | 2 |
| 2361: | 1 | 1 | 4 | 2 | 0 | 2 | 1 | 0 |
| 2369: | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 0 |
| 2377: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2385: | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 1 |
| 2393: | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| 2401: | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 |
| 2409: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2417: | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 2425: | 1 | 1 | 2 | 0 | 0 | 1 | 0 | 0 |
| 2433: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2441: | 0 | 2 | 1 | 0 | 3 | 1 | 2 | 3 |
| 2449: | 5 | 1 | 1 | 2 | 0 | 1 | 0 | 1 |
| 2457: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2465: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 2473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2481: | 2 | 0 | 3 | 1 | 0 | 0 | 1 | 2 |
| 2489: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 2497: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 2505: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2513: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2521: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

2529: 1 0 0 0 0 0 0 0 0

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| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2537: | 0 | 0 | 1 | 0 | 2 | 2 | 2 | 0 |
| 2545: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2553: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2561: | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| 2569: | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 |
| 2577: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2585: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2593: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2601: | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2609: | 0 | 0 | 1 | 7 | 13 | 24 | 23 | 7 |
| 2617: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 2625: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2633: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2641: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2649: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2665: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2681: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2689: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2697: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2705: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2713: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 2721: | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2737: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2745: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2753: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2769: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2793: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2809: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2817: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2825: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2833: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2841: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2849: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2857: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2881: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2889: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2897: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2913: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2921: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2929: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2953: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

2961: 0 0 0 0 0 0 0 0 0

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| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2977: | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 |
| 2985: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2993: | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3001: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 3009: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3017: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3025: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3041: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3049: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3057: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3081: | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| 3089: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3097: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3153: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3161: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 3201: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3217: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3233: | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3257: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3297: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3361: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3377: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3385: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

3393: 1 0 1 1 0 1 0 0

Sample Title: CP5006S04-05

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 3401: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3425: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3465: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3473: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3545: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3609: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3657: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3721: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3793: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

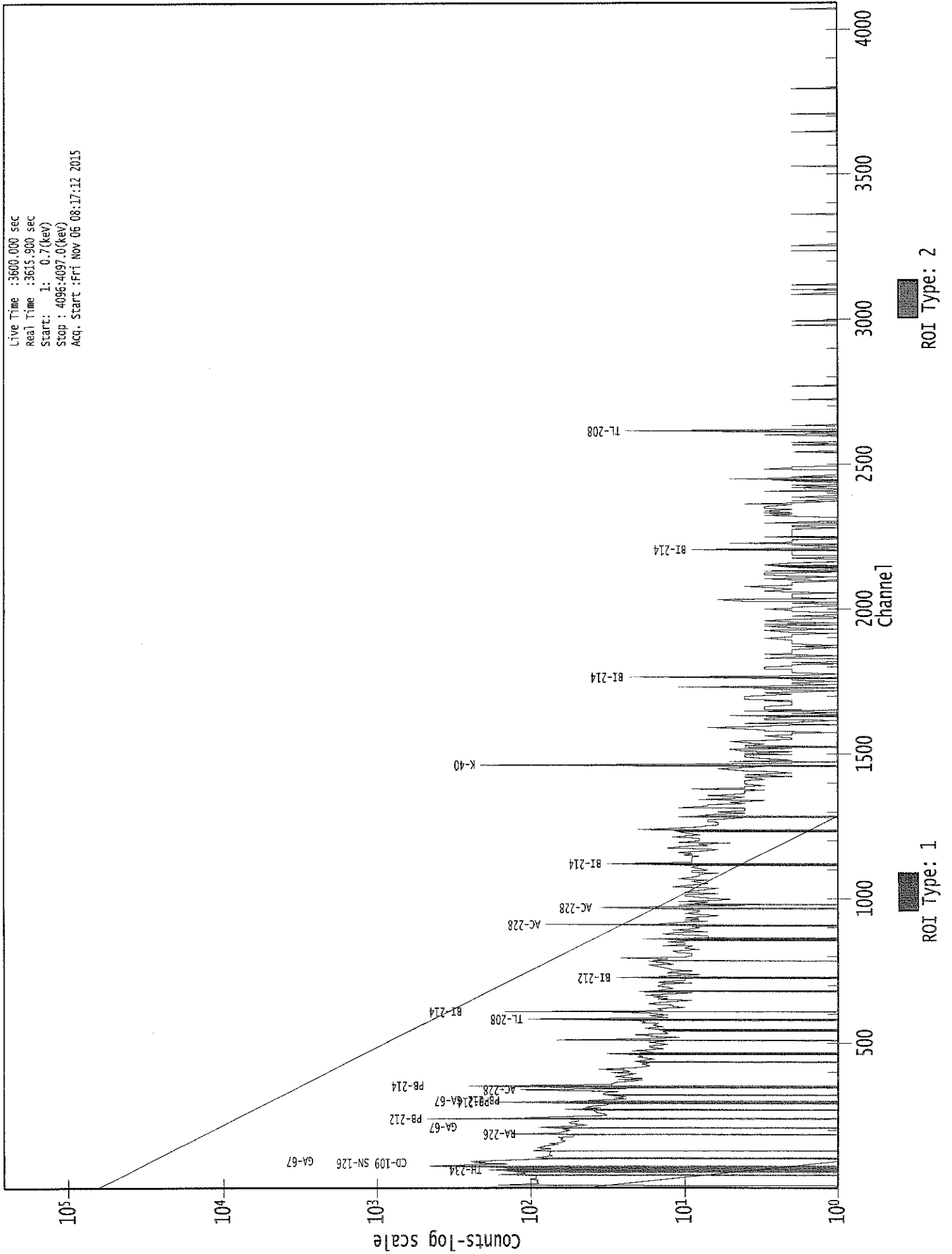
3825: 0 0 0 0 0 0 0 0

Sample Title: CP5006S04-05

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3881: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3889: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3985: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

0000029244.CNF

Live Time : 3600.000 sec
Real Time : 3615.900 sec
Start: 1: 0.7 (keV)
Stop : 4096.4097.0 (keV)
Acq. Start : Fri Nov 06 08:17:12 2015



Analysis Report for 1510085-14
CP5006S07-08

←
11/6

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-14
Sample Description : CP5006S07-08
Sample Type : SOIL

Sample Size : 4.933E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:41:57AM
Acquisition Started : 11/6/2015 8:17:18AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3639.1 seconds

Dead Time : 1.07 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 15 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 29245

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-14
CP5006S07-08

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 9:17:59AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096
 Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 46.37 | 45.62 | 0.0000 | 0.00 |
| 2 | 62.93 | 62.19 | 0.0000 | 0.00 |
| 3 | 75.90 | 75.16 | 0.0000 | 0.00 |
| 4 | 88.23 | 87.50 | 0.0000 | 0.00 |
| 5 | 92.83 | 92.11 | 0.0000 | 0.00 |
| 6 | 129.35 | 128.64 | 0.0000 | 0.00 |
| 7 | 186.95 | 186.27 | 0.0000 | 0.00 |
| 8 | 218.59 | 217.91 | 0.0000 | 0.00 |
| 9 | 239.22 | 238.56 | 0.0000 | 0.00 |
| 10 | 269.10 | 268.45 | 0.0000 | 0.00 |
| 11 | 277.35 | 276.71 | 0.0000 | 0.00 |
| 12 | 294.96 | 294.32 | 0.0000 | 0.00 |
| 13 | 351.68 | 351.07 | 0.0000 | 0.00 |
| 14 | 482.33 | 481.78 | 0.0000 | 0.00 |
| 15 | 511.33 | 510.79 | 0.0000 | 0.00 |
| 16 | 583.12 | 582.62 | 0.0000 | 0.00 |
| 17 | 609.34 | 608.85 | 0.0000 | 0.00 |
| 18 | 678.66 | 678.20 | 0.0000 | 0.00 |
| 19 | 726.92 | 726.49 | 0.0000 | 0.00 |
| 20 | 749.99 | 749.57 | 0.0000 | 0.00 |
| 21 | 767.70 | 767.28 | 0.0000 | 0.00 |
| 22 | 795.12 | 794.72 | 0.0000 | 0.00 |
| 23 | 882.20 | 881.84 | 0.0000 | 0.00 |
| 24 | 904.06 | 903.72 | 0.0000 | 0.00 |
| 25 | 911.30 | 910.96 | 0.0000 | 0.00 |
| 26 | 967.73 | 967.42 | 0.0000 | 0.00 |
| 27 | 1036.98 | 1036.71 | 0.0000 | 0.00 |
| 28 | 1119.97 | 1119.74 | 0.0000 | 0.00 |
| 29 | 1235.51 | 1235.35 | 0.0000 | 0.00 |
| 30 | 1256.75 | 1256.60 | 0.0000 | 0.00 |
| 31 | 1303.92 | 1303.80 | 0.0000 | 0.00 |
| 32 | 1405.81 | 1405.75 | 0.0000 | 0.00 |
| 33 | 1445.82 | 1445.79 | 0.0000 | 0.00 |
| 34 | 1461.10 | 1461.07 | 0.0000 | 0.00 |
| 35 | 1542.87 | 1542.89 | 0.0000 | 0.00 |
| 36 | 1551.04 | 1551.07 | 0.0000 | 0.00 |
| 37 | 1575.77 | 1575.81 | 0.0000 | 0.00 |
| 38 | 1582.59 | 1582.64 | 0.0000 | 0.00 |
| 39 | 1605.37 | 1605.43 | 0.0000 | 0.00 |
| 40 | 1669.19 | 1669.29 | 0.0000 | 0.00 |
| 41 | 1764.41 | 1764.57 | 0.0000 | 0.00 |
| 42 | 2103.01 | 2103.41 | 0.0000 | 0.00 |

Analysis Report for 1510085-14
CP5006S07-08

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 2278.22 | 2278.74 | 0.0000 | 0.00 |
| 44 | 2615.15 | 2615.92 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-14

CP5006S07-08

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 9:17:59AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 46.37 | 42 - | 49 | 45.62 | 1.02E+02 | 77.49 | 9.34E+02 | 3.25 |
| 2 | 62.93 | 58 - | 67 | 62.19 | 1.50E+02 | 108.26 | 1.60E+03 | 3.13 |
| 3 | 75.90 | 68 - | 81 | 75.16 | 8.57E+02 | 155.58 | 2.30E+03 | 4.46 |
| M 4 | 88.23 | 82 - | 97 | 87.50 | 2.12E+02 | 117.84 | 1.65E+03 | 3.78 |
| m 5 | 92.83 | 82 - | 97 | 92.11 | 2.05E+02 | 99.17 | 1.32E+03 | 2.91 |
| 6 | 129.35 | 125 - | 133 | 128.64 | 7.81E+01 | 79.42 | 9.22E+02 | 3.21 |
| 7 | 186.95 | 180 - | 194 | 186.27 | 2.16E+02 | 103.92 | 1.03E+03 | 3.33 |
| 8 | 218.59 | 215 - | 220 | 217.91 | 4.57E+01 | 41.19 | 3.03E+02 | 2.32 |
| 9 | 239.22 | 233 - | 245 | 238.56 | 5.55E+02 | 89.42 | 6.71E+02 | 2.52 |
| 10 | 269.10 | 262 - | 273 | 268.45 | 5.77E+01 | 66.00 | 5.15E+02 | 7.81 |
| 11 | 277.35 | 274 - | 282 | 276.71 | 4.17E+01 | 51.55 | 3.85E+02 | 1.99 |
| 12 | 294.96 | 289 - | 298 | 294.32 | 1.08E+02 | 59.85 | 4.51E+02 | 2.71 |
| 13 | 351.68 | 345 - | 357 | 351.07 | 2.56E+02 | 65.46 | 3.85E+02 | 2.38 |
| 14 | 482.33 | 475 - | 488 | 481.78 | 3.64E+01 | 45.73 | 2.13E+02 | 5.23 |
| 15 | 511.33 | 505 - | 516 | 510.79 | 9.33E+01 | 42.33 | 1.69E+02 | 2.06 |
| 16 | 583.12 | 577 - | 590 | 582.62 | 1.27E+02 | 44.35 | 1.67E+02 | 2.68 |
| 17 | 609.34 | 604 - | 613 | 608.85 | 1.45E+02 | 41.68 | 1.66E+02 | 2.76 |
| 18 | 678.66 | 674 - | 682 | 678.20 | 3.20E+01 | 25.62 | 8.20E+01 | 5.36 |
| 19 | 726.92 | 723 - | 729 | 726.49 | 2.99E+01 | 23.27 | 7.61E+01 | 2.22 |
| 20 | 749.99 | 747 - | 753 | 749.57 | 1.93E+01 | 17.64 | 4.34E+01 | 3.64 |
| M 21 | 767.70 | 764 - | 799 | 767.28 | 2.22E+01 | 19.17 | 4.90E+01 | 3.10 |
| m 22 | 795.12 | 764 - | 799 | 794.72 | 3.41E+01 | 23.57 | 6.30E+01 | 3.11 |
| 23 | 882.20 | 879 - | 884 | 881.84 | 1.40E+01 | 12.08 | 1.80E+01 | 2.64 |
| M 24 | 904.06 | 888 - | 916 | 903.72 | 2.04E+01 | 22.37 | 7.49E+01 | 3.13 |
| m 25 | 911.30 | 888 - | 916 | 910.96 | 8.86E+01 | 28.57 | 7.80E+01 | 3.14 |
| 26 | 967.73 | 961 - | 973 | 967.42 | 6.94E+01 | 33.25 | 9.71E+01 | 2.59 |
| 27 | 1036.98 | 1033 - | 1040 | 1036.71 | 1.75E+01 | 16.00 | 2.90E+01 | 4.87 |
| 28 | 1119.97 | 1113 - | 1125 | 1119.74 | 4.37E+01 | 29.89 | 8.46E+01 | 2.69 |
| 29 | 1235.51 | 1228 - | 1239 | 1235.35 | 3.47E+01 | 23.92 | 5.46E+01 | 2.23 |
| 30 | 1256.75 | 1250 - | 1262 | 1256.60 | 2.34E+01 | 21.72 | 4.13E+01 | 8.86 |
| 31 | 1303.92 | 1300 - | 1307 | 1303.80 | 2.14E+01 | 11.49 | 7.28E+00 | 4.81 |
| 32 | 1405.81 | 1400 - | 1411 | 1405.75 | 1.99E+01 | 14.97 | 1.82E+01 | 8.74 |
| 33 | 1445.82 | 1442 - | 1449 | 1445.79 | 1.06E+01 | 12.33 | 1.47E+01 | 3.05 |
| 34 | 1461.10 | 1454 - | 1465 | 1461.07 | 2.66E+02 | 35.44 | 2.40E+01 | 3.11 |
| 35 | 1542.87 | 1537 - | 1547 | 1542.89 | 7.50E+00 | 10.61 | 1.10E+01 | 6.68 |
| 36 | 1551.04 | 1548 - | 1554 | 1551.07 | 6.50E+00 | 8.03 | 7.00E+00 | 2.12 |
| 37 | 1575.77 | 1572 - | 1578 | 1575.81 | 6.50E+00 | 8.03 | 7.00E+00 | 1.14 |
| 38 | 1582.59 | 1580 - | 1585 | 1582.64 | 7.72E+00 | 6.71 | 2.56E+00 | 3.35 |
| 39 | 1605.37 | 1602 - | 1608 | 1605.43 | 5.50E+00 | 7.78 | 7.00E+00 | 2.83 |
| 40 | 1669.19 | 1667 - | 1672 | 1669.29 | 5.21E+00 | 6.08 | 3.57E+00 | 1.95 |

Analysis Report for 1510085-14

CP5006S07-08

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-------------|---------|---------------|---------------|----------------------|------------------|------------|
| 41 | 1764.41 | 1760 - 1770 | | 1764.57 | 2.80E+01 | 10.58 | 0.00E+00 | 3.90 |
| 42 | 2103.01 | 2099 - 2106 | | 2103.41 | 8.91E+00 | 7.75 | 4.18E+00 | 3.77 |
| 43 | 2278.22 | 2275 - 2282 | | 2278.74 | 6.89E+00 | 7.21 | 4.22E+00 | 1.66 |
| 44 | 2615.15 | 2611 - 2619 | | 2615.92 | 2.60E+01 | 11.50 | 4.04E+00 | 3.52 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 9:17:59AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level | |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|----------|
| 1 | 46.37 | 42 - | 49 | 1.02E+02 | 77.49 | 9.34E+02 | 6.15E+01 | |
| 2 | 62.93 | 58 - | 67 | 1.50E+02 | 108.26 | 1.60E+03 | 8.67E+01 | |
| 3 | 75.90 | 68 - | 81 | 8.57E+02 | 155.58 | 2.30E+03 | 1.18E+02 | |
| M | 4 | 88.23 | 82 - | 97 | 2.12E+02 | 117.84 | 1.65E+03 | 6.69E+01 |
| m | 5 | 92.83 | 82 - | 97 | 2.05E+02 | 99.17 | 1.32E+03 | 5.96E+01 |
| 6 | 129.35 | 125 - | 133 | 7.81E+01 | 79.42 | 9.22E+02 | 6.36E+01 | |
| 7 | 186.95 | 180 - | 194 | 2.16E+02 | 103.92 | 1.03E+03 | 8.19E+01 | |
| 8 | 218.59 | 215 - | 220 | 4.57E+01 | 41.19 | 3.03E+02 | 3.20E+01 | |
| 9 | 239.22 | 233 - | 245 | 5.55E+02 | 89.42 | 6.71E+02 | 6.25E+01 | |
| 10 | 269.10 | 262 - | 273 | 5.77E+01 | 66.00 | 5.15E+02 | 5.28E+01 | |
| 11 | 277.35 | 274 - | 282 | 4.17E+01 | 51.55 | 3.85E+02 | 4.10E+01 | |
| 12 | 294.96 | 289 - | 298 | 1.08E+02 | 59.85 | 4.51E+02 | 4.61E+01 | |
| 13 | 351.68 | 345 - | 357 | 2.56E+02 | 65.46 | 3.85E+02 | 4.69E+01 | |
| 14 | 482.33 | 475 - | 488 | 3.64E+01 | 45.73 | 2.13E+02 | 3.63E+01 | |
| 15 | 511.33 | 505 - | 516 | 9.33E+01 | 42.33 | 1.69E+02 | 3.10E+01 | |
| 16 | 583.12 | 577 - | 590 | 1.27E+02 | 44.35 | 1.67E+02 | 3.14E+01 | |
| 17 | 609.34 | 604 - | 613 | 1.45E+02 | 41.68 | 1.66E+02 | 2.80E+01 | |
| 18 | 678.66 | 674 - | 682 | 3.20E+01 | 25.62 | 8.20E+01 | 1.89E+01 | |
| 19 | 726.92 | 723 - | 729 | 2.99E+01 | 23.27 | 7.61E+01 | 1.69E+01 | |
| 20 | 749.99 | 747 - | 753 | 1.93E+01 | 17.64 | 4.34E+01 | 1.26E+01 | |
| M | 21 | 767.70 | 764 - | 799 | 2.22E+01 | 19.17 | 4.90E+01 | 1.15E+01 |
| m | 22 | 795.12 | 764 - | 799 | 3.41E+01 | 23.57 | 6.30E+01 | 1.30E+01 |
| 23 | 882.20 | 879 - | 884 | 1.40E+01 | 12.08 | 1.80E+01 | 7.80E+00 | |

Analysis Report for 1510085-14
CP5006S07-08

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| M | 24 | 904.06 | 888 - | 916 | 2.04E+01 | 22.37 | 7.49E+01 | 1.42E+01 |
| m | 25 | 911.30 | 888 - | 916 | 8.86E+01 | 28.57 | 7.80E+01 | 1.45E+01 |
| | 26 | 967.73 | 961 - | 973 | 6.94E+01 | 33.25 | 9.71E+01 | 2.37E+01 |
| | 27 | 1036.98 | 1033 - | 1040 | 1.75E+01 | 16.00 | 2.90E+01 | 1.12E+01 |
| | 28 | 1119.97 | 1113 - | 1125 | 4.37E+01 | 29.89 | 8.46E+01 | 2.20E+01 |
| | 29 | 1235.51 | 1228 - | 1239 | 3.47E+01 | 23.92 | 5.46E+01 | 1.71E+01 |
| | 30 | 1256.75 | 1250 - | 1262 | 2.34E+01 | 21.72 | 4.13E+01 | 1.60E+01 |
| | 31 | 1303.92 | 1300 - | 1307 | 2.14E+01 | 11.49 | 7.28E+00 | 5.61E+00 |
| | 32 | 1405.81 | 1400 - | 1411 | 1.99E+01 | 14.97 | 1.82E+01 | 9.88E+00 |
| | 33 | 1445.82 | 1442 - | 1449 | 1.06E+01 | 12.33 | 1.47E+01 | 8.60E+00 |
| | 34 | 1461.10 | 1454 - | 1465 | 2.66E+02 | 35.44 | 2.40E+01 | 1.14E+01 |
| | 35 | 1542.87 | 1537 - | 1547 | 7.50E+00 | 10.61 | 1.10E+01 | 7.47E+00 |
| | 36 | 1551.04 | 1548 - | 1554 | 6.50E+00 | 8.03 | 7.00E+00 | 5.10E+00 |
| | 37 | 1575.77 | 1572 - | 1578 | 6.50E+00 | 8.03 | 7.00E+00 | 5.10E+00 |
| | 38 | 1582.59 | 1580 - | 1585 | 7.72E+00 | 6.71 | 2.56E+00 | 3.09E+00 |
| | 39 | 1605.37 | 1602 - | 1608 | 5.50E+00 | 7.78 | 7.00E+00 | 5.10E+00 |
| | 40 | 1669.19 | 1667 - | 1672 | 5.21E+00 | 6.08 | 3.57E+00 | 3.30E+00 |
| | 41 | 1764.41 | 1760 - | 1770 | 2.80E+01 | 10.58 | 0.00E+00 | 0.00E+00 |
| | 42 | 2103.01 | 2099 - | 2106 | 8.91E+00 | 7.75 | 4.18E+00 | 4.06E+00 |
| | 43 | 2278.22 | 2275 - | 2282 | 6.89E+00 | 7.21 | 4.22E+00 | 4.06E+00 |
| | 44 | 2615.15 | 2611 - | 2619 | 2.60E+01 | 11.50 | 4.04E+00 | 4.37E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 9:17:59AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 1 | 46.37 | 42 - | 49 | 45.62 | 1.02E+02 | 77.49 | 9.34E+02 | PB-210 |
| 2 | 62.93 | 58 - | 67 | 62.19 | 1.50E+02 | 108.26 | 1.60E+03 | TH-230 TH-234 |
| 3 | 75.90 | 68 - | 81 | 75.16 | 8.57E+02 | 155.58 | 2.30E+03 | ..... |

Analysis Report for 1510085-14

CP5006S07-08

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| M | 4 | 88.23 | 82 - | 97 | 87.50 | 2.12E+02 | 117.84 | 1.65E+03 | LU-176 CD-109 SN-126 |
| m | 5 | 92.83 | 82 - | 97 | 92.11 | 2.05E+02 | 99.17 | 1.32E+03 | GA-67 |
| | 6 | 129.35 | 125 - | 133 | 128.64 | 7.81E+01 | 79.42 | 9.22E+02 | ..... |
| | 7 | 186.95 | 180 - | 194 | 186.27 | 2.16E+02 | 103.92 | 1.03E+03 | RA-226 |
| | 8 | 218.59 | 215 - | 220 | 217.91 | 4.57E+01 | 41.19 | 3.03E+02 | ..... |
| | 9 | 239.22 | 233 - | 245 | 238.56 | 5.55E+02 | 89.42 | 6.71E+02 | PB-212 |
| | 10 | 269.10 | 262 - | 273 | 268.45 | 5.77E+01 | 66.00 | 5.15E+02 | CS-135 |
| | 11 | 277.35 | 274 - | 282 | 276.71 | 4.17E+01 | 51.55 | 3.85E+02 | CM-243 NP-239 |
| | 12 | 294.96 | 289 - | 298 | 294.32 | 1.08E+02 | 59.85 | 4.51E+02 | PB-214 |
| | 13 | 351.68 | 345 - | 357 | 351.07 | 2.56E+02 | 65.46 | 3.85E+02 | PB-214 |
| | 14 | 482.33 | 475 - | 488 | 481.78 | 3.64E+01 | 45.73 | 2.13E+02 | ..... |
| | 15 | 511.33 | 505 - | 516 | 510.79 | 9.33E+01 | 42.33 | 1.69E+02 | ..... |
| | 16 | 583.12 | 577 - | 590 | 582.62 | 1.27E+02 | 44.35 | 1.67E+02 | TL-208 |
| | 17 | 609.34 | 604 - | 613 | 608.85 | 1.45E+02 | 41.68 | 1.66E+02 | BI-214 |
| | 18 | 678.66 | 674 - | 682 | 678.20 | 3.20E+01 | 25.62 | 8.20E+01 | ..... |
| | 19 | 726.92 | 723 - | 729 | 726.49 | 2.99E+01 | 23.27 | 7.61E+01 | BI-212 |
| | 20 | 749.99 | 747 - | 753 | 749.57 | 1.93E+01 | 17.64 | 4.34E+01 | ..... |
| M | 21 | 767.70 | 764 - | 799 | 767.28 | 2.22E+01 | 19.17 | 4.90E+01 | ..... |
| m | 22 | 795.12 | 764 - | 799 | 794.72 | 3.41E+01 | 23.57 | 6.30E+01 | CS-134 |
| | 23 | 882.20 | 879 - | 884 | 881.84 | 1.40E+01 | 12.08 | 1.80E+01 | ..... |
| M | 24 | 904.06 | 888 - | 916 | 903.72 | 2.04E+01 | 22.37 | 7.49E+01 | ..... |
| m | 25 | 911.30 | 888 - | 916 | 910.96 | 8.86E+01 | 28.57 | 7.80E+01 | AC-228 LU-172 |
| | 26 | 967.73 | 961 - | 973 | 967.42 | 6.94E+01 | 33.25 | 9.71E+01 | ..... |
| | 27 | 1036.98 | 1033 - | 1040 | 1036.71 | 1.75E+01 | 16.00 | 2.90E+01 | CO-56 |
| | 28 | 1119.97 | 1113 - | 1125 | 1119.74 | 4.37E+01 | 29.89 | 8.46E+01 | BI-214 SC-46 |
| | 29 | 1235.51 | 1228 - | 1239 | 1235.35 | 3.47E+01 | 23.92 | 5.46E+01 | CS-136 |
| | 30 | 1256.75 | 1250 - | 1262 | 1256.60 | 2.34E+01 | 21.72 | 4.13E+01 | ..... |
| | 31 | 1303.92 | 1300 - | 1307 | 1303.80 | 2.14E+01 | 11.49 | 7.28E+00 | ..... |
| | 32 | 1405.81 | 1400 - | 1411 | 1405.75 | 1.99E+01 | 14.97 | 1.82E+01 | ..... |
| | 33 | 1445.82 | 1442 - | 1449 | 1445.79 | 1.06E+01 | 12.33 | 1.47E+01 | ..... |
| | 34 | 1461.10 | 1454 - | 1465 | 1461.07 | 2.66E+02 | 35.44 | 2.40E+01 | K-40 |
| | 35 | 1542.87 | 1537 - | 1547 | 1542.89 | 7.50E+00 | 10.61 | 1.10E+01 | ..... |
| | 36 | 1551.04 | 1548 - | 1554 | 1551.07 | 6.50E+00 | 8.03 | 7.00E+00 | ..... |
| | 37 | 1575.77 | 1572 - | 1578 | 1575.81 | 6.50E+00 | 8.03 | 7.00E+00 | ..... |
| | 38 | 1582.59 | 1580 - | 1585 | 1582.64 | 7.72E+00 | 6.71 | 2.56E+00 | ..... |
| | 39 | 1605.37 | 1602 - | 1608 | 1605.43 | 5.50E+00 | 7.78 | 7.00E+00 | ..... |
| | 40 | 1669.19 | 1667 - | 1672 | 1669.29 | 5.21E+00 | 6.08 | 3.57E+00 | ..... |
| | 41 | 1764.41 | 1760 - | 1770 | 1764.57 | 2.80E+01 | 10.58 | 0.00E+00 | BI-214 |
| | 42 | 2103.01 | 2099 - | 2106 | 2103.41 | 8.91E+00 | 7.75 | 4.18E+00 | ..... |
| | 43 | 2278.22 | 2275 - | 2282 | 2278.74 | 6.89E+00 | 7.21 | 4.22E+00 | ..... |
| | 44 | 2615.15 | 2611 - | 2619 | 2615.92 | 2.60E+01 | 11.50 | 4.04E+00 | TL-208 |

Analysis Report for 1510085-14
CP5006S07-08

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 9:17:59AM

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|----------|--------------|---------------|----------------------|-----------------|------------------------|
| | 1 | 46.37 | 1.02E+02 | 77.49 | 2.63E-02 | 1.78E-03 |
| | 2 | 62.93 | 1.50E+02 | 108.26 | 2.33E-02 | 1.76E-03 |
| | 3 | 75.90 | 8.57E+02 | 155.58 | 2.13E-02 | 1.69E-03 |
| M | 4 | 88.23 | 2.12E+02 | 117.84 | 1.96E-02 | 1.63E-03 |
| m | 5 | 92.83 | 2.05E+02 | 99.17 | 1.90E-02 | 1.62E-03 |
| | 6 | 129.35 | 7.81E+01 | 79.42 | 1.53E-02 | 1.47E-03 |
| | 7 | 186.95 | 2.16E+02 | 103.92 | 1.16E-02 | 1.15E-03 |
| | 8 | 218.59 | 4.57E+01 | 41.19 | 1.02E-02 | 1.05E-03 |
| | 9 | 239.22 | 5.55E+02 | 89.42 | 9.40E-03 | 9.85E-04 |
| | 10 | 269.10 | 5.77E+01 | 66.00 | 8.47E-03 | 8.92E-04 |
| | 11 | 277.35 | 4.17E+01 | 51.55 | 8.24E-03 | 8.67E-04 |
| | 12 | 294.96 | 1.08E+02 | 59.85 | 7.79E-03 | 8.43E-04 |
| | 13 | 351.68 | 2.56E+02 | 65.46 | 6.61E-03 | 7.80E-04 |
| | 14 | 482.33 | 3.64E+01 | 45.73 | 4.88E-03 | 6.03E-04 |
| | 15 | 511.33 | 9.33E+01 | 42.33 | 4.61E-03 | 5.61E-04 |
| | 16 | 583.12 | 1.27E+02 | 44.35 | 4.05E-03 | 4.55E-04 |
| | 17 | 609.34 | 1.45E+02 | 41.68 | 3.88E-03 | 4.17E-04 |
| | 18 | 678.66 | 3.20E+01 | 25.62 | 3.48E-03 | 3.31E-04 |
| | 19 | 726.92 | 2.99E+01 | 23.27 | 3.26E-03 | 3.04E-04 |
| | 20 | 749.99 | 1.93E+01 | 17.64 | 3.16E-03 | 2.91E-04 |
| M | 21 | 767.70 | 2.22E+01 | 19.17 | 3.09E-03 | 2.81E-04 |
| m | 22 | 795.12 | 3.41E+01 | 23.57 | 2.98E-03 | 2.66E-04 |
| | 23 | 882.20 | 1.40E+01 | 12.08 | 2.69E-03 | 2.17E-04 |
| M | 24 | 904.06 | 2.04E+01 | 22.37 | 2.63E-03 | 2.07E-04 |
| m | 25 | 911.30 | 8.86E+01 | 28.57 | 2.61E-03 | 2.06E-04 |
| | 26 | 967.73 | 6.94E+01 | 33.25 | 2.46E-03 | 1.99E-04 |
| | 27 | 1036.98 | 1.75E+01 | 16.00 | 2.31E-03 | 1.90E-04 |
| | 28 | 1119.97 | 4.37E+01 | 29.89 | 2.14E-03 | 1.79E-04 |
| | 29 | 1235.51 | 3.47E+01 | 23.92 | 1.96E-03 | 1.89E-04 |
| | 30 | 1256.75 | 2.34E+01 | 21.72 | 1.93E-03 | 1.95E-04 |
| | 31 | 1303.92 | 2.14E+01 | 11.49 | 1.86E-03 | 2.08E-04 |
| | 32 | 1405.81 | 1.99E+01 | 14.97 | 1.74E-03 | 2.00E-04 |
| | 33 | 1445.82 | 1.06E+01 | 12.33 | 1.70E-03 | 1.92E-04 |
| | 34 | 1461.10 | 2.66E+02 | 35.44 | 1.68E-03 | 1.89E-04 |

Analysis Report for 1510085-14
CP5006S07-08

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 35 | 1542.87 | 7.50E+00 | 10.61 | 1.61E-03 | 1.72E-04 |
| 36 | 1551.04 | 6.50E+00 | 8.03 | 1.60E-03 | 1.70E-04 |
| 37 | 1575.77 | 6.50E+00 | 8.03 | 1.58E-03 | 1.65E-04 |
| 38 | 1582.59 | 7.72E+00 | 6.71 | 1.57E-03 | 1.64E-04 |
| 39 | 1605.37 | 5.50E+00 | 7.78 | 1.55E-03 | 1.59E-04 |
| 40 | 1669.19 | 5.21E+00 | 6.08 | 1.50E-03 | 1.46E-04 |
| 41 | 1764.41 | 2.80E+01 | 10.58 | 1.43E-03 | 1.26E-04 |
| 42 | 2103.01 | 8.91E+00 | 7.75 | 1.25E-03 | 1.11E-04 |
| 43 | 2278.22 | 6.89E+00 | 7.21 | 1.18E-03 | 1.11E-04 |
| 44 | 2615.15 | 2.60E+01 | 11.50 | 1.07E-03 | 1.11E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 9:17:59AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. | |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|----------|
| 1 | 46.37 | 1.02E+02 | 77.49 | 2.00E+01 | 7.38E+00 | 8.19E+01 | 7.78E+01 | |
| 2 | 62.93 | 1.50E+02 | 108.26 | 5.38E+01 | 9.34E+00 | 9.61E+01 | 1.09E+02 | |
| 3 | 75.90 | 8.57E+02 | 155.58 | | | 8.57E+02 | 1.56E+02 | |
| M | 4 | 88.23 | 2.12E+02 | 117.84 | | 2.12E+02 | 1.18E+02 | |
| m | 5 | 92.83 | 2.05E+02 | 99.17 | 5.44E+01 | 8.36E+00 | 1.51E+02 | 9.95E+01 |
| 6 | 129.35 | 7.81E+01 | 79.42 | | | 7.81E+01 | 7.94E+01 | |
| 7 | 186.95 | 2.16E+02 | 103.92 | | | 2.16E+02 | 1.04E+02 | |
| 8 | 218.59 | 4.57E+01 | 41.19 | | | 4.57E+01 | 4.12E+01 | |
| 9 | 239.22 | 5.55E+02 | 89.42 | 1.09E+01 | 6.39E+00 | 5.44E+02 | 8.96E+01 | |
| 10 | 269.10 | 5.77E+01 | 66.00 | | | 5.77E+01 | 6.60E+01 | |
| 11 | 277.35 | 4.17E+01 | 51.55 | | | 4.17E+01 | 5.15E+01 | |
| 12 | 294.96 | 1.08E+02 | 59.85 | | | 1.08E+02 | 5.98E+01 | |
| 13 | 351.68 | 2.56E+02 | 65.46 | 8.07E+00 | 5.01E+00 | 2.48E+02 | 6.56E+01 | |
| 14 | 482.33 | 3.64E+01 | 45.73 | | | 3.64E+01 | 4.57E+01 | |
| 15 | 511.33 | 9.33E+01 | 42.33 | 4.21E+01 | 4.92E+00 | 5.12E+01 | 4.26E+01 | |
| 16 | 583.12 | 1.27E+02 | 44.35 | | | 1.27E+02 | 4.44E+01 | |
| 17 | 609.34 | 1.45E+02 | 41.68 | 5.16E+00 | 1.63E+00 | 1.40E+02 | 4.17E+01 | |
| 18 | 678.66 | 3.20E+01 | 25.62 | | | 3.20E+01 | 2.56E+01 | |
| 19 | 726.92 | 2.99E+01 | 23.27 | | | 2.99E+01 | 2.33E+01 | |
| 20 | 749.99 | 1.93E+01 | 17.64 | | | 1.93E+01 | 1.76E+01 | |

Analysis Report for 1510085-14

CP5006S07-08

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| M | 21 | 767.70 | 2.22E+01 | 19.17 | | | 2.22E+01 | 1.92E+01 |
| m | 22 | 795.12 | 3.41E+01 | 23.57 | | | 3.41E+01 | 2.36E+01 |
| | 23 | 882.20 | 1.40E+01 | 12.08 | | | 1.40E+01 | 1.21E+01 |
| M | 24 | 904.06 | 2.04E+01 | 22.37 | | | 2.04E+01 | 2.24E+01 |
| m | 25 | 911.30 | 8.86E+01 | 28.57 | 1.01E+00 | 2.85E+00 | 8.76E+01 | 2.87E+01 |
| | 26 | 967.73 | 6.94E+01 | 33.25 | | | 6.94E+01 | 3.33E+01 |
| | 27 | 1036.98 | 1.75E+01 | 16.00 | | | 1.75E+01 | 1.60E+01 |
| | 28 | 1119.97 | 4.37E+01 | 29.89 | | | 4.37E+01 | 2.99E+01 |
| | 29 | 1235.51 | 3.47E+01 | 23.92 | | | 3.47E+01 | 2.39E+01 |
| | 30 | 1256.75 | 2.34E+01 | 21.72 | | | 2.34E+01 | 2.17E+01 |
| | 31 | 1303.92 | 2.14E+01 | 11.49 | | | 2.14E+01 | 1.15E+01 |
| | 32 | 1405.81 | 1.99E+01 | 14.97 | | | 1.99E+01 | 1.50E+01 |
| | 33 | 1445.82 | 1.06E+01 | 12.33 | | | 1.06E+01 | 1.23E+01 |
| | 34 | 1461.10 | 2.66E+02 | 35.44 | | | 2.66E+02 | 3.54E+01 |
| | 35 | 1542.87 | 7.50E+00 | 10.61 | | | 7.50E+00 | 1.06E+01 |
| | 36 | 1551.04 | 6.50E+00 | 8.03 | | | 6.50E+00 | 8.03E+00 |
| | 37 | 1575.77 | 6.50E+00 | 8.03 | | | 6.50E+00 | 8.03E+00 |
| | 38 | 1582.59 | 7.72E+00 | 6.71 | | | 7.72E+00 | 6.71E+00 |
| | 39 | 1605.37 | 5.50E+00 | 7.78 | | | 5.50E+00 | 7.78E+00 |
| | 40 | 1669.19 | 5.21E+00 | 6.08 | | | 5.21E+00 | 6.08E+00 |
| | 41 | 1764.41 | 2.80E+01 | 10.58 | 1.11E-01 | 9.77E-01 | 2.79E+01 | 1.06E+01 |
| | 42 | 2103.01 | 8.91E+00 | 7.75 | | | 8.91E+00 | 7.75E+00 |
| | 43 | 2278.22 | 6.89E+00 | 7.21 | | | 6.89E+00 | 7.21E+00 |
| | 44 | 2615.15 | 2.60E+01 | 11.50 | | | 2.60E+01 | 1.15E+01 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 9:17:59AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoof\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 1 | 46.37 | 1.02E+02 | 77.49 | 2.00E+01 | 7.38E+00 | 8.19E+01 | 7.78E+01 |
| | 2 | 62.93 | 1.50E+02 | 108.26 | 5.38E+01 | 9.34E+00 | 9.61E+01 | 1.09E+02 |
| | 3 | 75.90 | 8.57E+02 | 155.58 | | | 8.57E+02 | 1.56E+02 |
| M | 4 | 88.23 | 2.12E+02 | 117.84 | | | 2.12E+02 | 1.18E+02 |

Analysis Report for 1510085-14

CP5006S07-08

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| m | 5 | 92.83 | 2.05E+02 | 99.17 | 5.44E+01 | 8.36E+00 | 1.51E+02 | 9.95E+01 |
| | 6 | 129.35 | 7.81E+01 | 79.42 | | | 7.81E+01 | 7.94E+01 |
| | 7 | 186.95 | 2.16E+02 | 103.92 | | | 2.16E+02 | 1.04E+02 |
| | 8 | 218.59 | 4.57E+01 | 41.19 | | | 4.57E+01 | 4.12E+01 |
| | 9 | 239.22 | 5.55E+02 | 89.42 | 1.09E+01 | 6.39E+00 | 5.44E+02 | 8.96E+01 |
| | 10 | 269.10 | 5.77E+01 | 66.00 | | | 5.77E+01 | 6.60E+01 |
| | 11 | 277.35 | 4.17E+01 | 51.55 | | | 4.17E+01 | 5.15E+01 |
| | 12 | 294.96 | 1.08E+02 | 59.85 | | | 1.08E+02 | 5.98E+01 |
| | 13 | 351.68 | 2.56E+02 | 65.46 | 8.07E+00 | 5.01E+00 | 2.48E+02 | 6.56E+01 |
| | 14 | 482.33 | 3.64E+01 | 45.73 | | | 3.64E+01 | 4.57E+01 |
| | 15 | 511.33 | 9.33E+01 | 42.33 | 4.21E+01 | 4.92E+00 | 5.12E+01 | 4.26E+01 |
| | 16 | 583.12 | 1.27E+02 | 44.35 | | | 1.27E+02 | 4.44E+01 |
| | 17 | 609.34 | 1.45E+02 | 41.68 | 5.16E+00 | 1.63E+00 | 1.40E+02 | 4.17E+01 |
| | 18 | 678.66 | 3.20E+01 | 25.62 | | | 3.20E+01 | 2.56E+01 |
| | 19 | 726.92 | 2.99E+01 | 23.27 | | | 2.99E+01 | 2.33E+01 |
| | 20 | 749.99 | 1.93E+01 | 17.64 | | | 1.93E+01 | 1.76E+01 |
| M | 21 | 767.70 | 2.22E+01 | 19.17 | | | 2.22E+01 | 1.92E+01 |
| m | 22 | 795.12 | 3.41E+01 | 23.57 | | | 3.41E+01 | 2.36E+01 |
| | 23 | 882.20 | 1.40E+01 | 12.08 | | | 1.40E+01 | 1.21E+01 |
| M | 24 | 904.06 | 2.04E+01 | 22.37 | | | 2.04E+01 | 2.24E+01 |
| m | 25 | 911.30 | 8.86E+01 | 28.57 | 1.01E+00 | 2.85E+00 | 8.76E+01 | 2.87E+01 |
| | 26 | 967.73 | 6.94E+01 | 33.25 | | | 6.94E+01 | 3.33E+01 |
| | 27 | 1036.98 | 1.75E+01 | 16.00 | | | 1.75E+01 | 1.60E+01 |
| | 28 | 1119.97 | 4.37E+01 | 29.89 | | | 4.37E+01 | 2.99E+01 |
| | 29 | 1235.51 | 3.47E+01 | 23.92 | | | 3.47E+01 | 2.39E+01 |
| | 30 | 1256.75 | 2.34E+01 | 21.72 | | | 2.34E+01 | 2.17E+01 |
| | 31 | 1303.92 | 2.14E+01 | 11.49 | | | 2.14E+01 | 1.15E+01 |
| | 32 | 1405.81 | 1.99E+01 | 14.97 | | | 1.99E+01 | 1.50E+01 |
| | 33 | 1445.82 | 1.06E+01 | 12.33 | | | 1.06E+01 | 1.23E+01 |
| | 34 | 1461.10 | 2.66E+02 | 35.44 | | | 2.66E+02 | 3.54E+01 |
| | 35 | 1542.87 | 7.50E+00 | 10.61 | | | 7.50E+00 | 1.06E+01 |
| | 36 | 1551.04 | 6.50E+00 | 8.03 | | | 6.50E+00 | 8.03E+00 |
| | 37 | 1575.77 | 6.50E+00 | 8.03 | | | 6.50E+00 | 8.03E+00 |
| | 38 | 1582.59 | 7.72E+00 | 6.71 | | | 7.72E+00 | 6.71E+00 |
| | 39 | 1605.37 | 5.50E+00 | 7.78 | | | 5.50E+00 | 7.78E+00 |
| | 40 | 1669.19 | 5.21E+00 | 6.08 | | | 5.21E+00 | 6.08E+00 |
| | 41 | 1764.41 | 2.80E+01 | 10.58 | 1.11E-01 | 9.77E-01 | 2.79E+01 | 1.06E+01 |
| | 42 | 2103.01 | 8.91E+00 | 7.75 | | | 8.91E+00 | 7.75E+00 |
| | 43 | 2278.22 | 6.89E+00 | 7.21 | | | 6.89E+00 | 7.21E+00 |
| | 44 | 2615.15 | 2.60E+01 | 11.50 | | | 2.60E+01 | 1.15E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-14
CP5006S07-08

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|-------------------------|-------------------------|
| K-40 | 0.986 | 1460.81 * | 10.67 | 2.25E+01 | 3.95E+00 |
| GA-67 | 0.378 | 93.31 * | 35.70 | 2.01E+02 | 8.28E+02 |
| | | 208.95 | 2.24 | | |
| | | 300.22 | 16.00 | | |
| CD-109 | 0.994 | 88.03 * | 3.72 | 4.62E+00 | 2.62E+00 |
| SN-126 | 0.933 | 87.57 * | 37.00 | 4.44E-01 | 2.50E-01 |
| CS-135 | 0.888 | 268.24 * | 16.00 | 6.49E-01 | 7.45E-01 |
| TL-208 | 0.867 | 583.14 * | 30.22 | 1.58E+00 | 5.80E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 1.03E+00 | 4.68E-01 |
| PB-210 | 0.997 | 46.50 * | 4.25 | 1.12E+00 | 1.06E+00 |
| BI-212 | 0.771 | 727.17 * | 11.80 | 1.19E+00 | 9.29E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.846 | 238.63 * | 44.60 | 1.97E+00 | 3.86E-01 |
| | | 300.09 | 3.41 | | |
| BI-214 | 0.933 | 609.31 * | 46.30 | 1.19E+00 | 3.76E-01 |
| | | 1120.29 * | 15.10 | 2.05E+00 | 1.42E+00 |
| | | 1764.49 * | 15.80 | 1.87E+00 | 7.32E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.991 | 295.21 * | 19.19 | 1.09E+00 | 6.21E-01 |
| | | 351.92 * | 37.19 | 1.53E+00 | 4.45E-01 |
| RA-226 | 0.915 | 186.21 * | 3.28 | 8.65E+00 | 1.64E+01 |
| TH-234 | 0.979 | 63.29 * | 3.80 | 1.65E+00 | 1.87E+00 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 9:17:59AM

Peak Locate From Channel : 1

Peak Locate To Channel : 4096

Analysis Report for 1510085-14
CP5006S07-08

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide | |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|------------------|
| 3 | 75.90 | 2.38135E-01 | 9.07 | | | |
| 6 | 129.35 | 2.16893E-02 | 50.86 | | | |
| 8 | 218.59 | 1.26932E-02 | 45.08 | | | |
| 11 | 277.35 | 1.15794E-02 | 61.83 | Tol. | NP-239 CM-243 | |
| 14 | 482.33 | 1.01078E-02 | 62.83 | Sum | | |
| 15 | 511.33 | 1.42248E-02 | 41.61 | | | |
| 18 | 678.66 | 8.89460E-03 | 40.01 | | | |
| 20 | 749.99 | 5.35569E-03 | 45.73 | | | |
| M | 21 | 767.70 | 6.16429E-03 | 43.19 | | |
| m | 22 | 795.12 | 9.47334E-03 | 34.55 | Tol. | CS-134 |
| | 23 | 882.20 | 3.88889E-03 | 43.15 | | |
| M | 24 | 904.06 | 5.66764E-03 | 54.81 | Sum | |
| m | 25 | 911.30 | 2.43269E-02 | 16.39 | Tol. | LU-172 AC-228 |
| | 26 | 967.73 | 1.92867E-02 | 23.95 | | |
| | 27 | 1036.98 | 4.86111E-03 | 45.71 | | |
| | 29 | 1235.51 | 9.64158E-03 | 34.45 | Tol. | CS-136 |
| | 30 | 1256.75 | 6.48674E-03 | 46.50 | | |
| | 31 | 1303.92 | 5.93333E-03 | 26.89 | | |
| | 32 | 1405.81 | 5.52682E-03 | 37.61 | | |
| | 33 | 1445.82 | 2.95525E-03 | 57.94 | | |
| | 35 | 1542.87 | 2.08333E-03 | 70.71 | | |
| | 36 | 1551.04 | 1.80556E-03 | 61.78 | | |
| | 37 | 1575.77 | 1.80556E-03 | 61.78 | | |
| | 38 | 1582.59 | 2.14506E-03 | 43.43 | | |
| | 39 | 1605.37 | 1.52778E-03 | 70.71 | | |
| | 40 | 1669.19 | 1.44841E-03 | 58.33 | | |
| | 42 | 2103.01 | 2.47475E-03 | 43.47 | | |
| | 43 | 2278.22 | 1.91358E-03 | 52.34 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

Analysis Report for 1510085-14

CP5006S07-08

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|---|----------|----------------------|----------------------|
| K-40 | 0.98 | 1460.81 | * | 10.67 | 2.25E+01 | 3.95E+00 |
| GA-67 | 0.37 | 93.31 | * | 35.70 | 2.01E+02 | 8.28E+02 |
| | | 208.95 | | 2.24 | | |
| | | 300.22 | | 16.00 | | |
| CD-109 | 0.99 | 88.03 | * | 3.72 | 4.62E+00 | 2.62E+00 |
| SN-126 | 0.93 | 87.57 | * | 37.00 | 4.44E-01 | 2.50E-01 |
| CS-135 | 0.88 | 268.24 | * | 16.00 | 6.49E-01 | 7.45E-01 |
| TL-208 | 0.86 | 583.14 | * | 30.22 | 1.58E+00 | 5.80E-01 |
| | | 860.37 | | 4.48 | | |
| | | 2614.66 | * | 35.85 | 1.03E+00 | 4.68E-01 |
| PB-210 | 0.99 | 46.50 | * | 4.25 | 1.12E+00 | 1.06E+00 |
| BI-212 | 0.77 | 727.17 | * | 11.80 | 1.19E+00 | 9.29E-01 |
| | | 1620.62 | | 2.75 | | |
| PB-212 | 0.84 | 238.63 | * | 44.60 | 1.97E+00 | 3.86E-01 |
| | | 300.09 | | 3.41 | | |
| BI-214 | 0.93 | 609.31 | * | 46.30 | 1.19E+00 | 3.76E-01 |
| | | 1120.29 | * | 15.10 | 2.05E+00 | 1.42E+00 |
| | | 1764.49 | * | 15.80 | 1.87E+00 | 7.32E-01 |
| | | 2204.22 | | 4.98 | | |
| PB-214 | 0.99 | 295.21 | * | 19.19 | 1.09E+00 | 6.21E-01 |
| | | 351.92 | * | 37.19 | 1.53E+00 | 4.45E-01 |
| RA-226 | 0.91 | 186.21 | * | 3.28 | 8.65E+00 | 1.64E+01 |
| TH-234 | 0.97 | 63.29 | * | 3.80 | 1.65E+00 | 1.87E+00 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|--------------|-----------------------|------------------------------|------------------------------|----------|
| K-40 | 0.986 | 2.25E+01 | 3.95E+00 | |
| GA-67 | 0.378 | 2.01E+02 | 8.28E+02 | |
| ? CD-109 | 0.994 | 4.62E+00 | 2.62E+00 | |
| ? SN-126 | 0.933 | 4.44E-01 | 2.50E-01 | |

Analysis Report for 1510085-14

CP5006S07-08

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| CS-135 | 0.888 | 6.49E-01 | 7.45E-01 | |
| TL-208 | 0.867 | 1.24E+00 | 3.64E-01 | |
| PB-210 | 0.997 | 1.12E+00 | 1.06E+00 | |
| BI-212 | 0.771 | 1.19E+00 | 9.29E-01 | |
| PB-212 | 0.846 | 1.97E+00 | 3.86E-01 | |
| BI-214 | 0.933 | 1.37E+00 | 3.26E-01 | |
| PB-214 | 0.991 | 1.38E+00 | 3.61E-01 | |
| RA-226 | 0.915 | 8.65E+00 | 1.64E+01 | |
| TH-234 | 0.979 | 1.65E+00 | 1.87E+00 | |

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-14
CP5006S07-08

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 9:17:59AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide | |
|----------|--------------|------------------|-----------------------------|----------------|----------------------|------------------|
| 3 | 75.90 | 2.38135E-01 | 9.07 | | | |
| 6 | 129.35 | 2.16893E-02 | 50.86 | | | |
| 8 | 218.59 | 1.26932E-02 | 45.08 | | | |
| 11 | 277.35 | 1.15794E-02 | 61.83 | Tol. | NP-239 CM-243 | |
| 14 | 482.33 | 1.01078E-02 | 62.83 | Sum | | |
| 15 | 511.33 | 1.42248E-02 | 41.61 | | | |
| 18 | 678.66 | 8.89460E-03 | 40.01 | | | |
| 20 | 749.99 | 5.35569E-03 | 45.73 | | | |
| M m | 21 22 | 767.70 795.12 | 6.16429E-03 9.47334E-03 | 43.19 34.55 | Tol. | CS-134 |
| M m | 23 24 | 882.20 904.06 | 3.88889E-03 5.66764E-03 | 43.15 54.81 | Sum | |
| | 25 | 911.30 | 2.43269E-02 | 16.39 | Tol. | LU-172 AC-228 |
| 26 | 967.73 | 1.92867E-02 | 23.95 | | | |
| 27 | 1036.98 | 4.86111E-03 | 45.71 | | | |
| 29 | 1235.51 | 9.64158E-03 | 34.45 | Tol. | CS-136 | |
| 30 | 1256.75 | 6.48674E-03 | 46.50 | | | |
| 31 | 1303.92 | 5.93333E-03 | 26.89 | | | |
| 32 | 1405.81 | 5.52682E-03 | 37.61 | | | |
| 33 | 1445.82 | 2.95525E-03 | 57.94 | | | |
| 35 | 1542.87 | 2.08333E-03 | 70.71 | | | |
| 36 | 1551.04 | 1.80556E-03 | 61.78 | | | |
| 37 | 1575.77 | 1.80556E-03 | 61.78 | | | |
| 38 | 1582.59 | 2.14506E-03 | 43.43 | | | |
| 39 | 1605.37 | 1.52778E-03 | 70.71 | | | |
| 40 | 1669.19 | 1.44841E-03 | 58.33 | | | |
| 42 | 2103.01 | 2.47475E-03 | 43.47 | | | |
| 43 | 2278.22 | 1.91358E-03 | 52.34 | | | |

Analysis Report for 1510085-14
CP5006S07-08

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | BE-7 | 477.59 | 10.42 | -2.34E-02 | 2.17E+00 | 2.17E+00 |
| + | NA-22 | 1274.54 | 99.94 | 1.47E-01 | 2.54E-01 | 2.54E-01 |
| + | NA-24 | 1368.53 | 99.99 | -1.95E+13 | 3.20E+13 | 5.23E+13 |
| | | 2754.09 | 99.86 | 4.35E+12 | | 3.20E+13 |
| + | AL-26 | 1808.65 | 99.76 | -2.71E-02 | 1.53E-01 | 1.53E-01 |
| + | K-40 | 1460.81 | * 10.67 | 2.25E+01 | 2.16E+00 | 2.16E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -2.41E-01 | 1.02E-01 | 1.02E-01 |
| | | 78.34 | 96.00 | 3.66E-01 | | 1.35E-01 |
| + | SC-46 | 889.25 | 99.98 | 2.06E-03 | 2.21E-01 | 2.21E-01 |
| | | 1120.51 | 99.99 | 3.33E-01 | | 3.82E-01 |
| + | V-48 | 983.52 | 99.98 | -2.95E-01 | 6.43E-01 | 7.08E-01 |
| | | 1312.10 | 97.50 | -3.63E-01 | | 6.43E-01 |
| + | CR-51 | 320.08 | 9.83 | -9.38E-01 | 2.80E+00 | 2.80E+00 |
| + | MN-54 | 834.83 | 99.97 | -2.86E-02 | 2.08E-01 | 2.08E-01 |
| + | CO-56 | 846.75 | 99.96 | -1.19E-02 | 2.50E-01 | 2.50E-01 |
| | | 1037.75 | 14.03 | 1.15E-01 | | 1.81E+00 |
| | | 1238.25 | 67.00 | -4.43E-02 | | 5.39E-01 |
| | | 1771.40 | 15.51 | -1.19E-01 | | 1.56E+00 |
| | | 2598.48 | 16.90 | 3.91E-01 | | 1.31E+00 |
| + | CO-57 | 122.06 | 85.51 | -5.57E-02 | 1.24E-01 | 1.24E-01 |
| | | 136.48 | 10.60 | 5.04E-02 | | 1.06E+00 |
| + | CO-58 | 810.76 | 99.40 | -2.24E-02 | 2.31E-01 | 2.31E-01 |
| + | FE-59 | 1099.22 | 56.50 | 2.89E-01 | 6.61E-01 | 6.61E-01 |
| | | 1291.56 | 43.20 | 5.98E-02 | | 8.30E-01 |
| + | CO-60 | 1173.22 | 100.00 | 4.64E-02 | 2.07E-01 | 2.46E-01 |
| | | 1332.49 | 100.00 | 8.42E-03 | | 2.07E-01 |
| + | ZN-65 | 1115.52 | 50.75 | -2.10E-02 | 5.04E-01 | 5.04E-01 |
| + | GA-67 | 93.31 | * 35.70 | 2.01E+02 | 3.28E+02 | 3.28E+02 |
| | | 208.95 | 2.24 | 1.65E+03 | | 3.37E+03 |
| | | 300.22 | 16.00 | 1.39E+02 | | 5.48E+02 |
| + | SE-75 | 121.11 | 16.70 | -3.13E-01 | 2.12E-01 | 6.93E-01 |

Analysis Report for 1510085-14
 CP5006S07-08

| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | SE-75 | 136.00 | 59.20 | 5.03E-02 | 2.12E-01 | 2.12E-01 |
| | | 264.65 | 59.80 | 4.15E-03 | | 2.52E-01 |
| | | 279.53 | 25.20 | 4.10E-01 | | 6.48E-01 |
| | | 400.65 | 11.40 | -8.88E-01 | | 1.44E+00 |
| + | RB-82 | 776.52 | 13.00 | -1.58E+00 | 3.12E+00 | 3.12E+00 |
| + | RB-83 | 520.41 | 46.00 | 5.81E-02 | 3.80E-01 | 3.80E-01 |
| | | 529.64 | 30.30 | -9.48E-02 | | 5.90E-01 |
| | | 552.65 | 16.40 | 3.26E-02 | | 1.23E+00 |
| + | KR-85 | 513.99 | 0.43 | 6.10E+01 | 4.66E+01 | 4.66E+01 |
| + | SR-85 | 513.99 | 99.27 | 3.66E-01 | 2.80E-01 | 2.80E-01 |
| + | Y-88 | 898.02 | 93.40 | -1.15E-01 | 2.01E-01 | 2.23E-01 |
| | | 1836.01 | 99.38 | -2.55E-03 | | 2.01E-01 |
| + | NB-93M | 16.57 | 9.43 | 1.05E+00 | 5.10E-01 | 5.10E-01 |
| + | NB-94 | 702.63 | 100.00 | 7.72E-02 | 1.69E-01 | 1.92E-01 |
| | | 871.10 | 100.00 | 5.21E-02 | | 1.69E-01 |
| + | NB-95 | 765.79 | 99.81 | -5.25E-03 | 3.49E-01 | 3.49E-01 |
| + | NB-95M | 235.69 | 25.00 | 2.28E+01 | 2.58E+02 | 2.58E+02 |
| + | ZR-95 | 724.18 | 43.70 | -3.58E-03 | 4.21E-01 | 6.80E-01 |
| | | 756.72 | 55.30 | 4.22E-02 | | 4.21E-01 |
| + | MO-99 | 181.06 | 6.20 | 5.40E+02 | 2.73E+03 | 3.94E+03 |
| | | 739.58 | 12.80 | 1.08E+03 | | 2.73E+03 |
| | | 778.00 | 4.50 | -8.31E+02 | | 8.09E+03 |
| + | RU-103 | 497.08 | 89.00 | -3.37E-03 | 2.86E-01 | 2.86E-01 |
| + | RU-106 | 621.84 | 9.80 | -9.73E-01 | 1.58E+00 | 1.58E+00 |
| + | AG-108M | 433.93 | 89.90 | -1.26E-01 | 1.53E-01 | 1.53E-01 |
| | | 614.37 | 90.40 | 2.42E-02 | | 2.31E-01 |
| | | 722.95 | 90.50 | -1.92E-02 | | 2.28E-01 |
| + | CD-109 | 88.03 | * 3.72 | 4.62E+00 | 5.44E+00 | 5.44E+00 |
| + | AG-110M | 657.75 | 93.14 | 5.04E-02 | 2.00E-01 | 2.00E-01 |
| | | 677.61 | 10.53 | 4.50E-02 | | 1.84E+00 |
| | | 706.67 | 16.46 | 4.92E-01 | | 1.25E+00 |
| | | 763.93 | 21.98 | 1.53E-01 | | 9.76E-01 |
| | | 884.67 | 71.63 | 2.42E-03 | | 2.70E-01 |
| | | 1384.27 | 23.94 | -1.26E-01 | | 8.99E-01 |
| + | CD-113M | 263.70 | 0.02 | 7.10E+01 | 5.54E+02 | 5.54E+02 |
| + | SN-113 | 255.12 | 1.93 | -4.03E+00 | 2.77E-01 | 7.41E+00 |
| | | 391.69 | 64.90 | 1.56E-01 | | 2.77E-01 |
| + | TE123M | 159.00 | 84.10 | 8.16E-03 | 1.58E-01 | 1.58E-01 |
| + | SB-124 | 602.71 | 97.87 | 6.79E-03 | 2.30E-01 | 2.30E-01 |
| | | 645.85 | 7.26 | 7.82E-01 | | 3.33E+00 |
| | | 722.78 | 11.10 | 5.44E-02 | | 2.50E+00 |
| | | 1691.02 | 49.00 | -7.18E-02 | | 4.44E-01 |
| + | I-125 | 35.49 | 6.49 | -4.32E-01 | 1.24E+00 | 1.24E+00 |
| + | SB-125 | 176.33 | 6.89 | 9.19E-02 | 5.27E-01 | 1.71E+00 |
| | | 427.89 | 29.33 | 1.34E-01 | | 5.27E-01 |
| | | 463.38 | 10.35 | 7.39E-01 | | 1.59E+00 |
| | | 600.56 | 17.80 | -2.00E-03 | | 9.24E-01 |
| | | 635.90 | 11.32 | 2.72E-01 | | 1.54E+00 |

Analysis Report for 1510085-14
CP5006S07-08

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SB-126 | 414.70 | 83.30 | -1.72E-01 | 8.96E-01 | 9.53E-01 |
| | | 666.33 | 99.60 | 3.42E-01 | | 9.42E-01 |
| | | 695.00 | 99.60 | -4.29E-02 | | 8.96E-01 |
| | | 720.50 | 53.80 | 1.18E-01 | | 1.90E+00 |
| + | SN-126 | 87.57 | * 37.00 | 4.44E-01 | 5.22E-01 | 5.22E-01 |
| + | SB-127 | 473.00 | 25.00 | 4.16E+01 | 1.02E+02 | 1.33E+02 |
| | | 685.20 | 35.70 | -1.18E+01 | | 1.02E+02 |
| | | 783.80 | 14.70 | 1.64E+02 | | 3.12E+02 |
| + | I-129 | 29.78 | 57.00 | -2.73E-02 | 9.53E-02 | 9.53E-02 |
| | | 33.60 | 13.20 | -9.18E-02 | | 4.27E-01 |
| | | 39.58 | 7.52 | 1.24E-01 | | 8.03E-01 |
| + | I-131 | 284.30 | 6.05 | -3.93E+00 | 2.12E+00 | 2.80E+01 |
| | | 364.48 | 81.20 | 1.54E-01 | | 2.12E+00 |
| | | 636.97 | 7.26 | 2.15E+00 | | 3.05E+01 |
| | | 722.89 | 1.80 | 3.16E+00 | | 1.45E+02 |
| + | TE-132 | 49.72 | 13.10 | -3.72E+01 | 8.58E+01 | 3.29E+02 |
| | | 228.16 | 88.00 | 2.78E+01 | | 8.58E+01 |
| + | BA-133 | 81.00 | 33.00 | -3.18E-01 | 3.37E-01 | 3.63E-01 |
| | | 302.84 | 17.80 | 6.18E-02 | | 7.78E-01 |
| | | 356.01 | 60.00 | -1.23E-02 | | 3.37E-01 |
| + | I-133 | 529.87 | 86.30 | -7.14E+08 | 4.45E+09 | 4.45E+09 |
| + | XE-133 | 81.00 | 38.00 | -1.46E+01 | 1.66E+01 | 1.66E+01 |
| + | CS-134 | 563.23 | 8.38 | 5.03E-01 | 2.25E-01 | 2.07E+00 |
| | | 569.32 | 15.43 | -2.34E-01 | | 1.04E+00 |
| | | 604.70 | 97.60 | -7.60E-03 | | 2.25E-01 |
| | | 795.84 | 85.40 | 1.30E-01 | | 2.47E-01 |
| | | 801.93 | 8.73 | 8.69E-01 | | 2.06E+00 |
| + | CS-135 | 268.24 | * 16.00 | 6.49E-01 | 1.22E+00 | 1.22E+00 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 2.43E+00 | 7.44E-01 | 7.18E+00 |
| | | 163.89 | 4.61 | -8.85E-01 | | 1.20E+01 |
| | | 176.55 | 13.56 | 2.23E-01 | | 4.15E+00 |
| | | 273.65 | 12.66 | 3.83E+00 | | 5.50E+00 |
| | | 340.57 | 48.50 | 2.04E+00 | | 1.64E+00 |
| | | 818.50 | 99.70 | -1.79E-01 | | 7.44E-01 |
| | | 1048.07 | 79.60 | 2.50E-01 | | 1.18E+00 |
| | | 1235.34 | 19.70 | 3.30E+00 | | 6.96E+00 |
| + | CS-137 | 661.65 | 85.12 | -1.90E-02 | 1.90E-01 | 1.90E-01 |
| + | LA-138 | 788.74 | 34.00 | -4.13E-01 | 2.63E-01 | 5.59E-01 |
| | | 1435.80 | 66.00 | -8.68E-02 | | 2.63E-01 |
| + | CE-139 | 165.85 | 80.35 | 1.14E-01 | 1.68E-01 | 1.68E-01 |
| + | BA-140 | 162.64 | 6.70 | -1.72E+00 | 2.76E+00 | 8.52E+00 |
| | | 304.84 | 4.50 | 3.95E+00 | | 1.56E+01 |
| | | 423.70 | 3.20 | 6.96E+00 | | 2.51E+01 |
| | | 437.55 | 2.00 | 1.08E+01 | | 3.69E+01 |
| | | 537.32 | 25.00 | -6.53E-01 | | 2.76E+00 |
| + | LA-140 | 328.77 | 20.50 | 2.44E+00 | 1.01E+00 | 3.51E+00 |

Analysis Report for 1510085-14

CP5006S07-08

| <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| LA-140 | 487.03 | 45.50 | -6.35E-02 | 1.01E+00 | 1.54E+00 |
| | 815.85 | 23.50 | 8.97E-01 | | 3.48E+00 |
| | 1596.49 | 95.49 | 2.04E-01 | | 1.01E+00 |
| + | CE-141 | 145.44 | 48.40 | 1.59E-01 | 4.23E-01 |
| + | CE-143 | 57.36 | 11.80 | -1.59E+05 | 1.50E+06 |
| | 293.26 | 42.00 | 1.86E+06 | | 1.50E+06 |
| | 664.55 | 5.20 | -3.92E+06 | | 1.21E+07 |
| + | CE-144 | 133.54 | 10.80 | 3.57E-01 | 1.10E+00 |
| + | PM-144 | 476.78 | 42.00 | -1.73E-02 | 1.77E-01 |
| | 618.01 | 98.60 | 9.01E-03 | | 1.77E-01 |
| | 696.49 | 99.49 | 5.45E-02 | | 1.90E-01 |
| + | PM-145 | 36.85 | 21.70 | 7.97E-03 | 1.49E-01 |
| | 37.36 | 39.70 | -3.69E-03 | | 1.49E-01 |
| | 42.30 | 15.10 | -2.23E-02 | | 4.36E-01 |
| | 72.40 | 2.31 | 1.06E+01 | | 5.33E+00 |
| + | PM-146 | 453.90 | 39.94 | -1.38E-01 | 3.52E-01 |
| | 735.90 | 14.01 | -8.70E-01 | | 1.16E+00 |
| | 747.13 | 13.10 | -2.81E-01 | | 1.37E+00 |
| + | ND-147 | 91.11 | 28.90 | 7.60E+00 | 2.84E+00 |
| | 531.02 | 13.10 | 2.76E-01 | | 7.31E+00 |
| + | PM-149 | 285.90 | 3.10 | -7.10E+03 | 4.97E+04 |
| + | EU-152 | 121.78 | 20.50 | -2.16E-01 | 4.80E-01 |
| | 244.69 | 5.40 | 3.97E-01 | | 2.74E+00 |
| | 344.27 | 19.13 | -2.91E-01 | | 7.35E-01 |
| | 778.89 | 9.20 | -2.11E-01 | | 2.05E+00 |
| | 964.01 | 10.40 | -2.23E-01 | | 2.54E+00 |
| | 1085.78 | 7.22 | 1.53E+00 | | 2.86E+00 |
| | 1112.02 | 9.60 | 2.63E-01 | | 2.31E+00 |
| | 1407.95 | 14.94 | -3.89E-01 | | 1.44E+00 |
| + | GD-153 | 97.43 | 31.30 | 1.52E-01 | 3.58E-01 |
| | 103.18 | 22.20 | 2.00E-01 | | 4.80E-01 |
| + | EU-154 | 123.07 | 40.50 | -5.19E-02 | 2.49E-01 |
| | 723.30 | 19.70 | -8.89E-02 | | 1.05E+00 |
| | 873.19 | 11.50 | 6.91E-01 | | 1.42E+00 |
| | 996.32 | 10.30 | -1.00E+00 | | 1.95E+00 |
| | 1004.76 | 17.90 | -4.83E-01 | | 1.05E+00 |
| | 1274.45 | 35.50 | 4.09E-01 | | 7.03E-01 |
| + | EU-155 | 86.50 | 30.90 | -3.93E-02 | 3.70E-01 |
| | 105.30 | 20.70 | -1.79E-01 | | 4.57E-01 |
| + | EU-156 | 811.77 | 10.40 | -3.68E-01 | 6.34E+00 |
| | 1153.47 | 7.20 | -1.47E+00 | | 1.18E+01 |
| | 1230.71 | 8.90 | -6.56E+00 | | 1.08E+01 |
| + | HO-166M | 184.41 | 72.60 | 1.94E-01 | 1.91E-01 |
| | 280.45 | 29.60 | -2.05E-03 | | 4.59E-01 |
| | 410.94 | 11.10 | 2.56E-01 | | 1.35E+00 |
| | 711.69 | 54.10 | -1.67E-01 | | 3.12E-01 |
| + | TM-171 | 66.72 | 0.14 | -6.98E+01 | 6.98E+01 |
| + | HF-172 | 81.75 | 4.52 | -8.57E+00 | 9.84E-01 |
| | 125.81 | 11.30 | 5.33E-02 | | 9.84E-01 |

Analysis Report for 1510085-14
CP5006S07-08

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | LU-172 | 181.53 | 20.60 | 2.68E+00 | 6.90E+00 | 1.44E+01 |
| | | 810.06 | 16.63 | -2.23E+00 | | 2.30E+01 |
| | | 912.12 | 15.25 | 7.10E+01 | | 4.52E+01 |
| | | 1093.66 | 62.50 | -3.12E+00 | | 6.90E+00 |
| + | LU-173 | 100.72 | 5.24 | 9.07E-01 | 6.70E-01 | 1.92E+00 |
| | | 272.11 | 21.20 | -7.55E-02 | | 6.70E-01 |
| + | HF-175 | 343.40 | 84.00 | -1.31E-01 | 2.25E-01 | 2.25E-01 |
| + | LU-176 | 88.34 | 13.30 | 1.40E+00 | 1.37E-01 | 8.93E-01 |
| | | 201.83 | 86.00 | -2.09E-03 | | 1.44E-01 |
| | | 306.78 | 94.00 | -1.26E-01 | | 1.37E-01 |
| + | TA-182 | 67.75 | 41.20 | -6.61E-01 | 2.79E-01 | 2.79E-01 |
| | | 1121.30 | 34.90 | 8.55E-01 | | 1.02E+00 |
| | | 1189.05 | 16.23 | -7.07E-01 | | 1.68E+00 |
| | | 1221.41 | 26.98 | 5.95E-01 | | 1.17E+00 |
| | | 1231.02 | 11.44 | -1.55E+00 | | 2.55E+00 |
| + | IR-192 | 308.46 | 29.68 | -2.86E-02 | 4.13E-01 | 5.86E-01 |
| | | 468.07 | 48.10 | -1.48E-01 | | 4.13E-01 |
| + | HG-203 | 279.19 | 77.30 | 1.75E-01 | 2.77E-01 | 2.77E-01 |
| + | BI-207 | 569.67 | 97.72 | -3.61E-02 | 1.60E-01 | 1.60E-01 |
| | | 1063.62 | 74.90 | 9.04E-02 | | 2.59E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.58E+00 | 4.54E-01 | 8.16E-01 |
| | | 860.37 | 4.48 | 2.34E+00 | | 4.69E+00 |
| | | 2614.66 | * 35.85 | 1.03E+00 | | 4.54E-01 |
| + | BI-210M | 262.00 | 45.00 | 0.00E+00 | 2.80E-01 | 2.80E-01 |
| | | 300.00 | 23.00 | 1.87E-01 | | 6.97E-01 |
| + | PB-210 | 46.50 | * 4.25 | 1.12E+00 | 1.74E+00 | 1.74E+00 |
| + | PB-211 | 404.84 | 2.90 | 1.20E-01 | 4.97E+00 | 4.97E+00 |
| | | 831.96 | 2.90 | 9.22E-01 | | 6.73E+00 |
| + | BI-212 | 727.17 | * 11.80 | 1.19E+00 | 1.45E+00 | 1.45E+00 |
| | | 1620.62 | 2.75 | -2.49E-01 | | 7.00E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.97E+00 | 4.67E-01 | 4.67E-01 |
| | | 300.09 | 3.41 | 1.26E+00 | | 4.71E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.19E+00 | 3.12E-01 | 5.02E-01 |
| | | 1120.29 | * 15.10 | 2.05E+00 | | 2.20E+00 |
| | | 1764.49 | * 15.80 | 1.87E+00 | | 3.12E-01 |
| | | 2204.22 | 4.98 | 1.69E-01 | | 4.02E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.09E+00 | 6.03E-01 | 9.68E-01 |
| | | 351.92 | * 37.19 | 1.53E+00 | | 6.03E-01 |
| + | RN-219 | 401.80 | 6.50 | -3.21E-01 | 2.15E+00 | 2.15E+00 |
| + | RA-223 | 323.87 | 3.88 | -8.80E-01 | 3.40E+00 | 3.40E+00 |
| + | RA-224 | 240.98 | 3.95 | 2.17E+01 | 5.49E+00 | 5.49E+00 |
| + | RA-225 | 40.00 | 31.00 | 1.23E-01 | 7.98E-01 | 7.98E-01 |
| + | RA-226 | 186.21 | * 3.28 | 8.65E+00 | 6.68E+00 | 6.68E+00 |
| + | TH-227 | 50.10 | 8.40 | -9.74E-02 | 8.63E-01 | 8.63E-01 |
| | | 236.00 | 11.50 | 1.55E-01 | | 1.75E+00 |
| | | 256.20 | 6.30 | -2.44E-01 | | 1.93E+00 |
| | | 338.32 | 11.40 | 1.20E+00 | | 1.41E+00 |
| + | AC-228 | 911.07 | 27.70 | 1.56E+00 | 1.13E+00 | 1.13E+00 |

Analysis Report for 1510085-14
CP5006S07-08

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | AC-228 | 969.11 | 16.60 | 1.92E+00 | 1.13E+00 | 1.76E+00 |
| + | TH-230 | 48.44 | 16.90 | -5.73E-02 | 4.23E-01 | 4.23E-01 |
| | | 62.85 | 4.60 | 1.61E+00 | | 1.97E+00 |
| | | 67.67 | 0.37 | -6.13E+01 | | 2.59E+01 |
| + | PA-231 | 283.67 | 1.60 | -1.30E+00 | 5.99E+00 | 7.92E+00 |
| | | 302.67 | 2.30 | 4.76E-01 | | 5.99E+00 |
| + | TH-231 | 25.64 | 14.70 | -1.11E-01 | 3.68E-01 | 3.68E-01 |
| | | 84.21 | 6.40 | -6.95E+00 | | 1.65E+00 |
| + | PA-233 | 311.98 | 38.60 | -2.75E-02 | 7.37E-01 | 7.37E-01 |
| + | PA-234 | 131.20 | 20.40 | 4.06E-01 | 5.48E-01 | 5.48E-01 |
| | | 733.99 | 8.80 | -2.50E+00 | | 1.76E+00 |
| | | 946.00 | 12.00 | -8.46E-01 | | 1.46E+00 |
| + | PA-234M | 1001.03 | 0.92 | 9.66E+00 | 2.20E+01 | 2.20E+01 |
| + | TH-234 | 63.29 | * 3.80 | 1.65E+00 | 3.07E+00 | 3.07E+00 |
| + | U-235 | 143.76 | 10.50 | 5.09E-01 | 1.03E+00 | 1.03E+00 |
| | | 163.35 | 4.70 | -1.78E-01 | | 2.41E+00 |
| | | 205.31 | 4.70 | 8.82E-01 | | 2.73E+00 |
| + | NP-237 | 86.50 | 12.60 | -9.52E-02 | 8.96E-01 | 8.96E-01 |
| + | NP-239 | 106.10 | 22.70 | -1.12E+03 | 2.87E+03 | 2.87E+03 |
| | | 228.18 | 10.70 | -1.58E+03 | | 8.00E+03 |
| | | 277.60 | 14.10 | 9.77E+01 | | 6.66E+03 |
| + | AM-241 | 59.54 | 35.90 | -1.68E-02 | 2.39E-01 | 2.39E-01 |
| + | AM-243 | 74.67 | 66.00 | 8.44E-01 | 2.01E-01 | 2.01E-01 |
| + | CM-243 | 209.75 | 3.29 | 1.89E+00 | 9.70E-01 | 3.86E+00 |
| | | 228.14 | 10.60 | 3.87E-01 | | 1.20E+00 |
| | | 277.60 | 14.00 | 1.42E-02 | | 9.70E-01 |

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510085-14

CP5006S07-08

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 2.17E+00 | 2.17E+00 | -2.34E-02 | 1.02E+00 |
| NA-22 | 1274.54 | 99.94 | 2.54E-01 | 2.54E-01 | 1.47E-01 | 1.16E-01 |
| NA-24 | 1368.53 | 99.99 | 5.23E+13 | 3.20E+13 | -1.95E+13 | 2.28E+13 |
| | 2754.09 | 99.86 | 3.20E+13 | | 4.35E+12 | 1.01E+13 |
| AL-26 | 1808.65 | 99.76 | 1.53E-01 | 1.53E-01 | -2.71E-02 | 6.18E-02 |
| + K-40 | 1460.81 | * 10.67 | 2.16E+00 | 2.16E+00 | 2.25E+01 | 9.66E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 1.02E-01 | 1.02E-01 | -2.41E-01 | 4.98E-02 |
| | 78.34 | 96.00 | 1.35E-01 | | 3.66E-01 | 6.64E-02 |
| SC-46 | 889.25 | 99.98 | 2.21E-01 | 2.21E-01 | 2.06E-03 | 1.00E-01 |
| | 1120.51 | 99.99 | 3.82E-01 | | 3.33E-01 | 1.78E-01 |
| V-48 | 983.52 | 99.98 | 7.08E-01 | 6.43E-01 | -2.95E-01 | 3.23E-01 |
| | 1312.10 | 97.50 | 6.43E-01 | | -3.63E-01 | 2.80E-01 |
| CR-51 | 320.08 | 9.83 | 2.80E+00 | 2.80E+00 | -9.38E-01 | 1.34E+00 |
| MN-54 | 834.83 | 99.97 | 2.08E-01 | 2.08E-01 | -2.86E-02 | 9.60E-02 |
| CO-56 | 846.75 | 99.96 | 2.50E-01 | 2.50E-01 | -1.19E-02 | 1.15E-01 |
| | 1037.75 | 14.03 | 1.81E+00 | | 1.15E-01 | 8.20E-01 |
| | 1238.25 | 67.00 | 5.39E-01 | | -4.43E-02 | 2.49E-01 |
| | 1771.40 | 15.51 | 1.56E+00 | | -1.19E-01 | 6.58E-01 |
| | 2598.48 | 16.90 | 1.31E+00 | | 3.91E-01 | 5.07E-01 |
| CO-57 | 122.06 | 85.51 | 1.24E-01 | 1.24E-01 | -5.57E-02 | 6.03E-02 |
| | 136.48 | 10.60 | 1.06E+00 | | 5.04E-02 | 5.15E-01 |
| CO-58 | 810.76 | 99.40 | 2.31E-01 | 2.31E-01 | -2.24E-02 | 1.06E-01 |
| FE-59 | 1099.22 | 56.50 | 6.61E-01 | 6.61E-01 | 2.89E-01 | 3.04E-01 |
| | 1291.56 | 43.20 | 8.30E-01 | | 5.98E-02 | 3.74E-01 |
| CO-60 | 1173.22 | 100.00 | 2.46E-01 | 2.07E-01 | 4.64E-02 | 1.13E-01 |
| | 1332.49 | 100.00 | 2.07E-01 | | 8.42E-03 | 9.19E-02 |
| ZN-65 | 1115.52 | 50.75 | 5.04E-01 | 5.04E-01 | -2.10E-02 | 2.31E-01 |
| + GA-67 | 93.31 | * 35.70 | 3.28E+02 | 3.28E+02 | 2.01E+02 | 1.62E+02 |
| | 208.95 | 2.24 | 3.37E+03 | | 1.65E+03 | 1.63E+03 |
| | 300.22 | 16.00 | 5.48E+02 | | 1.39E+02 | 2.64E+02 |
| SE-75 | 121.11 | 16.70 | 6.93E-01 | 2.12E-01 | -3.13E-01 | 3.37E-01 |
| | 136.00 | 59.20 | 2.12E-01 | | 5.03E-02 | 1.03E-01 |
| | 264.65 | 59.80 | 2.52E-01 | | 4.15E-03 | 1.21E-01 |
| | 279.53 | 25.20 | 6.48E-01 | | 4.10E-01 | 3.12E-01 |
| | 400.65 | 11.40 | 1.44E+00 | | -8.88E-01 | 6.82E-01 |
| RB-82 | 776.52 | 13.00 | 3.12E+00 | 3.12E+00 | -1.58E+00 | 1.44E+00 |
| RB-83 | 520.41 | 46.00 | 3.80E-01 | 3.80E-01 | 5.81E-02 | 1.77E-01 |
| | 529.64 | 30.30 | 5.90E-01 | | -9.48E-02 | 2.76E-01 |
| | 552.65 | 16.40 | 1.23E+00 | | 3.26E-02 | 5.80E-01 |
| KR-85 | 513.99 | 0.43 | 4.66E+01 | 4.66E+01 | 6.10E+01 | 2.23E+01 |
| SR-85 | 513.99 | 99.27 | 2.80E-01 | 2.80E-01 | 3.66E-01 | 1.34E-01 |
| Y-88 | 898.02 | 93.40 | 2.23E-01 | 2.01E-01 | -1.15E-01 | 1.02E-01 |
| | 1836.01 | 99.38 | 2.01E-01 | | -2.55E-03 | 8.25E-02 |
| NB-93M | 16.57 | 9.43 | 5.10E-01 | 5.10E-01 | 1.05E+00 | 2.48E-01 |
| NB-94 | 702.63 | 100.00 | 1.92E-01 | 1.69E-01 | 7.72E-02 | 8.99E-02 |
| | 871.10 | 100.00 | 1.69E-01 | | 5.21E-02 | 7.68E-02 |
| NB-95 | 765.79 | 99.81 | 3.49E-01 | 3.49E-01 | -5.25E-03 | 1.62E-01 |
| NB-95M | 235.69 | 25.00 | 2.58E+02 | 2.58E+02 | 2.28E+01 | 1.26E+02 |
| ZR-95 | 724.18 | 43.70 | 6.80E-01 | 4.21E-01 | -3.58E-03 | 3.20E-01 |
| | 756.72 | 55.30 | 4.21E-01 | | 4.22E-02 | 1.94E-01 |

Analysis Report for 1510085-14

CP5006S07-08

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| MO-99 | 181.06 | 6.20 | 3.94E+03 | 2.73E+03 | 5.40E+02 | 1.92E+03 |
| | 739.58 | 12.80 | 2.73E+03 | | 1.08E+03 | 1.27E+03 |
| | 778.00 | 4.50 | 8.09E+03 | | -8.31E+02 | 3.75E+03 |
| RU-103 | 497.08 | 89.00 | 2.86E-01 | 2.86E-01 | -3.37E-03 | 1.35E-01 |
| RU-106 | 621.84 | 9.80 | 1.58E+00 | 1.58E+00 | -9.73E-01 | 7.33E-01 |
| AG-108M | 433.93 | 89.90 | 1.53E-01 | 1.53E-01 | -1.26E-01 | 7.25E-02 |
| | 614.37 | 90.40 | 2.31E-01 | | 2.42E-02 | 1.10E-01 |
| | 722.95 | 90.50 | 2.28E-01 | | -1.92E-02 | 1.07E-01 |
| + CD-109 | 88.03 | * 3.72 | 5.44E+00 | 5.44E+00 | 4.62E+00 | 2.69E+00 |
| AG-110M | 657.75 | 93.14 | 2.00E-01 | 2.00E-01 | 5.04E-02 | 9.34E-02 |
| | 677.61 | 10.53 | 1.84E+00 | | 4.50E-02 | 8.57E-01 |
| | 706.67 | 16.46 | 1.25E+00 | | 4.92E-01 | 5.84E-01 |
| | 763.93 | 21.98 | 9.76E-01 | | 1.53E-01 | 4.55E-01 |
| | 884.67 | 71.63 | 2.70E-01 | | 2.42E-03 | 1.23E-01 |
| 1384.27 | 23.94 | 8.99E-01 | | -1.26E-01 | 3.97E-01 | |
| CD-113M | 263.70 | 0.02 | 5.54E+02 | 5.54E+02 | 7.10E+01 | 2.67E+02 |
| SN-113 | 255.12 | 1.93 | 7.41E+00 | 2.77E-01 | -4.03E+00 | 3.56E+00 |
| | 391.69 | 64.90 | 2.77E-01 | | 1.56E-01 | 1.32E-01 |
| | TE123M | 159.00 | 84.10 | | 1.58E-01 | 1.58E-01 | 8.16E-03 | 7.66E-02 |
| SB-124 | 602.71 | 97.87 | 2.30E-01 | 2.30E-01 | 6.79E-03 | 1.08E-01 |
| | 645.85 | 7.26 | 3.33E+00 | | 7.82E-01 | 1.55E+00 |
| | 722.78 | 11.10 | 2.50E+00 | | 5.44E-02 | 1.17E+00 |
| | 1691.02 | 49.00 | 4.44E-01 | | -7.18E-02 | 1.82E-01 |
| | I-125 | 35.49 | 6.49 | | 1.24E+00 | 1.24E+00 | -4.32E-01 | 6.02E-01 |
| SB-125 | 176.33 | 6.89 | 1.71E+00 | 5.27E-01 | 9.19E-02 | 8.30E-01 |
| | 427.89 | 29.33 | 5.27E-01 | | 1.34E-01 | 2.50E-01 |
| | 463.38 | 10.35 | 1.59E+00 | | 7.39E-01 | 7.57E-01 |
| | 600.56 | 17.80 | 9.24E-01 | | -2.00E-03 | 4.32E-01 |
| | 635.90 | 11.32 | 1.54E+00 | | 2.72E-01 | 7.19E-01 |
| | SB-126 | 414.70 | 83.30 | | 9.53E-01 | 8.96E-01 | -1.72E-01 | 4.53E-01 |
| SB-126 | 666.33 | 99.60 | 9.42E-01 | 8.96E-01 | 3.42E-01 | 4.40E-01 |
| | 695.00 | 99.60 | 8.96E-01 | | -4.29E-02 | 4.15E-01 |
| | 720.50 | 53.80 | 1.90E+00 | | 1.18E-01 | 8.86E-01 |
| | 87.57 | * 37.00 | 5.22E-01 | | 5.22E-01 | 4.44E-01 | 2.58E-01 |
| SB-127 | 473.00 | 25.00 | 1.33E+02 | 1.02E+02 | 4.16E+01 | 6.30E+01 |
| | 685.20 | 35.70 | 1.02E+02 | | -1.18E+01 | 4.72E+01 |
| | 783.80 | 14.70 | 3.12E+02 | | 1.64E+02 | 1.46E+02 |
| I-129 | 29.78 | 57.00 | 9.53E-02 | 9.53E-02 | -2.73E-02 | 4.64E-02 |
| | 33.60 | 13.20 | 4.27E-01 | | -9.18E-02 | 2.08E-01 |
| | 39.58 | 7.52 | 8.03E-01 | | 1.24E-01 | 3.92E-01 |
| I-131 | 284.30 | 6.05 | 2.80E+01 | 2.12E+00 | -3.93E+00 | 1.34E+01 |
| | 364.48 | 81.20 | 2.12E+00 | | 1.54E-01 | 1.01E+00 |
| | 636.97 | 7.26 | 3.05E+01 | | 2.15E+00 | 1.42E+01 |
| | 722.89 | 1.80 | 1.45E+02 | | 3.16E+00 | 6.80E+01 |
| TE-132 | 49.72 | 13.10 | 3.29E+02 | 8.58E+01 | -3.72E+01 | 1.61E+02 |
| | 228.16 | 88.00 | 8.58E+01 | | 2.78E+01 | 4.15E+01 |
| BA-133 | 81.00 | 33.00 | 3.63E-01 | 3.37E-01 | -3.18E-01 | 1.78E-01 |
| | 302.84 | 17.80 | 7.78E-01 | | 6.18E-02 | 3.74E-01 |
| | 356.01 | 60.00 | 3.37E-01 | | -1.23E-02 | 1.63E-01 |
| I-133 | 529.87 | 86.30 | 4.45E+09 | 4.45E+09 | -7.14E+08 | 2.08E+09 |
| XE-133 | 81.00 | 38.00 | 1.66E+01 | 1.66E+01 | -1.46E+01 | 8.18E+00 |
| CS-134 | 563.23 | 8.38 | 2.07E+00 | 2.25E-01 | 5.03E-01 | 9.73E-01 |
| | 569.32 | 15.43 | 1.04E+00 | | -2.34E-01 | 4.86E-01 |

Analysis Report for 1510085-14
CP5006S07-08

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CS-134 | 604.70 | 97.60 | 2.25E-01 | 2.25E-01 | -7.60E-03 | 1.07E-01 |
| | 795.84 | 85.40 | 2.47E-01 | | 1.30E-01 | 1.15E-01 |
| | 801.93 | 8.73 | 2.06E+00 | | 8.69E-01 | 9.46E-01 |
| + CS-135 | 268.24 | * 16.00 | 1.22E+00 | 1.22E+00 | 6.49E-01 | 5.94E-01 |
| @ I-135 | 1131.51 | | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 7.18E+00 | 7.44E-01 | 2.43E+00 | 3.49E+00 |
| | 163.89 | 4.61 | 1.20E+01 | | -8.85E-01 | 5.82E+00 |
| | 176.55 | 13.56 | 4.15E+00 | | 2.23E-01 | 2.01E+00 |
| | 273.65 | 12.66 | 5.50E+00 | | 3.83E+00 | 2.66E+00 |
| | 340.57 | 48.50 | 1.64E+00 | | 2.04E+00 | 7.91E-01 |
| | 818.50 | 99.70 | 7.44E-01 | | -1.79E-01 | 3.37E-01 |
| | 1048.07 | 79.60 | 1.18E+00 | | 2.50E-01 | 5.37E-01 |
| | 1235.34 | 19.70 | 6.96E+00 | | 3.30E+00 | 3.22E+00 |
| CS-137 | 661.65 | 85.12 | 1.90E-01 | 1.90E-01 | -1.90E-02 | 8.81E-02 |
| LA-138 | 788.74 | 34.00 | 5.59E-01 | 2.63E-01 | -4.13E-01 | 2.59E-01 |
| | 1435.80 | 66.00 | 2.63E-01 | | -8.68E-02 | 1.13E-01 |
| CE-139 | 165.85 | 80.35 | 1.68E-01 | 1.68E-01 | 1.14E-01 | 8.17E-02 |
| BA-140 | 162.64 | 6.70 | 8.52E+00 | 2.76E+00 | -1.72E+00 | 4.14E+00 |
| | 304.84 | 4.50 | 1.56E+01 | | 3.95E+00 | 7.48E+00 |
| | 423.70 | 3.20 | 2.51E+01 | | 6.96E+00 | 1.20E+01 |
| | 437.55 | 2.00 | 3.69E+01 | | 1.08E+01 | 1.75E+01 |
| | 537.32 | 25.00 | 2.76E+00 | | -6.53E-01 | 1.28E+00 |
| LA-140 | 328.77 | 20.50 | 3.51E+00 | 1.01E+00 | 2.44E+00 | 1.68E+00 |
| | 487.03 | 45.50 | 1.54E+00 | | -6.35E-02 | 7.20E-01 |
| | 815.85 | 23.50 | 3.48E+00 | | 8.97E-01 | 1.58E+00 |
| | 1596.49 | 95.49 | 1.01E+00 | | 2.04E-01 | 4.37E-01 |
| CE-141 | 145.44 | 48.40 | 4.23E-01 | 4.23E-01 | 1.59E-01 | 2.06E-01 |
| CE-143 | 57.36 | 11.80 | 2.54E+06 | 1.50E+06 | -1.59E+05 | 1.24E+06 |
| | 293.26 | 42.00 | 1.50E+06 | | 1.86E+06 | 7.25E+05 |
| | 664.55 | 5.20 | 1.21E+07 | | -3.92E+06 | 5.61E+06 |
| CE-144 | 133.54 | 10.80 | 1.10E+00 | 1.10E+00 | 3.57E-01 | 5.34E-01 |
| PM-144 | 476.78 | 42.00 | 3.72E-01 | 1.77E-01 | -1.73E-02 | 1.75E-01 |
| | 618.01 | 98.60 | 1.77E-01 | | 9.01E-03 | 8.27E-02 |
| | 696.49 | 99.49 | 1.90E-01 | | 5.45E-02 | 8.88E-02 |
| PM-145 | 36.85 | 21.70 | 2.69E-01 | 1.49E-01 | 7.97E-03 | 1.31E-01 |
| | 37.36 | 39.70 | 1.49E-01 | | -3.69E-03 | 7.26E-02 |
| | 42.30 | 15.10 | 4.36E-01 | | -2.23E-02 | 2.13E-01 |
| | 72.40 | 2.31 | 5.33E+00 | | 1.06E+01 | 2.63E+00 |
| PM-146 | 453.90 | 39.94 | 3.52E-01 | 3.52E-01 | -1.38E-01 | 1.66E-01 |
| | 735.90 | 14.01 | 1.16E+00 | | -8.70E-01 | 5.33E-01 |
| | 747.13 | 13.10 | 1.37E+00 | | -2.81E-01 | 6.33E-01 |
| ND-147 | 91.11 | 28.90 | 2.84E+00 | 2.84E+00 | 7.60E+00 | 1.40E+00 |
| | 531.02 | 13.10 | 7.31E+00 | | 2.76E-01 | 3.42E+00 |
| PM-149 | 285.90 | 3.10 | 4.97E+04 | 4.97E+04 | -7.10E+03 | 2.38E+04 |
| EU-152 | 121.78 | 20.50 | 4.80E-01 | 4.80E-01 | -2.16E-01 | 2.34E-01 |
| | 244.69 | 5.40 | 2.74E+00 | | 3.97E-01 | 1.33E+00 |
| | 344.27 | 19.13 | 7.35E-01 | | -2.91E-01 | 3.52E-01 |
| | 778.89 | 9.20 | 2.05E+00 | | -2.11E-01 | 9.51E-01 |
| | 964.01 | 10.40 | 2.54E+00 | | -2.23E-01 | 1.19E+00 |
| | 1085.78 | 7.22 | 2.86E+00 | | 1.53E+00 | 1.30E+00 |
| | 1112.02 | 9.60 | 2.31E+00 | | 2.63E-01 | 1.06E+00 |

Analysis Report for 1510085-14

CP5006S07-08

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| EU-152 | 1407.95 | 14.94 | 1.44E+00 | 4.80E-01 | -3.89E-01 | 6.42E-01 |
| GD-153 | 97.43 | 31.30 | 3.58E-01 | 3.58E-01 | 1.52E-01 | 1.75E-01 |
| | 103.18 | 22.20 | 4.80E-01 | | 2.00E-01 | 2.34E-01 |
| EU-154 | 123.07 | 40.50 | 2.49E-01 | 2.49E-01 | -5.19E-02 | 1.21E-01 |
| | 723.30 | 19.70 | 1.05E+00 | | -8.89E-02 | 4.95E-01 |
| | 873.19 | 11.50 | 1.42E+00 | | 6.91E-01 | 6.44E-01 |
| | 996.32 | 10.30 | 1.95E+00 | | -1.00E+00 | 8.90E-01 |
| | 1004.76 | 17.90 | 1.05E+00 | | -4.83E-01 | 4.74E-01 |
| | 1274.45 | 35.50 | 7.03E-01 | | 4.09E-01 | 3.21E-01 |
| EU-155 | 86.50 | 30.90 | 3.70E-01 | 3.70E-01 | -3.93E-02 | 1.81E-01 |
| | 105.30 | 20.70 | 4.57E-01 | | -1.79E-01 | 2.23E-01 |
| EU-156 | 811.77 | 10.40 | 6.34E+00 | 6.34E+00 | -3.68E-01 | 2.90E+00 |
| | 1153.47 | 7.20 | 1.18E+01 | | -1.47E+00 | 5.34E+00 |
| | 1230.71 | 8.90 | 1.08E+01 | | -6.56E+00 | 4.92E+00 |
| HO-166M | 184.41 | 72.60 | 1.91E-01 | 1.91E-01 | 1.94E-01 | 9.31E-02 |
| | 280.45 | 29.60 | 4.59E-01 | | -2.05E-03 | 2.21E-01 |
| | 410.94 | 11.10 | 1.35E+00 | | 2.56E-01 | 6.41E-01 |
| | 711.69 | 54.10 | 3.12E-01 | | -1.67E-01 | 1.45E-01 |
| TM-171 | 66.72 | 0.14 | 6.98E+01 | 6.98E+01 | -6.98E+01 | 3.42E+01 |
| HF-172 | 81.75 | 4.52 | 2.51E+00 | 9.84E-01 | -8.57E+00 | 1.23E+00 |
| | 125.81 | 11.30 | 9.84E-01 | | 5.33E-02 | 4.80E-01 |
| LU-172 | 181.53 | 20.60 | 1.44E+01 | 6.90E+00 | 2.68E+00 | 7.01E+00 |
| | 810.06 | 16.63 | 2.30E+01 | | -2.23E+00 | 1.06E+01 |
| | 912.12 | 15.25 | 4.52E+01 | | 7.10E+01 | 2.15E+01 |
| | 1093.66 | 62.50 | 6.90E+00 | | -3.12E+00 | 3.11E+00 |
| LU-173 | 100.72 | 5.24 | 1.92E+00 | 6.70E-01 | 9.07E-01 | 9.37E-01 |
| | 272.11 | 21.20 | 6.70E-01 | | -7.55E-02 | 3.23E-01 |
| HF-175 | 343.40 | 84.00 | 2.25E-01 | 2.25E-01 | -1.31E-01 | 1.08E-01 |
| LU-176 | 88.34 | 13.30 | 8.93E-01 | 1.37E-01 | 1.40E+00 | 4.38E-01 |
| | 201.83 | 86.00 | 1.44E-01 | | -2.09E-03 | 6.99E-02 |
| | 306.78 | 94.00 | 1.37E-01 | | -1.26E-01 | 6.57E-02 |
| TA-182 | 67.75 | 41.20 | 2.79E-01 | 2.79E-01 | -6.61E-01 | 1.37E-01 |
| | 1121.30 | 34.90 | 1.02E+00 | | 8.55E-01 | 4.79E-01 |
| | 1189.05 | 16.23 | 1.68E+00 | | -7.07E-01 | 7.63E-01 |
| | 1221.41 | 26.98 | 1.17E+00 | | 5.95E-01 | 5.40E-01 |
| | 1231.02 | 11.44 | 2.55E+00 | | -1.55E+00 | 1.17E+00 |
| IR-192 | 308.46 | 29.68 | 5.86E-01 | 4.13E-01 | -2.86E-02 | 2.80E-01 |
| | 468.07 | 48.10 | 4.13E-01 | | -1.48E-01 | 1.95E-01 |
| HG-203 | 279.19 | 77.30 | 2.77E-01 | 2.77E-01 | 1.75E-01 | 1.33E-01 |
| BI-207 | 569.67 | 97.72 | 1.60E-01 | 1.60E-01 | -3.61E-02 | 7.49E-02 |
| | 1063.62 | 74.90 | 2.59E-01 | | 9.04E-02 | 1.17E-01 |
| + TL-208 | 583.14 | * 30.22 | 8.16E-01 | 4.54E-01 | 1.58E+00 | 3.91E-01 |
| | 860.37 | 4.48 | 4.69E+00 | | 2.34E+00 | 2.18E+00 |
| | 2614.66 | * 35.85 | 4.54E-01 | | 1.03E+00 | 1.73E-01 |
| BI-210M | 262.00 | 45.00 | 2.80E-01 | 2.80E-01 | 0.00E+00 | 1.35E-01 |
| | 300.00 | 23.00 | 6.97E-01 | | 1.87E-01 | 3.37E-01 |
| + PB-210 | 46.50 | * 4.25 | 1.74E+00 | 1.74E+00 | 1.12E+00 | 8.49E-01 |
| PB-211 | 404.84 | 2.90 | 4.97E+00 | 4.97E+00 | 1.20E-01 | 2.36E+00 |
| | 831.96 | 2.90 | 6.73E+00 | | 9.22E-01 | 3.12E+00 |
| + BI-212 | 727.17 | * 11.80 | 1.45E+00 | 1.45E+00 | 1.19E+00 | 6.69E-01 |
| | 1620.62 | 2.75 | 7.00E+00 | | -2.49E-01 | 3.01E+00 |
| + PB-212 | 238.63 | * 44.60 | 4.67E-01 | 4.67E-01 | 1.97E+00 | 2.29E-01 |
| | 300.09 | 3.41 | 4.71E+00 | | 1.26E+00 | 2.27E+00 |

Analysis Report for 1510085-14
CP5006S07-08

| | Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---|---------------------|---------------------|--|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| + | BI-214 | 609.31 * | | 46.30 | 5.02E-01 | 3.12E-01 | 1.19E+00 | 2.40E-01 |
| | | 1120.29 * | | 15.10 | 2.20E+00 | | 2.05E+00 | 1.04E+00 |
| | | 1764.49 * | | 15.80 | 3.12E-01 | | 1.87E+00 | 6.54E-02 |
| | | 2204.22 | | 4.98 | 4.02E+00 | | 1.69E-01 | 1.67E+00 |
| + | PB-214 | 295.21 * | | 19.19 | 9.68E-01 | 6.03E-01 | 1.09E+00 | 4.70E-01 |
| | | 351.92 * | | 37.19 | 6.03E-01 | | 1.53E+00 | 2.93E-01 |
| | RN-219 | 401.80 | | 6.50 | 2.15E+00 | 2.15E+00 | -3.21E-01 | 1.02E+00 |
| | RA-223 | 323.87 | | 3.88 | 3.40E+00 | 3.40E+00 | -8.80E-01 | 1.63E+00 |
| | RA-224 | 240.98 | | 3.95 | 5.49E+00 | 5.49E+00 | 2.17E+01 | 2.69E+00 |
| | RA-225 | 40.00 | | 31.00 | 7.98E-01 | 7.98E-01 | 1.23E-01 | 3.89E-01 |
| + | RA-226 | 186.21 * | | 3.28 | 6.68E+00 | 6.68E+00 | 8.65E+00 | 3.29E+00 |
| | TH-227 | 50.10 | | 8.40 | 8.63E-01 | 8.63E-01 | -9.74E-02 | 4.22E-01 |
| | | 236.00 | | 11.50 | 1.75E+00 | | 1.55E-01 | 8.57E-01 |
| | | 256.20 | | 6.30 | 1.93E+00 | | -2.44E-01 | 9.29E-01 |
| | AC-228 | 338.32 | | 11.40 | 1.41E+00 | 1.13E+00 | 1.20E+00 | 6.76E-01 |
| | | 911.07 | | 27.70 | 1.13E+00 | | 1.56E+00 | 5.34E-01 |
| | | 969.11 | | 16.60 | 1.76E+00 | | 1.92E+00 | 8.32E-01 |
| | TH-230 | 48.44 | | 16.90 | 4.23E-01 | 4.23E-01 | -5.73E-02 | 2.07E-01 |
| | | 62.85 | | 4.60 | 1.97E+00 | | 1.61E+00 | 9.67E-01 |
| | | 67.67 | | 0.37 | 2.59E+01 | | -6.13E+01 | 1.27E+01 |
| | PA-231 | 283.67 | | 1.60 | 7.92E+00 | 5.99E+00 | -1.30E+00 | 3.80E+00 |
| | | 302.67 | | 2.30 | 5.99E+00 | | 4.76E-01 | 2.88E+00 |
| | TH-231 | 25.64 | | 14.70 | 3.68E-01 | 3.68E-01 | -1.11E-01 | 1.79E-01 |
| | | 84.21 | | 6.40 | 1.65E+00 | | -6.95E+00 | 8.10E-01 |
| | PA-233 | 311.98 | | 38.60 | 7.37E-01 | 7.37E-01 | -2.75E-02 | 3.53E-01 |
| | PA-234 | 131.20 | | 20.40 | 5.48E-01 | 5.48E-01 | 4.06E-01 | 2.67E-01 |
| | | 733.99 | | 8.80 | 1.76E+00 | | -2.50E+00 | 8.09E-01 |
| | | 946.00 | | 12.00 | 1.46E+00 | | -8.46E-01 | 6.63E-01 |
| | PA-234M | 1001.03 | | 0.92 | 2.20E+01 | 2.20E+01 | 9.66E+00 | 1.01E+01 |
| + | TH-234 | 63.29 * | | 3.80 | 3.07E+00 | 3.07E+00 | 1.65E+00 | 1.51E+00 |
| | U-235 | 143.76 | | 10.50 | 1.03E+00 | 1.03E+00 | 5.09E-01 | 5.01E-01 |
| | | 163.35 | | 4.70 | 2.41E+00 | | -1.78E-01 | 1.17E+00 |
| | | 205.31 | | 4.70 | 2.73E+00 | | 8.82E-01 | 1.32E+00 |
| | NP-237 | 86.50 | | 12.60 | 8.96E-01 | 8.96E-01 | -9.52E-02 | 4.40E-01 |
| | NP-239 | 106.10 | | 22.70 | 2.87E+03 | 2.87E+03 | -1.12E+03 | 1.40E+03 |
| | | 228.18 | | 10.70 | 8.00E+03 | | -1.58E+03 | 3.86E+03 |
| | | 277.60 | | 14.10 | 6.66E+03 | | 9.77E+01 | 3.21E+03 |
| | AM-241 | 59.54 | | 35.90 | 2.39E-01 | 2.39E-01 | -1.68E-02 | 1.17E-01 |
| | AM-243 | 74.67 | | 66.00 | 2.01E-01 | 2.01E-01 | 8.44E-01 | 9.91E-02 |
| | CM-243 | 209.75 | | 3.29 | 3.86E+00 | 9.70E-01 | 1.89E+00 | 1.87E+00 |
| | | 228.14 | | 10.60 | 1.20E+00 | | 3.87E-01 | 5.78E-01 |
| | | 277.60 | | 14.00 | 9.70E-01 | | 1.42E-02 | 4.67E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

Analysis Report for 1510085-14
CP5006S07-08

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S07-08

Elapsed Live time: 3600

Elapsed Real Time: 3639

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 95 |
| 17: | 76 | 78 | 62 | 59 | 59 | 64 | 55 | 54 | 54 |
| 25: | 41 | 48 | 68 | 56 | 56 | 55 | 52 | 54 | 54 |
| 33: | 54 | 47 | 55 | 68 | 57 | 52 | 53 | 70 | 70 |
| 41: | 63 | 51 | 60 | 74 | 93 | 85 | 83 | 64 | 64 |
| 49: | 59 | 60 | 70 | 68 | 75 | 69 | 75 | 77 | 77 |
| 57: | 72 | 70 | 79 | 95 | 96 | 123 | 116 | 114 | 114 |
| 65: | 84 | 83 | 89 | 86 | 95 | 100 | 126 | 102 | 102 |
| 73: | 169 | 216 | 229 | 264 | 242 | 125 | 92 | 93 | 93 |
| 81: | 70 | 85 | 94 | 89 | 86 | 129 | 129 | 114 | 114 |
| 89: | 125 | 110 | 124 | 133 | 133 | 83 | 66 | 62 | 62 |
| 97: | 57 | 86 | 81 | 67 | 54 | 58 | 54 | 60 | 60 |
| 105: | 67 | 49 | 51 | 58 | 61 | 48 | 52 | 45 | 45 |
| 113: | 54 | 56 | 56 | 55 | 44 | 53 | 44 | 44 | 44 |
| 121: | 52 | 73 | 50 | 45 | 58 | 59 | 54 | 73 | 73 |
| 129: | 74 | 70 | 59 | 54 | 38 | 64 | 58 | 50 | 50 |
| 137: | 47 | 41 | 49 | 41 | 51 | 45 | 50 | 63 | 63 |
| 145: | 47 | 61 | 37 | 38 | 42 | 46 | 42 | 45 | 45 |
| 153: | 55 | 51 | 48 | 47 | 42 | 39 | 47 | 36 | 36 |
| 161: | 35 | 59 | 53 | 34 | 39 | 53 | 44 | 50 | 50 |
| 169: | 45 | 47 | 33 | 30 | 51 | 42 | 32 | 39 | 39 |
| 177: | 49 | 45 | 43 | 37 | 40 | 43 | 59 | 66 | 66 |
| 185: | 84 | 80 | 53 | 37 | 39 | 41 | 44 | 45 | 45 |
| 193: | 34 | 29 | 31 | 47 | 36 | 32 | 54 | 31 | 31 |
| 201: | 40 | 41 | 36 | 38 | 32 | 42 | 38 | 39 | 39 |
| 209: | 48 | 40 | 36 | 25 | 33 | 27 | 24 | 32 | 32 |
| 217: | 34 | 39 | 43 | 25 | 25 | 36 | 46 | 29 | 29 |
| 225: | 26 | 33 | 18 | 28 | 35 | 33 | 38 | 32 | 32 |
| 233: | 27 | 28 | 31 | 52 | 142 | 214 | 137 | 76 | 76 |
| 241: | 58 | 44 | 35 | 27 | 19 | 27 | 40 | 20 | 20 |
| 249: | 25 | 20 | 26 | 21 | 27 | 24 | 24 | 24 | 24 |
| 257: | 21 | 20 | 30 | 23 | 26 | 19 | 32 | 21 | 21 |
| 265: | 28 | 20 | 22 | 27 | 34 | 40 | 28 | 27 | 27 |
| 273: | 17 | 24 | 23 | 36 | 36 | 22 | 27 | 22 | 22 |
| 281: | 23 | 21 | 23 | 17 | 23 | 18 | 18 | 27 | 27 |
| 289: | 15 | 24 | 30 | 23 | 35 | 55 | 65 | 48 | 48 |
| 297: | 22 | 16 | 32 | 30 | 30 | 22 | 17 | 20 | 20 |
| 305: | 20 | 15 | 20 | 25 | 12 | 21 | 21 | 22 | 22 |
| 313: | 22 | 19 | 11 | 23 | 21 | 17 | 19 | 18 | 18 |
| 321: | 16 | 20 | 15 | 18 | 16 | 24 | 16 | 23 | 23 |
| 329: | 19 | 16 | 22 | 27 | 17 | 14 | 9 | 27 | 27 |
| 337: | 40 | 48 | 20 | 19 | 19 | 27 | 15 | 15 | 15 |
| 345: | 13 | 20 | 17 | 18 | 27 | 53 | 107 | 92 | 92 |
| 353: | 38 | 17 | 17 | 14 | 15 | 16 | 7 | 16 | 16 |
| 361: | 12 | 10 | 12 | 16 | 22 | 14 | 11 | 10 | 10 |

369: 13 12 16 8 19 23 18 6

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| Channel | 13 | 12 | 16 | 8 | 19 | 23 | 18 | 6 |
|---------|----|----|----|----|----|----|----|----|
| 377: | 13 | 15 | 11 | 11 | 12 | 14 | 15 | 15 |
| 385: | 10 | 19 | 18 | 22 | 10 | 10 | 13 | 23 |
| 393: | 21 | 10 | 18 | 11 | 13 | 8 | 18 | 12 |
| 401: | 17 | 15 | 12 | 10 | 14 | 18 | 18 | 9 |
| 409: | 22 | 12 | 9 | 18 | 17 | 8 | 16 | 14 |
| 417: | 13 | 19 | 17 | 10 | 15 | 18 | 8 | 23 |
| 425: | 9 | 15 | 23 | 9 | 14 | 13 | 10 | 8 |
| 433: | 10 | 14 | 9 | 14 | 7 | 10 | 20 | 16 |
| 441: | 8 | 11 | 11 | 9 | 12 | 12 | 11 | 15 |
| 449: | 13 | 7 | 11 | 8 | 14 | 11 | 9 | 11 |
| 457: | 8 | 10 | 12 | 14 | 14 | 18 | 21 | 17 |
| 465: | 11 | 10 | 4 | 10 | 12 | 12 | 15 | 10 |
| 473: | 11 | 9 | 9 | 10 | 10 | 9 | 13 | 13 |
| 481: | 17 | 4 | 10 | 15 | 10 | 8 | 9 | 6 |
| 489: | 7 | 8 | 8 | 8 | 10 | 9 | 6 | 11 |
| 497: | 12 | 10 | 8 | 9 | 14 | 11 | 9 | 15 |
| 505: | 7 | 8 | 6 | 9 | 32 | 43 | 21 | 23 |
| 513: | 11 | 14 | 3 | 1 | 7 | 6 | 11 | 9 |
| 521: | 7 | 10 | 8 | 8 | 6 | 10 | 10 | 9 |
| 529: | 5 | 4 | 7 | 10 | 7 | 9 | 6 | 9 |
| 537: | 9 | 7 | 5 | 3 | 6 | 9 | 9 | 7 |
| 545: | 10 | 14 | 11 | 14 | 10 | 6 | 13 | 7 |
| 553: | 7 | 8 | 8 | 8 | 4 | 9 | 8 | 10 |
| 561: | 8 | 12 | 16 | 11 | 9 | 8 | 6 | 12 |
| 569: | 7 | 10 | 8 | 6 | 7 | 6 | 8 | 5 |
| 577: | 3 | 11 | 6 | 9 | 17 | 34 | 49 | 32 |
| 585: | 16 | 8 | 4 | 6 | 9 | 6 | 9 | 6 |
| 593: | 7 | 13 | 6 | 9 | 8 | 10 | 7 | 8 |
| 601: | 6 | 7 | 8 | 7 | 8 | 7 | 17 | 57 |
| 609: | 60 | 41 | 13 | 11 | 7 | 11 | 8 | 14 |
| 617: | 5 | 6 | 6 | 9 | 4 | 6 | 4 | 9 |
| 625: | 4 | 5 | 6 | 8 | 12 | 9 | 7 | 8 |
| 633: | 7 | 9 | 7 | 8 | 6 | 8 | 10 | 3 |
| 641: | 6 | 5 | 5 | 11 | 10 | 9 | 4 | 6 |
| 649: | 12 | 6 | 8 | 4 | 11 | 9 | 9 | 7 |
| 657: | 5 | 5 | 3 | 12 | 5 | 6 | 9 | 4 |
| 665: | 8 | 10 | 4 | 2 | 15 | 9 | 7 | 6 |
| 673: | 2 | 5 | 5 | 8 | 13 | 9 | 10 | 4 |
| 681: | 11 | 8 | 3 | 11 | 6 | 3 | 2 | 6 |
| 689: | 4 | 5 | 0 | 8 | 4 | 11 | 5 | 4 |
| 697: | 8 | 5 | 10 | 9 | 7 | 7 | 11 | 7 |
| 705: | 13 | 4 | 7 | 6 | 7 | 8 | 3 | 3 |
| 713: | 6 | 8 | 6 | 7 | 8 | 10 | 5 | 10 |
| 721: | 8 | 4 | 8 | 8 | 6 | 13 | 18 | 12 |
| 729: | 3 | 7 | 4 | 3 | 4 | 7 | 5 | 5 |
| 737: | 3 | 4 | 10 | 9 | 8 | 8 | 5 | 8 |
| 745: | 5 | 1 | 4 | 6 | 8 | 8 | 9 | 4 |
| 753: | 2 | 5 | 9 | 5 | 3 | 2 | 7 | 10 |
| 761: | 6 | 7 | 4 | 3 | 5 | 9 | 11 | 10 |
| 769: | 6 | 5 | 11 | 7 | 4 | 5 | 7 | 5 |
| 777: | 4 | 4 | 8 | 7 | 9 | 7 | 8 | 3 |
| 785: | 7 | 4 | 14 | 5 | 7 | 5 | 8 | 3 |
| 793: | 7 | 9 | 15 | 12 | 6 | 3 | 2 | 5 |

801: 1 7 5 7 6 9 4 4

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| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|----|----|---|----|----|----|----|----|---|
| 809: | 3 | 3 | 7 | 2 | 4 | 6 | 7 | 5 | |
| 817: | 1 | 0 | 4 | 1 | 5 | 3 | 5 | 2 | |
| 825: | 6 | 4 | 4 | 2 | 6 | 5 | 9 | 2 | |
| 833: | 9 | 4 | 9 | 7 | 4 | 3 | 11 | 6 | |
| 841: | 7 | 5 | 9 | 3 | 5 | 4 | 3 | 7 | |
| 849: | 7 | 6 | 4 | 2 | 5 | 4 | 4 | 7 | |
| 857: | 3 | 9 | 6 | 9 | 4 | 8 | 7 | 5 | |
| 865: | 6 | 1 | 6 | 3 | 4 | 4 | 3 | 3 | |
| 873: | 3 | 6 | 3 | 5 | 1 | 0 | 3 | 0 | |
| 881: | 6 | 5 | 8 | 1 | 2 | 8 | 3 | 5 | |
| 889: | 5 | 2 | 2 | 4 | 4 | 6 | 4 | 8 | |
| 897: | 2 | 3 | 2 | 5 | 2 | 2 | 4 | 11 | |
| 905: | 5 | 3 | 5 | 7 | 12 | 21 | 34 | 18 | |
| 913: | 14 | 4 | 4 | 2 | 7 | 3 | 0 | 2 | |
| 921: | 9 | 5 | 2 | 4 | 6 | 4 | 5 | 1 | |
| 929: | 7 | 2 | 9 | 5 | 6 | 7 | 5 | 5 | |
| 937: | 4 | 3 | 6 | 4 | 5 | 3 | 9 | 4 | |
| 945: | 3 | 1 | 4 | 3 | 2 | 3 | 9 | 1 | |
| 953: | 7 | 5 | 3 | 0 | 6 | 6 | 2 | 3 | |
| 961: | 5 | 4 | 7 | 10 | 10 | 12 | 8 | 15 | |
| 969: | 21 | 14 | 6 | 3 | 3 | 4 | 3 | 2 | |
| 977: | 5 | 7 | 3 | 4 | 5 | 4 | 7 | 1 | |
| 985: | 5 | 4 | 3 | 4 | 8 | 6 | 3 | 6 | |
| 993: | 2 | 2 | 5 | 5 | 3 | 3 | 7 | 5 | |
| 1001: | 10 | 3 | 6 | 1 | 1 | 3 | 2 | 1 | |
| 1009: | 4 | 8 | 4 | 1 | 3 | 4 | 3 | 5 | |
| 1017: | 1 | 3 | 1 | 4 | 7 | 3 | 5 | 2 | |
| 1025: | 3 | 2 | 0 | 2 | 5 | 5 | 3 | 3 | |
| 1033: | 3 | 5 | 3 | 6 | 5 | 6 | 3 | 1 | |
| 1041: | 1 | 3 | 3 | 4 | 2 | 4 | 5 | 3 | |
| 1049: | 2 | 4 | 3 | 5 | 2 | 2 | 6 | 4 | |
| 1057: | 2 | 1 | 3 | 3 | 3 | 2 | 5 | 3 | |
| 1065: | 5 | 3 | 4 | 3 | 4 | 0 | 5 | 3 | |
| 1073: | 5 | 6 | 0 | 4 | 3 | 2 | 2 | 1 | |
| 1081: | 3 | 3 | 7 | 4 | 2 | 1 | 5 | 6 | |
| 1089: | 1 | 5 | 1 | 3 | 2 | 2 | 3 | 8 | |
| 1097: | 4 | 4 | 6 | 6 | 3 | 4 | 6 | 6 | |
| 1105: | 3 | 3 | 5 | 5 | 6 | 5 | 5 | 2 | |
| 1113: | 3 | 3 | 6 | 3 | 7 | 6 | 8 | 14 | |
| 1121: | 15 | 9 | 8 | 1 | 3 | 5 | 3 | 4 | |
| 1129: | 6 | 2 | 4 | 4 | 4 | 3 | 9 | 3 | |
| 1137: | 7 | 4 | 2 | 4 | 4 | 4 | 6 | 6 | |
| 1145: | 5 | 6 | 2 | 3 | 5 | 8 | 2 | 3 | |
| 1153: | 3 | 2 | 2 | 4 | 4 | 5 | 5 | 3 | |
| 1161: | 2 | 4 | 4 | 5 | 3 | 5 | 0 | 5 | |
| 1169: | 6 | 9 | 5 | 4 | 7 | 2 | 1 | 5 | |
| 1177: | 3 | 2 | 3 | 8 | 5 | 4 | 4 | 6 | |
| 1185: | 5 | 8 | 3 | 4 | 2 | 6 | 2 | 2 | |
| 1193: | 3 | 2 | 6 | 9 | 3 | 3 | 2 | 10 | |
| 1201: | 4 | 2 | 4 | 2 | 3 | 4 | 5 | 1 | |
| 1209: | 4 | 2 | 2 | 6 | 4 | 5 | 2 | 2 | |
| 1217: | 5 | 4 | 4 | 2 | 7 | 10 | 6 | 5 | |
| 1225: | 3 | 4 | 3 | 3 | 3 | 4 | 5 | 5 | |

1233: 5 6 4 6 10 10 1 2

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| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|----|----|----|----|----|----|---|
| 1241: | 5 | 6 | 5 | 2 | 5 | 1 | 2 | 3 |
| 1249: | 4 | 2 | 6 | 1 | 5 | 2 | 3 | 4 |
| 1257: | 4 | 7 | 6 | 3 | 1 | 0 | 1 | 3 |
| 1265: | 3 | 5 | 4 | 3 | 1 | 4 | 3 | 4 |
| 1273: | 5 | 6 | 4 | 4 | 3 | 4 | 3 | 2 |
| 1281: | 0 | 3 | 3 | 2 | 5 | 2 | 4 | 5 |
| 1289: | 4 | 2 | 2 | 2 | 1 | 4 | 5 | 5 |
| 1297: | 1 | 3 | 2 | 0 | 2 | 6 | 5 | 2 |
| 1305: | 6 | 4 | 0 | 0 | 3 | 0 | 2 | 5 |
| 1313: | 1 | 2 | 1 | 1 | 3 | 1 | 4 | 1 |
| 1321: | 3 | 2 | 2 | 4 | 2 | 3 | 4 | 1 |
| 1329: | 3 | 1 | 2 | 4 | 2 | 3 | 4 | 2 |
| 1337: | 2 | 3 | 0 | 2 | 2 | 0 | 8 | 2 |
| 1345: | 1 | 3 | 3 | 2 | 0 | 0 | 5 | 1 |
| 1353: | 3 | 1 | 3 | 2 | 3 | 1 | 0 | 0 |
| 1361: | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 2 |
| 1369: | 2 | 1 | 2 | 2 | 1 | 5 | 3 | 4 |
| 1377: | 4 | 3 | 1 | 4 | 3 | 1 | 2 | 1 |
| 1385: | 1 | 2 | 2 | 3 | 3 | 4 | 0 | 2 |
| 1393: | 0 | 2 | 1 | 5 | 2 | 2 | 1 | 0 |
| 1401: | 6 | 2 | 1 | 2 | 0 | 3 | 0 | 7 |
| 1409: | 7 | 1 | 0 | 2 | 4 | 3 | 3 | 3 |
| 1417: | 1 | 2 | 0 | 3 | 0 | 4 | 3 | 1 |
| 1425: | 2 | 3 | 2 | 1 | 2 | 2 | 2 | 0 |
| 1433: | 1 | 2 | 3 | 0 | 1 | 2 | 2 | 2 |
| 1441: | 2 | 3 | 2 | 1 | 5 | 2 | 4 | 1 |
| 1449: | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 3 |
| 1457: | 2 | 10 | 19 | 55 | 73 | 79 | 30 | 6 |
| 1465: | 0 | 2 | 3 | 0 | 2 | 2 | 1 | 1 |
| 1473: | 2 | 1 | 2 | 0 | 1 | 1 | 3 | 1 |
| 1481: | 1 | 2 | 1 | 1 | 1 | 1 | 3 | 0 |
| 1489: | 1 | 0 | 0 | 2 | 5 | 0 | 1 | 1 |
| 1497: | 0 | 2 | 3 | 0 | 1 | 3 | 1 | 2 |
| 1505: | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 4 |
| 1513: | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 2 |
| 1521: | 0 | 3 | 0 | 1 | 1 | 3 | 0 | 1 |
| 1529: | 1 | 1 | 2 | 1 | 1 | 0 | 1 | 1 |
| 1537: | 0 | 1 | 2 | 1 | 0 | 0 | 2 | 3 |
| 1545: | 3 | 1 | 0 | 1 | 1 | 1 | 3 | 3 |
| 1553: | 1 | 0 | 1 | 0 | 2 | 1 | 2 | 2 |
| 1561: | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 1569: | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 6 |
| 1577: | 2 | 0 | 1 | 0 | 2 | 2 | 3 | 2 |
| 1585: | 0 | 0 | 1 | 2 | 3 | 2 | 4 | 1 |
| 1593: | 5 | 3 | 1 | 1 | 0 | 2 | 1 | 0 |
| 1601: | 0 | 1 | 0 | 1 | 4 | 0 | 3 | 0 |
| 1609: | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 |
| 1617: | 2 | 0 | 0 | 1 | 4 | 2 | 1 | 2 |
| 1625: | 1 | 2 | 3 | 2 | 0 | 0 | 2 | 1 |
| 1633: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1641: | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 0 |
| 1649: | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 0 |
| 1657: | 1 | 0 | 0 | 1 | 0 | 1 | 3 | 1 |

1665: 1 0 0 1 3 2 1 0

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| Channel | 1 | 0 | 2 | 1 | 0 | 2 | 1 | 0 |
|---------|---|---|---|---|---|---|---|---|
| 1673: | 1 | 0 | 2 | 1 | 0 | 2 | 1 | 0 |
| 1681: | 0 | 3 | 2 | 1 | 3 | 2 | 1 | 1 |
| 1689: | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 |
| 1697: | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 0 |
| 1705: | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1713: | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 0 |
| 1721: | 1 | 3 | 0 | 1 | 2 | 2 | 2 | 1 |
| 1729: | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 3 |
| 1737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 1745: | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 |
| 1753: | 0 | 2 | 1 | 2 | 1 | 0 | 0 | 0 |
| 1761: | 2 | 1 | 5 | 6 | 6 | 4 | 2 | 1 |
| 1769: | 1 | 0 | 0 | 1 | 1 | 3 | 0 | 0 |
| 1777: | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 |
| 1785: | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 1 |
| 1793: | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| 1801: | 2 | 0 | 1 | 2 | 0 | 1 | 0 | 0 |
| 1809: | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 1817: | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 1 |
| 1825: | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 1 |
| 1833: | 1 | 0 | 0 | 0 | 2 | 2 | 1 | 0 |
| 1841: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| 1849: | 1 | 3 | 1 | 1 | 0 | 0 | 1 | 1 |
| 1857: | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 1 |
| 1865: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 1873: | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| 1881: | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 |
| 1889: | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 1897: | 0 | 1 | 0 | 1 | 1 | 0 | 3 | 0 |
| 1905: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 1913: | 1 | 1 | 0 | 1 | 2 | 0 | 1 | 0 |
| 1921: | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 1929: | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 1 |
| 1937: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 1945: | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1953: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| 1961: | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 2 |
| 1969: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1977: | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 |
| 1985: | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1993: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2001: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 2009: | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 |
| 2017: | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 2 |
| 2025: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2033: | 4 | 0 | 1 | 0 | 1 | 2 | 0 | 2 |
| 2041: | 0 | 1 | 0 | 0 | 2 | 0 | 2 | 0 |
| 2049: | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 |
| 2057: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 2065: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 2073: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| 2081: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2089: | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 0 |

2097: 1 0 1 0 0 3 1 3

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| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2105: | 3 | 0 | 0 | 2 | 1 | 1 | 0 | 2 |
| 2113: | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 2 |
| 2121: | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 |
| 2129: | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 1 |
| 2137: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2145: | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 1 |
| 2153: | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 2 |
| 2161: | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 1 |
| 2169: | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 2 |
| 2177: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| 2185: | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| 2193: | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| 2201: | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 |
| 2209: | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| 2217: | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2225: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 2233: | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 1 |
| 2241: | 1 | 2 | 2 | 2 | 2 | 0 | 0 | 2 |
| 2249: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2257: | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 |
| 2265: | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 |
| 2273: | 1 | 0 | 0 | 1 | 1 | 0 | 4 | 3 |
| 2281: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| 2289: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| 2297: | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2305: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2313: | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2321: | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 1 |
| 2329: | 1 | 0 | 0 | 1 | 0 | 1 | 2 | 2 |
| 2337: | 0 | 1 | 1 | 2 | 0 | 2 | 1 | 1 |
| 2345: | 1 | 1 | 2 | 2 | 1 | 0 | 0 | 0 |
| 2353: | 0 | 3 | 0 | 2 | 2 | 0 | 3 | 0 |
| 2361: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2369: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 2377: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2385: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2393: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2401: | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| 2409: | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 |
| 2417: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2425: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2433: | 2 | 1 | 0 | 1 | 1 | 0 | 0 | 1 |
| 2441: | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 1 |
| 2449: | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2457: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2465: | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2473: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2481: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2489: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2505: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2513: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2521: | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |

2529: 0 0 0 0 0 0 0 0 0

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| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 2537: | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | |
| 2545: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2553: | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | |
| 2561: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | |
| 2569: | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | |
| 2577: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 2585: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | |
| 2593: | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | |
| 2601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2609: | 0 | 0 | 0 | 0 | 1 | 3 | 6 | 8 | |
| 2617: | 6 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2625: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 2633: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2641: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2657: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2665: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | |
| 2673: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 2681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2689: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | |
| 2697: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 2705: | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | |
| 2713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2721: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 2729: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 2737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2753: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2761: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2769: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2777: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2801: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | |
| 2809: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2817: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | |
| 2825: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2833: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | |
| 2841: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2857: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 2873: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2881: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | |
| 2889: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | |
| 2897: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2913: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | |
| 2921: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2929: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | |
| 2937: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2945: | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

2961: 1 0 0 0 0 0 0 0

Sample Title: CP5006S07-08

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2969: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2977: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2985: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 2993: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3001: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3009: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3017: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3049: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3073: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3081: | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 3089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3097: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3105: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3113: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3121: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3129: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3153: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3161: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3177: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3201: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3233: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3241: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3249: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3297: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3329: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3377: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

3393: 1 0 1 0 0 0 0 0

Sample Title: CP5006S07-08

| Channel | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
|---------|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3417: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3425: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3465: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3473: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3497: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3657: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3665: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3721: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3753: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3785: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

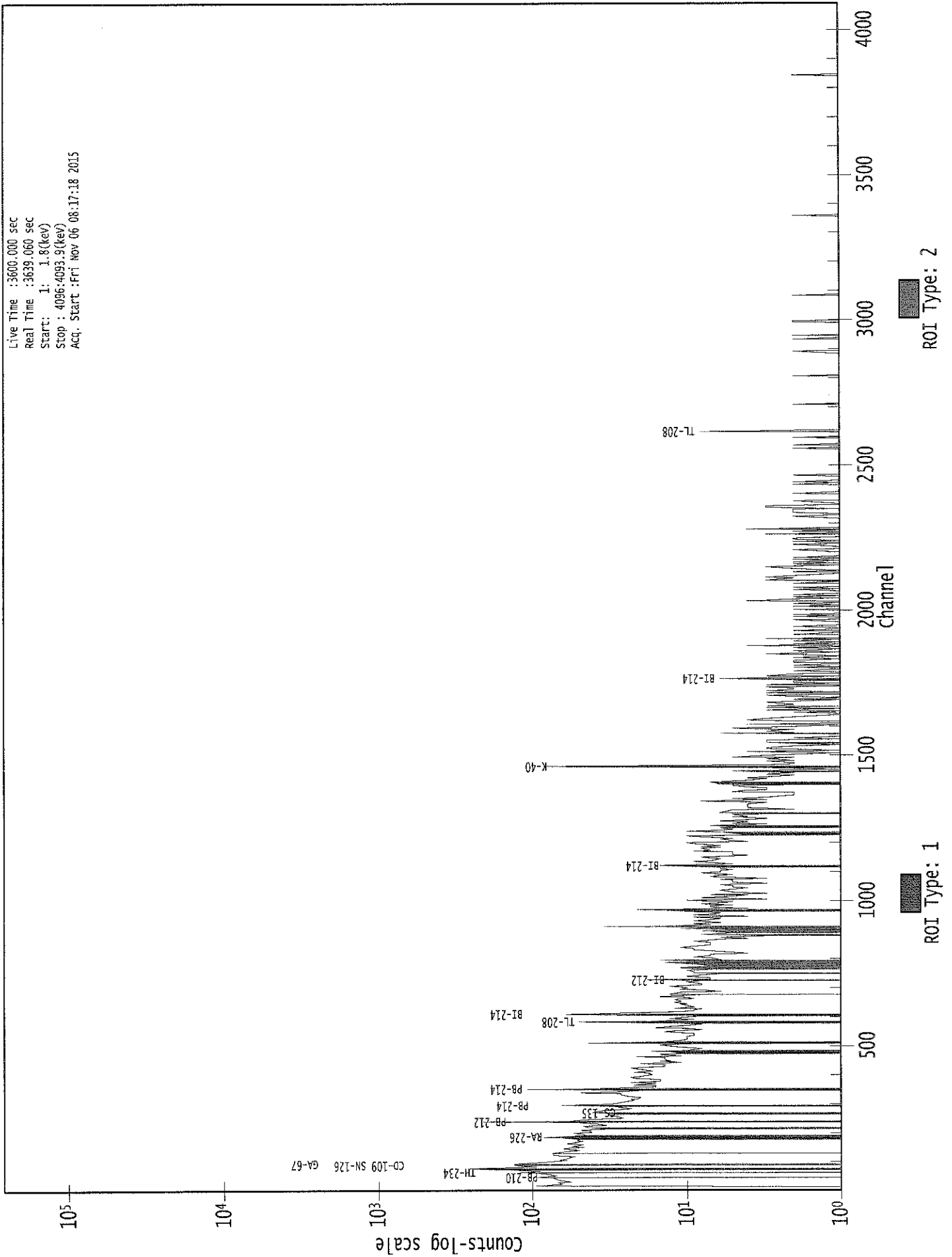
3825: 0 0 0 1 0 0 0 0

Sample Title: CP5006S07-08

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3841: | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3889: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3905: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3953: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 4025: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4041: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029245.CNF

Live Time : 3600.000 sec
Real Time : 3639.060 sec
Start : 1: 1.8(keV)
Stop : 4096.4093.9(keV)
Acq. Start : Fri Nov 06 08:17:18 2015



Analysis Report for 1510085-15
CP5006S09-10

1666

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-15
Sample Description : CP5006S09-10
Sample Type : SOIL

Sample Size : 5.479E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:42:34AM
Acquisition Started : 11/6/2015 9:19:45AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE1
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.04 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 19 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29247

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-15
CP5006S09-10

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 10:19:50AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 63.39 | 63.74 | 0.0000 | 0.00 |
| 2 | 74.94 | 75.28 | 0.0000 | 0.00 |
| 3 | 77.42 | 77.77 | 0.0000 | 0.00 |
| 4 | 87.80 | 88.13 | 0.0000 | 0.00 |
| 5 | 92.62 | 92.96 | 0.0000 | 0.00 |
| 6 | 99.32 | 99.66 | 0.0000 | 0.00 |
| 7 | 129.41 | 129.73 | 0.0000 | 0.00 |
| 8 | 185.87 | 186.18 | 0.0000 | 0.00 |
| 9 | 208.71 | 209.00 | 0.0000 | 0.00 |
| 10 | 238.69 | 238.98 | 0.0000 | 0.00 |
| 11 | 241.84 | 242.13 | 0.0000 | 0.00 |
| 12 | 270.12 | 270.40 | 0.0000 | 0.00 |
| 13 | 276.80 | 277.07 | 0.0000 | 0.00 |
| 14 | 295.29 | 295.56 | 0.0000 | 0.00 |
| 15 | 305.88 | 306.14 | 0.0000 | 0.00 |
| 16 | 338.79 | 339.05 | 0.0000 | 0.00 |
| 17 | 352.12 | 352.37 | 0.0000 | 0.00 |
| 18 | 451.95 | 452.17 | 0.0000 | 0.00 |
| 19 | 462.60 | 462.81 | 0.0000 | 0.00 |
| 20 | 495.35 | 495.55 | 0.0000 | 0.00 |
| 21 | 511.23 | 511.43 | 0.0000 | 0.00 |
| 22 | 583.59 | 583.76 | 0.0000 | 0.00 |
| 23 | 609.61 | 609.77 | 0.0000 | 0.00 |
| 24 | 665.88 | 666.03 | 0.0000 | 0.00 |
| 25 | 727.85 | 727.97 | 0.0000 | 0.00 |
| 26 | 756.08 | 756.19 | 0.0000 | 0.00 |
| 27 | 769.06 | 769.16 | 0.0000 | 0.00 |
| 28 | 796.27 | 796.37 | 0.0000 | 0.00 |
| 29 | 860.97 | 861.05 | 0.0000 | 0.00 |
| 30 | 911.76 | 911.82 | 0.0000 | 0.00 |
| 31 | 969.88 | 969.92 | 0.0000 | 0.00 |
| 32 | 1080.39 | 1080.39 | 0.0000 | 0.00 |
| 33 | 1120.63 | 1120.61 | 0.0000 | 0.00 |
| 34 | 1208.72 | 1208.67 | 0.0000 | 0.00 |
| 35 | 1238.06 | 1238.00 | 0.0000 | 0.00 |
| 36 | 1241.01 | 1240.94 | 0.0000 | 0.00 |
| 37 | 1363.88 | 1363.77 | 0.0000 | 0.00 |
| 38 | 1378.55 | 1378.44 | 0.0000 | 0.00 |
| 39 | 1405.90 | 1405.78 | 0.0000 | 0.00 |
| 40 | 1417.28 | 1417.15 | 0.0000 | 0.00 |
| 41 | 1461.53 | 1461.38 | 0.0000 | 0.00 |
| 42 | 1509.34 | 1509.18 | 0.0000 | 0.00 |

Analysis Report for 1510085-15
CP5006S09-10

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1541.07 | 1540.90 | 0.0000 | 0.00 |
| 44 | 1594.39 | 1594.19 | 0.0000 | 0.00 |
| 45 | 1621.12 | 1620.92 | 0.0000 | 0.00 |
| 46 | 1630.02 | 1629.81 | 0.0000 | 0.00 |
| 47 | 1661.90 | 1661.68 | 0.0000 | 0.00 |
| 48 | 1715.61 | 1715.38 | 0.0000 | 0.00 |
| 49 | 1729.52 | 1729.28 | 0.0000 | 0.00 |
| 50 | 1745.20 | 1744.95 | 0.0000 | 0.00 |
| 51 | 1765.26 | 1765.00 | 0.0000 | 0.00 |
| 52 | 1825.86 | 1825.58 | 0.0000 | 0.00 |
| 53 | 1830.36 | 1830.08 | 0.0000 | 0.00 |
| 54 | 1848.82 | 1848.54 | 0.0000 | 0.00 |
| 55 | 1853.18 | 1852.89 | 0.0000 | 0.00 |
| 56 | 2102.38 | 2102.00 | 0.0000 | 0.00 |
| 57 | 2107.39 | 2107.00 | 0.0000 | 0.00 |
| 58 | 2118.64 | 2118.25 | 0.0000 | 0.00 |
| 59 | 2164.69 | 2164.29 | 0.0000 | 0.00 |
| 60 | 2205.38 | 2204.96 | 0.0000 | 0.00 |
| 61 | 2376.30 | 2375.81 | 0.0000 | 0.00 |
| 62 | 2445.31 | 2444.79 | 0.0000 | 0.00 |
| 63 | 2450.15 | 2449.63 | 0.0000 | 0.00 |
| 64 | 2615.45 | 2614.87 | 0.0000 | 0.00 |

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510085-15
CP5006S09-10

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 10:19:50AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| | 1 | 61 - | 66 | 63.74 | 1.89E+02 | 94.96 | 1.66E+03 | 1.41 |
| M | 2 | 72 - | 81 | 75.28 | 5.00E+02 | 96.11 | 1.26E+03 | 1.60 |
| m | 3 | 72 - | 81 | 77.77 | 7.51E+02 | 103.68 | 1.27E+03 | 1.61 |
| M | 4 | 83 - | 96 | 88.13 | 2.38E+02 | 65.45 | 8.29E+02 | 1.48 |
| m | 5 | 83 - | 96 | 92.96 | 3.24E+02 | 69.63 | 6.98E+02 | 1.49 |
| | 6 | 98 - | 102 | 99.66 | 7.77E+01 | 63.32 | 8.25E+02 | 1.95 |
| | 7 | 126 - | 133 | 129.73 | 1.22E+02 | 86.02 | 1.15E+03 | 1.70 |
| | 8 | 182 - | 189 | 186.18 | 2.73E+02 | 83.35 | 9.76E+02 | 1.93 |
| | 9 | 206 - | 211 | 209.00 | 7.70E+01 | 60.63 | 6.76E+02 | 2.35 |
| M | 10 | 233 - | 248 | 238.98 | 1.01E+03 | 76.35 | 4.28E+02 | 1.68 |
| m | 11 | 233 - | 248 | 242.13 | 2.23E+02 | 60.71 | 4.04E+02 | 1.68 |
| | 12 | 267 - | 273 | 270.40 | 7.46E+01 | 54.21 | 4.81E+02 | 1.61 |
| | 13 | 274 - | 280 | 277.07 | 7.62E+01 | 52.88 | 4.50E+02 | 1.94 |
| | 14 | 292 - | 299 | 295.56 | 2.98E+02 | 70.20 | 6.27E+02 | 1.79 |
| | 15 | 304 - | 308 | 306.14 | 3.15E+01 | 35.32 | 2.45E+02 | 2.48 |
| | 16 | 335 - | 343 | 339.05 | 1.75E+02 | 64.39 | 5.18E+02 | 1.51 |
| | 17 | 348 - | 357 | 352.37 | 6.82E+02 | 77.76 | 4.72E+02 | 1.93 |
| | 18 | 449 - | 456 | 452.17 | 4.81E+01 | 34.93 | 1.70E+02 | 3.04 |
| | 19 | 457 - | 468 | 462.81 | 1.08E+02 | 50.48 | 2.65E+02 | 2.39 |
| | 20 | 493 - | 498 | 495.55 | 2.99E+01 | 28.30 | 1.38E+02 | 1.24 |
| | 21 | 507 - | 516 | 511.43 | 2.01E+02 | 50.86 | 2.53E+02 | 2.34 |
| | 22 | 581 - | 589 | 583.76 | 3.26E+02 | 51.69 | 2.07E+02 | 1.87 |
| | 23 | 605 - | 614 | 609.77 | 4.20E+02 | 59.44 | 2.65E+02 | 1.65 |
| | 24 | 663 - | 669 | 666.03 | 2.82E+01 | 29.15 | 1.36E+02 | 1.44 |
| | 25 | 724 - | 733 | 727.97 | 6.28E+01 | 39.72 | 1.88E+02 | 2.18 |
| M | 26 | 754 - | 776 | 756.19 | 1.76E+01 | 16.49 | 5.63E+01 | 2.07 |
| m | 27 | 754 - | 776 | 769.16 | 5.87E+01 | 26.32 | 8.77E+01 | 2.08 |
| | 28 | 791 - | 802 | 796.37 | 7.74E+01 | 38.63 | 1.41E+02 | 2.24 |
| | 29 | 858 - | 865 | 861.05 | 3.71E+01 | 30.00 | 1.28E+02 | 1.41 |
| | 30 | 906 - | 916 | 911.82 | 1.77E+02 | 44.56 | 1.71E+02 | 1.97 |
| | 31 | 966 - | 975 | 969.92 | 1.01E+02 | 43.87 | 1.98E+02 | 2.22 |
| | 32 | 1077 - | 1083 | 1080.39 | 1.94E+01 | 20.90 | 6.32E+01 | 3.33 |
| | 33 | 1115 - | 1126 | 1120.61 | 1.17E+02 | 40.79 | 1.48E+02 | 2.16 |
| | 34 | 1205 - | 1213 | 1208.67 | 3.95E+01 | 27.81 | 9.50E+01 | 5.69 |
| M | 35 | 1233 - | 1245 | 1238.00 | 3.32E+01 | 24.60 | 8.99E+01 | 2.11 |
| m | 36 | 1233 - | 1245 | 1240.94 | 2.27E+01 | 29.73 | 9.56E+01 | 2.81 |
| | 37 | 1361 - | 1366 | 1363.77 | 9.45E+00 | 11.79 | 1.91E+01 | 1.38 |
| | 38 | 1372 - | 1383 | 1378.44 | 2.92E+01 | 27.20 | 7.77E+01 | 1.87 |
| | 39 | 1397 - | 1411 | 1405.78 | 4.62E+01 | 26.19 | 5.35E+01 | 9.04 |
| | 40 | 1413 - | 1421 | 1417.15 | 1.55E+01 | 15.41 | 2.70E+01 | 1.07 |

Analysis Report for 1510085-15
CP5006S09-10

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-------------|---------|---------------|---------------|----------------------|------------------|------------|
| 41 | 1461.53 | 1455 - 1466 | | 1461.38 | 7.95E+02 | 60.10 | 5.44E+01 | 2.12 |
| 42 | 1509.34 | 1505 - 1512 | | 1509.18 | 2.11E+01 | 12.49 | 1.19E+01 | 2.02 |
| 43 | 1541.07 | 1536 - 1546 | | 1540.90 | 1.90E+01 | 15.52 | 2.20E+01 | 2.89 |
| 44 | 1594.39 | 1592 - 1597 | | 1594.19 | 9.88E+00 | 11.96 | 2.03E+01 | 2.51 |
| 45 | 1621.12 | 1617 - 1624 | | 1620.92 | 1.01E+01 | 9.38 | 7.86E+00 | 1.87 |
| 46 | 1630.02 | 1625 - 1633 | | 1629.81 | 1.77E+01 | 11.34 | 8.64E+00 | 5.69 |
| 47 | 1661.90 | 1655 - 1667 | | 1661.68 | 2.13E+01 | 15.84 | 1.94E+01 | 1.04 |
| 48 | 1715.61 | 1713 - 1717 | | 1715.38 | 6.50E+00 | 6.96 | 5.00E+00 | 0.92 |
| 49 | 1729.52 | 1726 - 1734 | | 1729.28 | 1.89E+01 | 14.04 | 2.03E+01 | 2.15 |
| 50 | 1745.20 | 1742 - 1748 | | 1744.95 | 8.50E+00 | 8.51 | 7.00E+00 | 1.62 |
| 51 | 1765.26 | 1761 - 1769 | | 1765.00 | 7.80E+01 | 20.02 | 1.40E+01 | 2.36 |
| M 52 | 1825.86 | 1824 - 1832 | | 1825.58 | 6.83E+00 | 3.61 | 2.31E-01 | 3.41 |
| m 53 | 1830.36 | 1824 - 1832 | | 1830.08 | 7.91E+00 | 6.71 | 4.31E+00 | 3.41 |
| M 54 | 1848.82 | 1844 - 1855 | | 1848.54 | 2.29E+01 | 10.78 | 5.30E+00 | 3.76 |
| m 55 | 1853.18 | 1844 - 1855 | | 1852.89 | 7.16E+00 | 8.26 | 1.11E+00 | 3.76 |
| M 56 | 2102.38 | 2101 - 2109 | | 2102.00 | 1.41E+01 | 0.71 | 1.00E+00 | 2.42 |
| m 57 | 2107.39 | 2101 - 2109 | | 2107.00 | 8.98E+00 | 10.02 | 7.00E+00 | 2.42 |
| 58 | 2118.64 | 2115 - 2121 | | 2118.25 | 6.50E+00 | 8.03 | 7.00E+00 | 1.31 |
| 59 | 2164.69 | 2160 - 2167 | | 2164.29 | 7.00E+00 | 5.29 | 0.00E+00 | 1.98 |
| 60 | 2205.38 | 2198 - 2208 | | 2204.96 | 2.18E+01 | 14.65 | 1.84E+01 | 1.27 |
| 61 | 2376.30 | 2370 - 2382 | | 2375.81 | 1.75E+01 | 11.24 | 6.90E+00 | 5.65 |
| M 62 | 2445.31 | 2443 - 2454 | | 2444.79 | 9.97E+00 | 5.29 | 5.17E-01 | 3.92 |
| m 63 | 2450.15 | 2443 - 2454 | | 2449.63 | 1.28E+01 | 11.15 | 5.17E+00 | 3.06 |
| 64 | 2615.45 | 2611 - 2620 | | 2614.87 | 1.19E+02 | 21.82 | 0.00E+00 | 2.14 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 10:19:50AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 1 | 63.39 | 61 - 66 | | 1.89E+02 | 94.96 | 1.66E+03 | 7.47E+01 |
| M 2 | 74.94 | 72 - 81 | | 5.00E+02 | 96.11 | 1.26E+03 | 5.84E+01 |
| m 3 | 77.42 | 72 - 81 | | 7.51E+02 | 103.68 | 1.27E+03 | 5.86E+01 |
| M 4 | 87.80 | 83 - 96 | | 2.38E+02 | 65.45 | 8.29E+02 | 4.73E+01 |

Analysis Report for 1510085-15

CP5006S09-10

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| m | 5 | 92.62 | 83 - | 96 | 3.24E+02 | 69.63 | 6.98E+02 | 4.34E+01 |
| | 6 | 99.32 | 98 - | 102 | 7.77E+01 | 63.32 | 8.25E+02 | 5.00E+01 |
| | 7 | 129.41 | 126 - | 133 | 1.22E+02 | 86.02 | 1.15E+03 | 6.83E+01 |
| | 8 | 185.87 | 182 - | 189 | 2.73E+02 | 83.35 | 9.76E+02 | 6.29E+01 |
| | 9 | 208.71 | 206 - | 211 | 7.70E+01 | 60.63 | 6.76E+02 | 4.77E+01 |
| M | 10 | 238.69 | 233 - | 248 | 1.01E+03 | 76.35 | 4.28E+02 | 3.40E+01 |
| m | 11 | 241.84 | 233 - | 248 | 2.23E+02 | 60.71 | 4.04E+02 | 3.30E+01 |
| | 12 | 270.12 | 267 - | 273 | 7.46E+01 | 54.21 | 4.81E+02 | 4.22E+01 |
| | 13 | 276.80 | 274 - | 280 | 7.62E+01 | 52.88 | 4.50E+02 | 4.10E+01 |
| | 14 | 295.29 | 292 - | 299 | 2.98E+02 | 70.20 | 6.27E+02 | 5.02E+01 |
| | 15 | 305.88 | 304 - | 308 | 3.15E+01 | 35.32 | 2.45E+02 | 2.75E+01 |
| | 16 | 338.79 | 335 - | 343 | 1.75E+02 | 64.39 | 5.18E+02 | 4.82E+01 |
| | 17 | 352.12 | 348 - | 357 | 6.82E+02 | 77.76 | 4.72E+02 | 4.74E+01 |
| | 18 | 451.95 | 449 - | 456 | 4.81E+01 | 34.93 | 1.70E+02 | 2.63E+01 |
| | 19 | 462.60 | 457 - | 468 | 1.08E+02 | 50.48 | 2.65E+02 | 3.78E+01 |
| | 20 | 495.35 | 493 - | 498 | 2.99E+01 | 28.30 | 1.38E+02 | 2.15E+01 |
| | 21 | 511.23 | 507 - | 516 | 2.01E+02 | 50.86 | 2.53E+02 | 3.47E+01 |
| | 22 | 583.59 | 581 - | 589 | 3.26E+02 | 51.69 | 2.07E+02 | 3.04E+01 |
| | 23 | 609.61 | 605 - | 614 | 4.20E+02 | 59.44 | 2.65E+02 | 3.54E+01 |
| | 24 | 665.88 | 663 - | 669 | 2.82E+01 | 29.15 | 1.36E+02 | 2.23E+01 |
| | 25 | 727.85 | 724 - | 733 | 6.28E+01 | 39.72 | 1.88E+02 | 2.99E+01 |
| M | 26 | 756.08 | 754 - | 776 | 1.76E+01 | 16.49 | 5.63E+01 | 1.23E+01 |
| m | 27 | 769.06 | 754 - | 776 | 5.87E+01 | 26.32 | 8.77E+01 | 1.54E+01 |
| | 28 | 796.27 | 791 - | 802 | 7.74E+01 | 38.63 | 1.41E+02 | 2.83E+01 |
| | 29 | 860.97 | 858 - | 865 | 3.71E+01 | 30.00 | 1.28E+02 | 2.25E+01 |
| | 30 | 911.76 | 906 - | 916 | 1.77E+02 | 44.56 | 1.71E+02 | 2.94E+01 |
| | 31 | 969.88 | 966 - | 975 | 1.01E+02 | 43.87 | 1.98E+02 | 3.21E+01 |
| | 32 | 1080.39 | 1077 - | 1083 | 1.94E+01 | 20.90 | 6.32E+01 | 1.56E+01 |
| | 33 | 1120.63 | 1115 - | 1126 | 1.17E+02 | 40.79 | 1.48E+02 | 2.84E+01 |
| | 34 | 1208.72 | 1205 - | 1213 | 3.95E+01 | 27.81 | 9.50E+01 | 2.04E+01 |
| M | 35 | 1238.06 | 1233 - | 1245 | 3.32E+01 | 24.60 | 8.99E+01 | 1.56E+01 |
| m | 36 | 1241.01 | 1233 - | 1245 | 2.27E+01 | 29.73 | 9.56E+01 | 1.61E+01 |
| | 37 | 1363.88 | 1361 - | 1366 | 9.45E+00 | 11.79 | 1.91E+01 | 8.27E+00 |
| | 38 | 1378.55 | 1372 - | 1383 | 2.92E+01 | 27.20 | 7.77E+01 | 2.05E+01 |
| | 39 | 1405.90 | 1397 - | 1411 | 4.62E+01 | 26.19 | 5.35E+01 | 1.84E+01 |
| | 40 | 1417.28 | 1413 - | 1421 | 1.55E+01 | 15.41 | 2.70E+01 | 1.09E+01 |
| | 41 | 1461.53 | 1455 - | 1466 | 7.95E+02 | 60.10 | 5.44E+01 | 1.71E+01 |
| | 42 | 1509.34 | 1505 - | 1512 | 2.11E+01 | 12.49 | 1.19E+01 | 6.96E+00 |
| | 43 | 1541.07 | 1536 - | 1546 | 1.90E+01 | 15.52 | 2.20E+01 | 1.06E+01 |
| | 44 | 1594.39 | 1592 - | 1597 | 9.88E+00 | 11.96 | 2.03E+01 | 8.36E+00 |
| | 45 | 1621.12 | 1617 - | 1624 | 1.01E+01 | 9.38 | 7.86E+00 | 5.68E+00 |
| | 46 | 1630.02 | 1625 - | 1633 | 1.77E+01 | 11.34 | 8.64E+00 | 6.25E+00 |
| | 47 | 1661.90 | 1655 - | 1667 | 2.13E+01 | 15.84 | 1.94E+01 | 1.06E+01 |
| | 48 | 1715.61 | 1713 - | 1717 | 6.50E+00 | 6.96 | 5.00E+00 | 3.90E+00 |
| | 49 | 1729.52 | 1726 - | 1734 | 1.89E+01 | 14.04 | 2.03E+01 | 9.06E+00 |
| | 50 | 1745.20 | 1742 - | 1748 | 8.50E+00 | 8.51 | 7.00E+00 | 5.10E+00 |
| | 51 | 1765.26 | 1761 - | 1769 | 7.80E+01 | 20.02 | 1.40E+01 | 7.74E+00 |
| M | 52 | 1825.86 | 1824 - | 1832 | 6.83E+00 | 3.61 | 2.31E-01 | 7.90E-01 |
| m | 53 | 1830.36 | 1824 - | 1832 | 7.91E+00 | 6.71 | 4.31E+00 | 3.41E+00 |
| M | 54 | 1848.82 | 1844 - | 1855 | 2.29E+01 | 10.78 | 5.30E+00 | 3.78E+00 |
| m | 55 | 1853.18 | 1844 - | 1855 | 7.16E+00 | 8.26 | 1.11E+00 | 1.73E+00 |

Analysis Report for 1510085-15

CP5006S09-10

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| M | 56 | 2102.38 | 2101 - | 2109 | 1.41E+01 | 0.71 | 1.00E+00 | 1.64E+00 |
| m | 57 | 2107.39 | 2101 - | 2109 | 8.98E+00 | 10.02 | 7.00E+00 | 4.35E+00 |
| | 58 | 2118.64 | 2115 - | 2121 | 6.50E+00 | 8.03 | 7.00E+00 | 5.10E+00 |
| | 59 | 2164.69 | 2160 - | 2167 | 7.00E+00 | 5.29 | 0.00E+00 | 0.00E+00 |
| | 60 | 2205.38 | 2198 - | 2208 | 2.18E+01 | 14.65 | 1.84E+01 | 9.28E+00 |
| | 61 | 2376.30 | 2370 - | 2382 | 1.75E+01 | 11.24 | 6.90E+00 | 6.15E+00 |
| M | 62 | 2445.31 | 2443 - | 2454 | 9.97E+00 | 5.29 | 5.17E-01 | 1.18E+00 |
| m | 63 | 2450.15 | 2443 - | 2454 | 1.28E+01 | 11.15 | 5.17E+00 | 3.74E+00 |
| | 64 | 2615.45 | 2611 - | 2620 | 1.19E+02 | 21.82 | 0.00E+00 | 0.00E+00 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 10:19:50AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| | 1 | 63.39 | 61 - | 66 | 63.74 | 1.89E+02 | 94.96 | 1.66E+03 | TH-234 TH-230 |
| M | 2 | 74.94 | 72 - | 81 | 75.28 | 5.00E+02 | 96.11 | 1.26E+03 | AM-243 |
| m | 3 | 77.42 | 72 - | 81 | 77.77 | 7.51E+02 | 103.68 | 1.27E+03 | TI-44 |
| M | 4 | 87.80 | 83 - | 96 | 88.13 | 2.38E+02 | 65.45 | 8.29E+02 | SN-126 CD-109 LU-176 |
| m | 5 | 92.62 | 83 - | 96 | 92.96 | 3.24E+02 | 69.63 | 6.98E+02 | GA-67 |
| | 6 | 99.32 | 98 - | 102 | 99.66 | 7.77E+01 | 63.32 | 8.25E+02 | ..... |
| | 7 | 129.41 | 126 - | 133 | 129.73 | 1.22E+02 | 86.02 | 1.15E+03 | ..... |
| | 8 | 185.87 | 182 - | 189 | 186.18 | 2.73E+02 | 83.35 | 9.76E+02 | RA-226 |
| | 9 | 208.71 | 206 - | 211 | 209.00 | 7.70E+01 | 60.63 | 6.76E+02 | GA-67 |
| M | 10 | 238.69 | 233 - | 248 | 238.98 | 1.01E+03 | 76.35 | 4.28E+02 | PB-212 |
| m | 11 | 241.84 | 233 - | 248 | 242.13 | 2.23E+02 | 60.71 | 4.04E+02 | RA-224 |
| | 12 | 270.12 | 267 - | 273 | 270.40 | 7.46E+01 | 54.21 | 4.81E+02 | ..... |
| | 13 | 276.80 | 274 - | 280 | 277.07 | 7.62E+01 | 52.88 | 4.50E+02 | CM-243 NP-239 |

Analysis Report for 1510085-15

CP5006S09-10

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|---------------------------|
| 14 | 295.29 | 292 - | 299 | 295.56 | 2.98E+02 | 70.20 | 6.27E+02 | PB-214 |
| 15 | 305.88 | 304 - | 308 | 306.14 | 3.15E+01 | 35.32 | 2.45E+02 | LU-176 |
| 16 | 338.79 | 335 - | 343 | 339.05 | 1.75E+02 | 64.39 | 5.18E+02 | AC-228 |
| 17 | 352.12 | 348 - | 357 | 352.37 | 6.82E+02 | 77.76 | 4.72E+02 | PB-214 |
| 18 | 451.95 | 449 - | 456 | 452.17 | 4.81E+01 | 34.93 | 1.70E+02 | ..... |
| 19 | 462.60 | 457 - | 468 | 462.81 | 1.08E+02 | 50.48 | 2.65E+02 | SB-125 |
| 20 | 495.35 | 493 - | 498 | 495.55 | 2.99E+01 | 28.30 | 1.38E+02 | ..... |
| 21 | 511.23 | 507 - | 516 | 511.43 | 2.01E+02 | 50.86 | 2.53E+02 | ..... |
| 22 | 583.59 | 581 - | 589 | 583.76 | 3.26E+02 | 51.69 | 2.07E+02 | TL-208 |
| 23 | 609.61 | 605 - | 614 | 609.77 | 4.20E+02 | 59.44 | 2.65E+02 | BI-214 |
| 24 | 665.88 | 663 - | 669 | 666.03 | 2.82E+01 | 29.15 | 1.36E+02 | SB-126 |
| 25 | 727.85 | 724 - | 733 | 727.97 | 6.28E+01 | 39.72 | 1.88E+02 | BI-212 |
| M 26 | 756.08 | 754 - | 776 | 756.19 | 1.76E+01 | 16.49 | 5.63E+01 | ZR-95 |
| m 27 | 769.06 | 754 - | 776 | 769.16 | 5.87E+01 | 26.32 | 8.77E+01 | ..... |
| 28 | 796.27 | 791 - | 802 | 796.37 | 7.74E+01 | 38.63 | 1.41E+02 | CS-134 |
| 29 | 860.97 | 858 - | 865 | 861.05 | 3.71E+01 | 30.00 | 1.28E+02 | TL-208 |
| 30 | 911.76 | 906 - | 916 | 911.82 | 1.77E+02 | 44.56 | 1.71E+02 | LU-172 AC-228 |
| 31 | 969.88 | 966 - | 975 | 969.92 | 1.01E+02 | 43.87 | 1.98E+02 | AC-228 |
| 32 | 1080.39 | 1077 - | 1083 | 1080.39 | 1.94E+01 | 20.90 | 6.32E+01 | ..... |
| 33 | 1120.63 | 1115 - | 1126 | 1120.61 | 1.17E+02 | 40.79 | 1.48E+02 | SC-46 BI-214 TA-182 |
| 34 | 1208.72 | 1205 - | 1213 | 1208.67 | 3.95E+01 | 27.81 | 9.50E+01 | ..... |
| M 35 | 1238.06 | 1233 - | 1245 | 1238.00 | 3.32E+01 | 24.60 | 8.99E+01 | CO-56 |
| m 36 | 1241.01 | 1233 - | 1245 | 1240.94 | 2.27E+01 | 29.73 | 9.56E+01 | ..... |
| 37 | 1363.88 | 1361 - | 1366 | 1363.77 | 9.45E+00 | 11.79 | 1.91E+01 | ..... |
| 38 | 1378.55 | 1372 - | 1383 | 1378.44 | 2.92E+01 | 27.20 | 7.77E+01 | ..... |
| 39 | 1405.90 | 1397 - | 1411 | 1405.78 | 4.62E+01 | 26.19 | 5.35E+01 | ..... |
| 40 | 1417.28 | 1413 - | 1421 | 1417.15 | 1.55E+01 | 15.41 | 2.70E+01 | ..... |
| 41 | 1461.53 | 1455 - | 1466 | 1461.38 | 7.95E+02 | 60.10 | 5.44E+01 | K-40 |
| 42 | 1509.34 | 1505 - | 1512 | 1509.18 | 2.11E+01 | 12.49 | 1.19E+01 | ..... |
| 43 | 1541.07 | 1536 - | 1546 | 1540.90 | 1.90E+01 | 15.52 | 2.20E+01 | ..... |
| 44 | 1594.39 | 1592 - | 1597 | 1594.19 | 9.88E+00 | 11.96 | 2.03E+01 | ..... |
| 45 | 1621.12 | 1617 - | 1624 | 1620.92 | 1.01E+01 | 9.38 | 7.86E+00 | BI-212 |
| 46 | 1630.02 | 1625 - | 1633 | 1629.81 | 1.77E+01 | 11.34 | 8.64E+00 | ..... |
| 47 | 1661.90 | 1655 - | 1667 | 1661.68 | 2.13E+01 | 15.84 | 1.94E+01 | ..... |
| 48 | 1715.61 | 1713 - | 1717 | 1715.38 | 6.50E+00 | 6.96 | 5.00E+00 | ..... |
| 49 | 1729.52 | 1726 - | 1734 | 1729.28 | 1.89E+01 | 14.04 | 2.03E+01 | ..... |
| 50 | 1745.20 | 1742 - | 1748 | 1744.95 | 8.50E+00 | 8.51 | 7.00E+00 | ..... |
| M 51 | 1765.26 | 1761 - | 1769 | 1765.00 | 7.80E+01 | 20.02 | 1.40E+01 | BI-214 |
| m 52 | 1825.86 | 1824 - | 1832 | 1825.58 | 6.83E+00 | 3.61 | 2.31E-01 | ..... |
| M 53 | 1830.36 | 1824 - | 1832 | 1830.08 | 7.91E+00 | 6.71 | 4.31E+00 | ..... |
| M 54 | 1848.82 | 1844 - | 1855 | 1848.54 | 2.29E+01 | 10.78 | 5.30E+00 | ..... |
| M 55 | 1853.18 | 1844 - | 1855 | 1852.89 | 7.16E+00 | 8.26 | 1.11E+00 | ..... |
| M 56 | 2102.38 | 2101 - | 2109 | 2102.00 | 1.41E+01 | 0.71 | 1.00E+00 | ..... |
| m 57 | 2107.39 | 2101 - | 2109 | 2107.00 | 8.98E+00 | 10.02 | 7.00E+00 | ..... |
| 58 | 2118.64 | 2115 - | 2121 | 2118.25 | 6.50E+00 | 8.03 | 7.00E+00 | ..... |
| 59 | 2164.69 | 2160 - | 2167 | 2164.29 | 7.00E+00 | 5.29 | 0.00E+00 | ..... |
| 60 | 2205.38 | 2198 - | 2208 | 2204.96 | 2.18E+01 | 14.65 | 1.84E+01 | ..... |
| 61 | 2376.30 | 2370 - | 2382 | 2375.81 | 1.75E+01 | 11.24 | 6.90E+00 | ..... |
| M 62 | 2445.31 | 2443 - | 2454 | 2444.79 | 9.97E+00 | 5.29 | 5.17E-01 | ..... |
| m 63 | 2450.15 | 2443 - | 2454 | 2449.63 | 1.28E+01 | 11.15 | 5.17E+00 | ..... |
| 64 | 2615.45 | 2611 - | 2620 | 2614.87 | 1.19E+02 | 21.82 | 0.00E+00 | TL-208 |

Analysis Report for 1510085-15
CP5006S09-10

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 10:19:50AM

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|----------|--------------|---------------|----------------------|-----------------|------------------------|
| | 1 | 63.39 | 1.89E+02 | 94.96 | 2.49E-02 | 1.91E-03 |
| M | 2 | 74.94 | 5.00E+02 | 96.11 | 2.75E-02 | 2.30E-03 |
| m | 3 | 77.42 | 7.51E+02 | 103.68 | 2.78E-02 | 2.38E-03 |
| M | 4 | 87.80 | 2.38E+02 | 65.45 | 2.85E-02 | 2.73E-03 |
| m | 5 | 92.62 | 3.24E+02 | 69.63 | 2.86E-02 | 2.65E-03 |
| | 6 | 99.32 | 7.77E+01 | 63.32 | 2.85E-02 | 2.52E-03 |
| | 7 | 129.41 | 1.22E+02 | 86.02 | 2.67E-02 | 2.09E-03 |
| | 8 | 185.87 | 2.73E+02 | 83.35 | 2.24E-02 | 2.03E-03 |
| | 9 | 208.71 | 7.70E+01 | 60.63 | 2.09E-02 | 1.86E-03 |
| M | 10 | 238.69 | 1.01E+03 | 76.35 | 1.92E-02 | 1.64E-03 |
| m | 11 | 241.84 | 2.23E+02 | 60.71 | 1.91E-02 | 1.61E-03 |
| | 12 | 270.12 | 7.46E+01 | 54.21 | 1.77E-02 | 1.41E-03 |
| | 13 | 276.80 | 7.62E+01 | 52.88 | 1.74E-02 | 1.36E-03 |
| | 14 | 295.29 | 2.98E+02 | 70.20 | 1.67E-02 | 1.31E-03 |
| | 15 | 305.88 | 3.15E+01 | 35.32 | 1.63E-02 | 1.29E-03 |
| | 16 | 338.79 | 1.75E+02 | 64.39 | 1.52E-02 | 1.22E-03 |
| | 17 | 352.12 | 6.82E+02 | 77.76 | 1.48E-02 | 1.19E-03 |
| | 18 | 451.95 | 4.81E+01 | 34.93 | 1.23E-02 | 1.05E-03 |
| | 19 | 462.60 | 1.08E+02 | 50.48 | 1.21E-02 | 1.04E-03 |
| | 20 | 495.35 | 2.99E+01 | 28.30 | 1.15E-02 | 1.01E-03 |
| | 21 | 511.23 | 2.01E+02 | 50.86 | 1.12E-02 | 9.90E-04 |
| | 22 | 583.59 | 3.26E+02 | 51.69 | 1.02E-02 | 9.15E-04 |
| | 23 | 609.61 | 4.20E+02 | 59.44 | 9.82E-03 | 8.88E-04 |
| | 24 | 665.88 | 2.82E+01 | 29.15 | 9.17E-03 | 8.30E-04 |
| | 25 | 727.85 | 6.28E+01 | 39.72 | 8.55E-03 | 7.75E-04 |
| M | 26 | 756.08 | 1.76E+01 | 16.49 | 8.30E-03 | 7.50E-04 |
| m | 27 | 769.06 | 5.87E+01 | 26.32 | 8.18E-03 | 7.38E-04 |
| | 28 | 796.27 | 7.74E+01 | 38.63 | 7.96E-03 | 7.14E-04 |
| | 29 | 860.97 | 3.71E+01 | 30.00 | 7.48E-03 | 6.56E-04 |
| | 30 | 911.76 | 1.77E+02 | 44.56 | 7.14E-03 | 6.15E-04 |
| | 31 | 969.88 | 1.01E+02 | 43.87 | 6.80E-03 | 5.85E-04 |
| | 32 | 1080.39 | 1.94E+01 | 20.90 | 6.24E-03 | 5.27E-04 |
| | 33 | 1120.63 | 1.17E+02 | 40.79 | 6.06E-03 | 5.07E-04 |
| | 34 | 1208.72 | 3.95E+01 | 27.81 | 5.72E-03 | 4.73E-04 |

Analysis Report for 1510085-15
CP5006S09-10

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| M | 35 | 1238.06 | 3.32E+01 | 24.60 | 5.61E-03 | 4.68E-04 |
| m | 36 | 1241.01 | 2.27E+01 | 29.73 | 5.60E-03 | 4.67E-04 |
| | 37 | 1363.88 | 9.45E+00 | 11.79 | 5.22E-03 | 4.43E-04 |
| | 38 | 1378.55 | 2.92E+01 | 27.20 | 5.18E-03 | 4.40E-04 |
| | 39 | 1405.90 | 4.62E+01 | 26.19 | 5.11E-03 | 4.33E-04 |
| | 40 | 1417.28 | 1.55E+01 | 15.41 | 5.08E-03 | 4.30E-04 |
| | 41 | 1461.53 | 7.95E+02 | 60.10 | 4.97E-03 | 4.19E-04 |
| | 42 | 1509.34 | 2.11E+01 | 12.49 | 4.86E-03 | 4.07E-04 |
| | 43 | 1541.07 | 1.90E+01 | 15.52 | 4.79E-03 | 3.99E-04 |
| | 44 | 1594.39 | 9.88E+00 | 11.96 | 4.68E-03 | 3.86E-04 |
| | 45 | 1621.12 | 1.01E+01 | 9.38 | 4.63E-03 | 3.79E-04 |
| | 46 | 1630.02 | 1.77E+01 | 11.34 | 4.62E-03 | 3.77E-04 |
| | 47 | 1661.90 | 2.13E+01 | 15.84 | 4.56E-03 | 3.69E-04 |
| | 48 | 1715.61 | 6.50E+00 | 6.96 | 4.47E-03 | 3.56E-04 |
| | 49 | 1729.52 | 1.89E+01 | 14.04 | 4.45E-03 | 3.52E-04 |
| | 50 | 1745.20 | 8.50E+00 | 8.51 | 4.42E-03 | 3.48E-04 |
| | 51 | 1765.26 | 7.80E+01 | 20.02 | 4.39E-03 | 3.43E-04 |
| M | 52 | 1825.86 | 6.83E+00 | 3.61 | 4.31E-03 | 3.28E-04 |
| m | 53 | 1830.36 | 7.91E+00 | 6.71 | 4.30E-03 | 3.27E-04 |
| M | 54 | 1848.82 | 2.29E+01 | 10.78 | 4.28E-03 | 3.26E-04 |
| m | 55 | 1853.18 | 7.16E+00 | 8.26 | 4.28E-03 | 3.26E-04 |
| M | 56 | 2102.38 | 1.41E+01 | 0.71 | 4.02E-03 | 3.26E-04 |
| m | 57 | 2107.39 | 8.98E+00 | 10.02 | 4.02E-03 | 3.26E-04 |
| | 58 | 2118.64 | 6.50E+00 | 8.03 | 4.01E-03 | 3.26E-04 |
| | 59 | 2164.69 | 7.00E+00 | 5.29 | 3.98E-03 | 3.26E-04 |
| | 60 | 2205.38 | 2.18E+01 | 14.65 | 3.95E-03 | 3.26E-04 |
| | 61 | 2376.30 | 1.75E+01 | 11.24 | 3.86E-03 | 3.26E-04 |
| M | 62 | 2445.31 | 9.97E+00 | 5.29 | 3.83E-03 | 3.26E-04 |
| m | 63 | 2450.15 | 1.28E+01 | 11.15 | 3.83E-03 | 3.26E-04 |
| | 64 | 2615.45 | 1.19E+02 | 21.82 | 3.79E-03 | 3.26E-04 |

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 10:19:50AM
 Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|-----------------|---------------------|----------------------|-------------------------------|---------------------------|------------------------|------------------------|---------------------------|
|-----------------|---------------------|----------------------|-------------------------------|---------------------------|------------------------|------------------------|---------------------------|

Analysis Report for 1510085-15

CP5006S09-10

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| | 1 | 63.39 | 1.89E+02 | 94.96 | 7.80E+01 | 1.33E+01 | 1.11E+02 | 9.59E+01 |
| M | 2 | 74.94 | 5.00E+02 | 96.11 | 5.09E+00 | 4.37E+00 | 4.95E+02 | 9.62E+01 |
| m | 3 | 77.42 | 7.51E+02 | 103.68 | 9.75E+00 | 8.28E+00 | 7.41E+02 | 1.04E+02 |
| M | 4 | 87.80 | 2.38E+02 | 65.45 | | | 2.38E+02 | 6.55E+01 |
| m | 5 | 92.62 | 3.24E+02 | 69.63 | 1.34E+02 | 9.83E+00 | 1.90E+02 | 7.03E+01 |
| | 6 | 99.32 | 7.77E+01 | 63.32 | | | 7.77E+01 | 6.33E+01 |
| | 7 | 129.41 | 1.22E+02 | 86.02 | | | 1.22E+02 | 8.60E+01 |
| | 8 | 185.87 | 2.73E+02 | 83.35 | 6.41E+01 | 7.38E+00 | 2.09E+02 | 8.37E+01 |
| | 9 | 208.71 | 7.70E+01 | 60.63 | | | 7.70E+01 | 6.06E+01 |
| M | 10 | 238.69 | 1.01E+03 | 76.35 | 2.34E+01 | 6.34E+00 | 9.89E+02 | 7.66E+01 |
| m | 11 | 241.84 | 2.23E+02 | 60.71 | | | 2.23E+02 | 6.07E+01 |
| | 12 | 270.12 | 7.46E+01 | 54.21 | | | 7.46E+01 | 5.42E+01 |
| | 13 | 276.80 | 7.62E+01 | 52.88 | | | 7.62E+01 | 5.29E+01 |
| | 14 | 295.29 | 2.98E+02 | 70.20 | 4.17E+00 | 5.50E+00 | 2.94E+02 | 7.04E+01 |
| | 15 | 305.88 | 3.15E+01 | 35.32 | | | 3.15E+01 | 3.53E+01 |
| | 16 | 338.79 | 1.75E+02 | 64.39 | 2.22E-01 | 4.54E+00 | 1.75E+02 | 6.45E+01 |
| | 17 | 352.12 | 6.82E+02 | 77.76 | 8.83E+00 | 4.91E+00 | 6.73E+02 | 7.79E+01 |
| | 18 | 451.95 | 4.81E+01 | 34.93 | | | 4.81E+01 | 3.49E+01 |
| | 19 | 462.60 | 1.08E+02 | 50.48 | | | 1.08E+02 | 5.05E+01 |
| | 20 | 495.35 | 2.99E+01 | 28.30 | | | 2.99E+01 | 2.83E+01 |
| | 21 | 511.23 | 2.01E+02 | 50.86 | 8.12E+01 | 5.49E+00 | 1.20E+02 | 5.12E+01 |
| | 22 | 583.59 | 3.26E+02 | 51.69 | 6.34E+00 | 3.74E+00 | 3.20E+02 | 5.18E+01 |
| | 23 | 609.61 | 4.20E+02 | 59.44 | 5.20E+00 | 3.69E+00 | 4.14E+02 | 5.96E+01 |
| | 24 | 665.88 | 2.82E+01 | 29.15 | | | 2.82E+01 | 2.91E+01 |
| | 25 | 727.85 | 6.28E+01 | 39.72 | | | 6.28E+01 | 3.97E+01 |
| M | 26 | 756.08 | 1.76E+01 | 16.49 | | | 1.76E+01 | 1.65E+01 |
| m | 27 | 769.06 | 5.87E+01 | 26.32 | | | 5.87E+01 | 2.63E+01 |
| | 28 | 796.27 | 7.74E+01 | 38.63 | | | 7.74E+01 | 3.86E+01 |
| | 29 | 860.97 | 3.71E+01 | 30.00 | | | 3.71E+01 | 3.00E+01 |
| | 30 | 911.76 | 1.77E+02 | 44.56 | 3.28E+00 | 2.53E+00 | 1.73E+02 | 4.46E+01 |
| | 31 | 969.88 | 1.01E+02 | 43.87 | | | 1.01E+02 | 4.39E+01 |
| | 32 | 1080.39 | 1.94E+01 | 20.90 | | | 1.94E+01 | 2.09E+01 |
| | 33 | 1120.63 | 1.17E+02 | 40.79 | 2.28E+00 | 2.55E+00 | 1.15E+02 | 4.09E+01 |
| | 34 | 1208.72 | 3.95E+01 | 27.81 | | | 3.95E+01 | 2.78E+01 |
| M | 35 | 1238.06 | 3.32E+01 | 24.60 | | | 3.32E+01 | 2.46E+01 |
| m | 36 | 1241.01 | 2.27E+01 | 29.73 | | | 2.27E+01 | 2.97E+01 |
| | 37 | 1363.88 | 9.45E+00 | 11.79 | | | 9.45E+00 | 1.18E+01 |
| | 38 | 1378.55 | 2.92E+01 | 27.20 | | | 2.92E+01 | 2.72E+01 |
| | 39 | 1405.90 | 4.62E+01 | 26.19 | | | 4.62E+01 | 2.62E+01 |
| | 40 | 1417.28 | 1.55E+01 | 15.41 | | | 1.55E+01 | 1.54E+01 |
| | 41 | 1461.53 | 7.95E+02 | 60.10 | 6.46E+00 | 2.33E+00 | 7.88E+02 | 6.01E+01 |
| | 42 | 1509.34 | 2.11E+01 | 12.49 | | | 2.11E+01 | 1.25E+01 |
| | 43 | 1541.07 | 1.90E+01 | 15.52 | | | 1.90E+01 | 1.55E+01 |
| | 44 | 1594.39 | 9.88E+00 | 11.96 | | | 9.88E+00 | 1.20E+01 |
| | 45 | 1621.12 | 1.01E+01 | 9.38 | | | 1.01E+01 | 9.38E+00 |
| | 46 | 1630.02 | 1.77E+01 | 11.34 | | | 1.77E+01 | 1.13E+01 |
| | 47 | 1661.90 | 2.13E+01 | 15.84 | | | 2.13E+01 | 1.58E+01 |
| | 48 | 1715.61 | 6.50E+00 | 6.96 | | | 6.50E+00 | 6.96E+00 |
| | 49 | 1729.52 | 1.89E+01 | 14.04 | | | 1.89E+01 | 1.40E+01 |
| | 50 | 1745.20 | 8.50E+00 | 8.51 | | | 8.50E+00 | 8.51E+00 |
| | 51 | 1765.26 | 7.80E+01 | 20.02 | | | 7.80E+01 | 2.00E+01 |
| M | 52 | 1825.86 | 6.83E+00 | 3.61 | | | 6.83E+00 | 3.61E+00 |
| m | 53 | 1830.36 | 7.91E+00 | 6.71 | | | 7.91E+00 | 6.71E+00 |
| M | 54 | 1848.82 | 2.29E+01 | 10.78 | | | 2.29E+01 | 1.08E+01 |

Analysis Report for 1510085-15

CP5006S09-10

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| m | 55 | 1853.18 | 7.16E+00 | 8.26 | | | 7.16E+00 | 8.26E+00 |
| M | 56 | 2102.38 | 1.41E+01 | 0.71 | | | 1.41E+01 | 7.07E-01 |
| m | 57 | 2107.39 | 8.98E+00 | 10.02 | | | 8.98E+00 | 1.00E+01 |
| | 58 | 2118.64 | 6.50E+00 | 8.03 | | | 6.50E+00 | 8.03E+00 |
| | 59 | 2164.69 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 60 | 2205.38 | 2.18E+01 | 14.65 | | | 2.18E+01 | 1.47E+01 |
| | 61 | 2376.30 | 1.75E+01 | 11.24 | | | 1.75E+01 | 1.12E+01 |
| M | 62 | 2445.31 | 9.97E+00 | 5.29 | | | 9.97E+00 | 5.29E+00 |
| m | 63 | 2450.15 | 1.28E+01 | 11.15 | | | 1.28E+01 | 1.11E+01 |
| | 64 | 2615.45 | 1.19E+02 | 21.82 | 3.47E+00 | 1.48E+00 | 1.16E+02 | 2.19E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 10:19:50AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Corrected Area is: Original * Peak Ratio - Background

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 1 | 63.39 | 1.89E+02 | 94.96 | 7.80E+01 | 1.33E+01 | 1.11E+02 | 9.59E+01 |
| M | 2 | 74.94 | 5.00E+02 | 96.11 | 5.09E+00 | 4.37E+00 | 4.95E+02 | 9.62E+01 |
| m | 3 | 77.42 | 7.51E+02 | 103.68 | 9.75E+00 | 8.28E+00 | 7.41E+02 | 1.04E+02 |
| M | 4 | 87.80 | 2.38E+02 | 65.45 | | | 2.38E+02 | 6.55E+01 |
| m | 5 | 92.62 | 3.24E+02 | 69.63 | 1.34E+02 | 9.83E+00 | 1.90E+02 | 7.03E+01 |
| | 6 | 99.32 | 7.77E+01 | 63.32 | | | 7.77E+01 | 6.33E+01 |
| | 7 | 129.41 | 1.22E+02 | 86.02 | | | 1.22E+02 | 8.60E+01 |
| | 8 | 185.87 | 2.73E+02 | 83.35 | 6.41E+01 | 7.38E+00 | 2.09E+02 | 8.37E+01 |
| | 9 | 208.71 | 7.70E+01 | 60.63 | | | 7.70E+01 | 6.06E+01 |
| M | 10 | 238.69 | 1.01E+03 | 76.35 | 2.34E+01 | 6.34E+00 | 9.89E+02 | 7.66E+01 |
| m | 11 | 241.84 | 2.23E+02 | 60.71 | | | 2.23E+02 | 6.07E+01 |
| | 12 | 270.12 | 7.46E+01 | 54.21 | | | 7.46E+01 | 5.42E+01 |
| | 13 | 276.80 | 7.62E+01 | 52.88 | | | 7.62E+01 | 5.29E+01 |
| | 14 | 295.29 | 2.98E+02 | 70.20 | 4.17E+00 | 5.50E+00 | 2.94E+02 | 7.04E+01 |
| | 15 | 305.88 | 3.15E+01 | 35.32 | | | 3.15E+01 | 3.53E+01 |
| | 16 | 338.79 | 1.75E+02 | 64.39 | 2.22E-01 | 4.54E+00 | 1.75E+02 | 6.45E+01 |
| | 17 | 352.12 | 6.82E+02 | 77.76 | 8.83E+00 | 4.91E+00 | 6.73E+02 | 7.79E+01 |
| | 18 | 451.95 | 4.81E+01 | 34.93 | | | 4.81E+01 | 3.49E+01 |

Analysis Report for 1510085-15

CP5006S09-10

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 19 | 462.60 | 1.08E+02 | 50.48 | | | 1.08E+02 | 5.05E+01 |
| | 20 | 495.35 | 2.99E+01 | 28.30 | | | 2.99E+01 | 2.83E+01 |
| | 21 | 511.23 | 2.01E+02 | 50.86 | 8.12E+01 | 5.49E+00 | 1.20E+02 | 5.12E+01 |
| | 22 | 583.59 | 3.26E+02 | 51.69 | 6.34E+00 | 3.74E+00 | 3.20E+02 | 5.18E+01 |
| | 23 | 609.61 | 4.20E+02 | 59.44 | 5.20E+00 | 3.69E+00 | 4.14E+02 | 5.96E+01 |
| | 24 | 665.88 | 2.82E+01 | 29.15 | | | 2.82E+01 | 2.91E+01 |
| | 25 | 727.85 | 6.28E+01 | 39.72 | | | 6.28E+01 | 3.97E+01 |
| M | 26 | 756.08 | 1.76E+01 | 16.49 | | | 1.76E+01 | 1.65E+01 |
| m | 27 | 769.06 | 5.87E+01 | 26.32 | | | 5.87E+01 | 2.63E+01 |
| | 28 | 796.27 | 7.74E+01 | 38.63 | | | 7.74E+01 | 3.86E+01 |
| | 29 | 860.97 | 3.71E+01 | 30.00 | | | 3.71E+01 | 3.00E+01 |
| | 30 | 911.76 | 1.77E+02 | 44.56 | 3.28E+00 | 2.53E+00 | 1.73E+02 | 4.46E+01 |
| | 31 | 969.88 | 1.01E+02 | 43.87 | | | 1.01E+02 | 4.39E+01 |
| | 32 | 1080.39 | 1.94E+01 | 20.90 | | | 1.94E+01 | 2.09E+01 |
| | 33 | 1120.63 | 1.17E+02 | 40.79 | 2.28E+00 | 2.55E+00 | 1.15E+02 | 4.09E+01 |
| | 34 | 1208.72 | 3.95E+01 | 27.81 | | | 3.95E+01 | 2.78E+01 |
| M | 35 | 1238.06 | 3.32E+01 | 24.60 | | | 3.32E+01 | 2.46E+01 |
| m | 36 | 1241.01 | 2.27E+01 | 29.73 | | | 2.27E+01 | 2.97E+01 |
| | 37 | 1363.88 | 9.45E+00 | 11.79 | | | 9.45E+00 | 1.18E+01 |
| | 38 | 1378.55 | 2.92E+01 | 27.20 | | | 2.92E+01 | 2.72E+01 |
| | 39 | 1405.90 | 4.62E+01 | 26.19 | | | 4.62E+01 | 2.62E+01 |
| | 40 | 1417.28 | 1.55E+01 | 15.41 | | | 1.55E+01 | 1.54E+01 |
| | 41 | 1461.53 | 7.95E+02 | 60.10 | 6.46E+00 | 2.33E+00 | 7.88E+02 | 6.01E+01 |
| | 42 | 1509.34 | 2.11E+01 | 12.49 | | | 2.11E+01 | 1.25E+01 |
| | 43 | 1541.07 | 1.90E+01 | 15.52 | | | 1.90E+01 | 1.55E+01 |
| | 44 | 1594.39 | 9.88E+00 | 11.96 | | | 9.88E+00 | 1.20E+01 |
| | 45 | 1621.12 | 1.01E+01 | 9.38 | | | 1.01E+01 | 9.38E+00 |
| | 46 | 1630.02 | 1.77E+01 | 11.34 | | | 1.77E+01 | 1.13E+01 |
| | 47 | 1661.90 | 2.13E+01 | 15.84 | | | 2.13E+01 | 1.58E+01 |
| | 48 | 1715.61 | 6.50E+00 | 6.96 | | | 6.50E+00 | 6.96E+00 |
| | 49 | 1729.52 | 1.89E+01 | 14.04 | | | 1.89E+01 | 1.40E+01 |
| | 50 | 1745.20 | 8.50E+00 | 8.51 | | | 8.50E+00 | 8.51E+00 |
| | 51 | 1765.26 | 7.80E+01 | 20.02 | | | 7.80E+01 | 2.00E+01 |
| M | 52 | 1825.86 | 6.83E+00 | 3.61 | | | 6.83E+00 | 3.61E+00 |
| m | 53 | 1830.36 | 7.91E+00 | 6.71 | | | 7.91E+00 | 6.71E+00 |
| M | 54 | 1848.82 | 2.29E+01 | 10.78 | | | 2.29E+01 | 1.08E+01 |
| m | 55 | 1853.18 | 7.16E+00 | 8.26 | | | 7.16E+00 | 8.26E+00 |
| M | 56 | 2102.38 | 1.41E+01 | 0.71 | | | 1.41E+01 | 7.07E-01 |
| m | 57 | 2107.39 | 8.98E+00 | 10.02 | | | 8.98E+00 | 1.00E+01 |
| | 58 | 2118.64 | 6.50E+00 | 8.03 | | | 6.50E+00 | 8.03E+00 |
| | 59 | 2164.69 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 60 | 2205.38 | 2.18E+01 | 14.65 | | | 2.18E+01 | 1.47E+01 |
| | 61 | 2376.30 | 1.75E+01 | 11.24 | | | 1.75E+01 | 1.12E+01 |
| M | 62 | 2445.31 | 9.97E+00 | 5.29 | | | 9.97E+00 | 5.29E+00 |
| m | 63 | 2450.15 | 1.28E+01 | 11.15 | | | 1.28E+01 | 1.11E+01 |
| | 64 | 2615.45 | 1.19E+02 | 21.82 | 3.47E+00 | 1.48E+00 | 1.16E+02 | 2.19E+01 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510085-15
CP5006S09-10

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|-------------------------|-------------------------|
| K-40 | 0.921 | 1460.81 * | 10.67 | 2.04E+01 | 2.35E+00 |
| GA-67 | 0.366 | 93.31 * | 35.70 | 1.53E+02 | 6.25E+02 |
| | | 208.95 * | 2.24 | 1.35E+03 | 5.40E+03 |
| | | 300.22 | 16.00 | | |
| CD-109 | 0.991 | 88.03 * | 3.72 | 3.21E+00 | 9.56E-01 |
| SN-126 | 0.992 | 87.57 * | 37.00 | 3.09E-01 | 9.01E-02 |
| TL-208 | 0.934 | 583.14 * | 30.22 | 1.43E+00 | 2.65E-01 |
| | | 860.37 * | 4.48 | 1.52E+00 | 1.23E+00 |
| | | 2614.66 * | 35.85 | 1.16E+00 | 2.42E-01 |
| BI-212 | 0.935 | 727.17 * | 11.80 | 8.53E-01 | 5.45E-01 |
| | | 1620.62 * | 2.75 | 1.08E+00 | 1.01E+00 |
| PB-212 | 0.894 | 238.63 * | 44.60 | 1.58E+00 | 1.82E-01 |
| | | 300.09 | 3.41 | | |
| BI-214 | 0.901 | 609.31 * | 46.30 | 1.25E+00 | 2.12E-01 |
| | | 1120.29 * | 15.10 | 1.72E+00 | 6.28E-01 |
| | | 1764.49 * | 15.80 | 1.54E+00 | 4.13E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.996 | 295.21 * | 19.19 | 1.26E+00 | 3.17E-01 |
| | | 351.92 * | 37.19 | 1.68E+00 | 2.37E-01 |
| RA-224 | 0.888 | 240.98 * | 3.95 | 4.06E+00 | 1.16E+00 |
| RA-226 | 0.982 | 186.21 * | 3.28 | 3.90E+00 | 7.31E+00 |
| AC-228 | 0.929 | 338.32 * | 11.40 | 1.39E+00 | 5.24E-01 |
| | | 911.07 * | 27.70 | 1.20E+00 | 3.26E-01 |
| | | 969.11 * | 16.60 | 1.22E+00 | 5.43E-01 |
| TH-234 | 0.998 | 63.29 * | 3.80 | 1.60E+00 | 1.39E+00 |
| AM-243 | 0.989 | 74.67 * | 66.00 | 3.74E-01 | 7.92E-02 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-15
CP5006S09-10

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 10:19:50AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| m 3 | 77.42 | 2.05847E-01 | 7.02 | Tol. | TI-44 |
| 6 | 99.32 | 2.15828E-02 | 40.75 | D-Esc | |
| 7 | 129.41 | 3.40146E-02 | 35.13 | | |
| 12 | 270.12 | 2.07183E-02 | 36.34 | | |
| 13 | 276.80 | 2.11665E-02 | 34.70 | Tol. | NP-239 CM-243 |
| 15 | 305.88 | 8.75180E-03 | 56.05 | Sum | |
| 18 | 451.95 | 1.33657E-02 | 36.30 | | |
| 19 | 462.60 | 3.01141E-02 | 23.28 | | |
| 20 | 495.35 | 8.31790E-03 | 47.26 | | |
| 21 | 511.23 | 3.33979E-02 | 21.27 | | |
| 24 | 665.88 | 7.82407E-03 | 51.74 | Tol. | SB-126 |
| M 26 | 756.08 | 4.90125E-03 | 46.74 | | |
| m 27 | 769.06 | 1.63081E-02 | 22.42 | Sum | |
| 28 | 796.27 | 2.14940E-02 | 24.96 | Sum | |
| 32 | 1080.39 | 5.38671E-03 | 53.88 | Sum | |
| 34 | 1208.72 | 1.09658E-02 | 35.22 | Sum | |
| M 35 | 1238.06 | 9.21421E-03 | 37.08 | Tol. | CO-56 |
| m 36 | 1241.01 | 6.29520E-03 | 65.60 | | |
| 37 | 1363.88 | 2.62427E-03 | 62.40 | | |
| 38 | 1378.55 | 8.09845E-03 | 46.65 | | |
| 39 | 1405.90 | 1.28406E-02 | 28.32 | | |
| 40 | 1417.28 | 4.30556E-03 | 49.71 | | |
| 42 | 1509.34 | 5.85391E-03 | 29.63 | | |
| 43 | 1541.07 | 5.27778E-03 | 40.85 | | |
| 44 | 1594.39 | 2.74306E-03 | 60.55 | D-Esc | |
| 46 | 1630.02 | 4.91162E-03 | 32.05 | | |
| 47 | 1661.90 | 5.91398E-03 | 37.19 | | |
| 48 | 1715.61 | 1.80556E-03 | 53.57 | | |
| 49 | 1729.52 | 5.23946E-03 | 37.21 | Sum | |
| 50 | 1745.20 | 2.36111E-03 | 50.09 | | |
| M 52 | 1825.86 | 1.89860E-03 | 26.38 | | |
| m 53 | 1830.36 | 2.19719E-03 | 42.40 | Sum | |
| M 54 | 1848.82 | 6.36964E-03 | 23.51 | Sum | |
| m 55 | 1853.18 | 1.98991E-03 | 57.66 | Sum | |
| M 56 | 2102.38 | 3.91836E-03 | 2.51 | | |
| m 57 | 2107.39 | 2.49514E-03 | 55.80 | | |
| 58 | 2118.64 | 1.80556E-03 | 61.78 | | |
| 59 | 2164.69 | 1.94444E-03 | 37.80 | | |
| 60 | 2205.38 | 6.05735E-03 | 33.60 | Sum | |
| 61 | 2376.30 | 4.87434E-03 | 32.02 | | |
| M 62 | 2445.31 | 2.76966E-03 | 26.54 | | |
| m 63 | 2450.15 | 3.55005E-03 | 43.61 | | |

Analysis Report for 1510085-15
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M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| K-40 | 0.92 | 1460.81 * | 10.67 | 2.04E+01 | 2.35E+00 |
| GA-67 | 0.36 | 93.31 * | 35.70 | 1.53E+02 | 6.25E+02 |
| | | 208.95 * | 2.24 | 1.35E+03 | 5.40E+03 |
| | | 300.22 | 16.00 | | |
| | | 88.03 * | 3.72 | 3.21E+00 | 9.56E-01 |
| SN-126 | 0.99 | 87.57 * | 37.00 | 3.09E-01 | 9.01E-02 |
| TL-208 | 0.93 | 583.14 * | 30.22 | 1.43E+00 | 2.65E-01 |
| | | 860.37 * | 4.48 | 1.52E+00 | 1.23E+00 |
| | | 2614.66 * | 35.85 | 1.16E+00 | 2.42E-01 |
| | | 727.17 * | 11.80 | 8.53E-01 | 5.45E-01 |
| BI-212 | 0.93 | 1620.62 * | 2.75 | 1.08E+00 | 1.01E+00 |
| | | 238.63 * | 44.60 | 1.58E+00 | 1.82E-01 |
| | | 300.09 | 3.41 | | |
| BI-214 | 0.90 | 609.31 * | 46.30 | 1.25E+00 | 2.12E-01 |
| | | 1120.29 * | 15.10 | 1.72E+00 | 6.28E-01 |
| | | 1764.49 * | 15.80 | 1.54E+00 | 4.13E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.99 | 295.21 * | 19.19 | 1.26E+00 | 3.17E-01 |
| | | 351.92 * | 37.19 | 1.68E+00 | 2.37E-01 |
| RA-224 | 0.88 | 240.98 * | 3.95 | 4.06E+00 | 1.16E+00 |
| RA-226 | 0.98 | 186.21 * | 3.28 | 3.90E+00 | 7.31E+00 |
| AC-228 | 0.92 | 338.32 * | 11.40 | 1.39E+00 | 5.24E-01 |
| | | 911.07 * | 27.70 | 1.20E+00 | 3.26E-01 |
| | | 969.11 * | 16.60 | 1.22E+00 | 5.43E-01 |
| | | 63.29 * | 3.80 | 1.60E+00 | 1.39E+00 |
| TH-234 | 0.99 | 74.67 * | 66.00 | 3.74E-01 | 7.92E-02 |

Analysis Report for 1510085-15

CP5006S09-10

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-----------------|-----------------------------|------------------------------------|------------------------------------|----------|
| K-40 | 0.921 | 2.04E+01 | 2.35E+00 | |
| GA-67 | 0.366 | 1.86E+02 | 7.50E+02 | |
| ? CD-109 | 0.991 | 3.21E+00 | 9.56E-01 | |
| ? SN-126 | 0.992 | 3.09E-01 | 9.01E-02 | |
| TL-208 | 0.934 | 1.29E+00 | 1.77E-01 | |
| BI-212 | 0.935 | 9.05E-01 | 4.80E-01 | |
| PB-212 | 0.894 | 1.58E+00 | 1.82E-01 | |
| BI-214 | 0.901 | 1.34E+00 | 1.81E-01 | |
| PB-214 | 0.996 | 1.53E+00 | 1.90E-01 | |
| RA-224 | 0.888 | 4.06E+00 | 1.16E+00 | |
| RA-226 | 0.982 | 3.90E+00 | 7.31E+00 | |
| AC-228 | 0.929 | 1.25E+00 | 2.47E-01 | |
| TH-234 | 0.998 | 1.60E+00 | 1.39E+00 | |
| AM-243 | 0.989 | 3.74E-01 | 7.92E-02 | |

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-15
CP5006S09-10

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 10:19:50AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| | Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|---|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| m | 3 | 77.42 | 2.05847E-01 | 7.02 | Tol. | TI-44 |
| | 6 | 99.32 | 2.15828E-02 | 40.75 | D-Esc | |
| | 7 | 129.41 | 3.40146E-02 | 35.13 | | |
| | 12 | 270.12 | 2.07183E-02 | 36.34 | | |
| | 13 | 276.80 | 2.11665E-02 | 34.70 | Tol. | NP-239 CM-243 |
| | 15 | 305.88 | 8.75180E-03 | 56.05 | Sum | |
| | 18 | 451.95 | 1.33657E-02 | 36.30 | | |
| | 19 | 462.60 | 3.01141E-02 | 23.28 | | |
| | 20 | 495.35 | 8.31790E-03 | 47.26 | | |
| | 21 | 511.23 | 3.33979E-02 | 21.27 | | |
| | 24 | 665.88 | 7.82407E-03 | 51.74 | Tol. | SB-126 |
| M | 26 | 756.08 | 4.90125E-03 | 46.74 | | |
| m | 27 | 769.06 | 1.63081E-02 | 22.42 | Sum | |
| | 28 | 796.27 | 2.14940E-02 | 24.96 | Sum | |
| | 32 | 1080.39 | 5.38671E-03 | 53.88 | Sum | |
| | 34 | 1208.72 | 1.09658E-02 | 35.22 | Sum | |
| M | 35 | 1238.06 | 9.21421E-03 | 37.08 | Tol. | CO-56 |
| m | 36 | 1241.01 | 6.29520E-03 | 65.60 | | |
| | 37 | 1363.88 | 2.62427E-03 | 62.40 | | |
| | 38 | 1378.55 | 8.09845E-03 | 46.65 | | |
| | 39 | 1405.90 | 1.28406E-02 | 28.32 | | |
| | 40 | 1417.28 | 4.30556E-03 | 49.71 | | |
| | 42 | 1509.34 | 5.85391E-03 | 29.63 | | |
| | 43 | 1541.07 | 5.27778E-03 | 40.85 | | |
| | 44 | 1594.39 | 2.74306E-03 | 60.55 | D-Esc | |
| | 46 | 1630.02 | 4.91162E-03 | 32.05 | | |
| | 47 | 1661.90 | 5.91398E-03 | 37.19 | | |
| | 48 | 1715.61 | 1.80556E-03 | 53.57 | | |
| | 49 | 1729.52 | 5.23946E-03 | 37.21 | Sum | |
| | 50 | 1745.20 | 2.36111E-03 | 50.09 | | |
| M | 52 | 1825.86 | 1.89860E-03 | 26.38 | | |
| m | 53 | 1830.36 | 2.19719E-03 | 42.40 | Sum | |
| M | 54 | 1848.82 | 6.36964E-03 | 23.51 | Sum | |
| m | 55 | 1853.18 | 1.98991E-03 | 57.66 | Sum | |

Analysis Report for 1510085-15
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| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| M 56 | 2102.38 | 3.91836E-03 | 2.51 | | |
| m 57 | 2107.39 | 2.49514E-03 | 55.80 | | |
| | 58 | 2118.64 | 1.80556E-03 | 61.78 | |
| | 59 | 2164.69 | 1.94444E-03 | 37.80 | |
| | 60 | 2205.38 | 6.05735E-03 | 33.60 | Sum |
| | 61 | 2376.30 | 4.87434E-03 | 32.02 | |
| M 62 | 2445.31 | 2.76966E-03 | 26.54 | | |
| m 63 | 2450.15 | 3.55005E-03 | 43.61 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|--------------|--------------|----------|----------------------|-------------------------|----------------------|
| + | BE-7 | 477.59 | 10.42 | 1.56E-01 | 9.33E-01 | 9.33E-01 |
| + | NA-22 | 1274.54 | 99.94 | 4.68E-02 | 9.09E-02 | 9.09E-02 |
| + | NA-24 | 1368.53 | 99.99 | -6.25E+11 | 1.05E+13 | 2.04E+13 |
| | | 2754.09 | 99.86 | 2.25E+12 | | 1.05E+13 |
| + | AL-26 | 1808.65 | 99.76 | -7.75E-03 | 5.28E-02 | 5.28E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.04E+01 | 9.86E-01 | 9.86E-01 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | 4.57E-02 | 7.18E-02 | 7.18E-02 |
| | | 78.34 | 96.00 | 2.21E-01 | | 9.00E-02 |
| + | SC-46 | 889.25 | 99.98 | 1.87E-02 | 9.63E-02 | 9.63E-02 |
| | | 1120.51 | 99.99 | 3.17E-01 | | 1.78E-01 |
| + | V-48 | 983.52 | 99.98 | -4.51E-02 | 2.27E-01 | 2.27E-01 |
| | | 1312.10 | 97.50 | -7.52E-02 | | 2.88E-01 |
| + | CR-51 | 320.08 | 9.83 | -3.57E-01 | 1.02E+00 | 1.02E+00 |
| + | MN-54 | 834.83 | 99.97 | 2.08E-02 | 8.81E-02 | 8.81E-02 |
| + | CO-56 | 846.75 | 99.96 | 1.19E-02 | 9.13E-02 | 9.13E-02 |
| | | 1037.75 | 14.03 | -4.66E-01 | | 5.97E-01 |
| | | 1238.25 | 67.00 | 1.71E-01 | | 2.36E-01 |
| | | 1771.40 | 15.51 | 1.24E-01 | | 4.57E-01 |
| | | 2598.48 | 16.90 | 5.57E-02 | | 3.65E-01 |

Analysis Report for 1510085-15
CP5006S09-10

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | CO-57 | 122.06 | 85.51 | 4.95E-02 | 6.23E-02 | 6.23E-02 |
| | | 136.48 | 10.60 | 3.29E-01 | | 5.21E-01 |
| + | CO-58 | 810.76 | 99.40 | 3.67E-02 | 8.85E-02 | 8.85E-02 |
| + | FE-59 | 1099.22 | 56.50 | -2.29E-02 | 2.22E-01 | 2.22E-01 |
| | | 1291.56 | 43.20 | 7.45E-03 | | 2.99E-01 |
| + | CO-60 | 1173.22 | 100.00 | -2.89E-02 | 6.65E-02 | 8.81E-02 |
| | | 1332.49 | 100.00 | -5.16E-03 | | 6.65E-02 |
| + | ZN-65 | 1115.52 | 50.75 | -3.99E-02 | 1.86E-01 | 1.86E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.53E+02 | 1.95E+02 | 1.95E+02 |
| | | 208.95 | * 2.24 | 1.35E+03 | | 1.72E+03 |
| | | 300.22 | 16.00 | 1.38E+02 | | 2.19E+02 |
| + | SE-75 | 121.11 | 16.70 | 2.81E-02 | 9.54E-02 | 3.45E-01 |
| | | 136.00 | 59.20 | 1.03E-02 | | 1.01E-01 |
| | | 264.65 | 59.80 | -3.75E-02 | | 9.54E-02 |
| | | 279.53 | 25.20 | 4.34E-03 | | 2.52E-01 |
| | | 400.65 | 11.40 | -3.09E-02 | | 5.18E-01 |
| + | RB-82 | 776.52 | 13.00 | 7.21E-02 | 1.12E+00 | 1.12E+00 |
| + | RB-83 | 520.41 | 46.00 | 4.13E-02 | 1.68E-01 | 1.68E-01 |
| | | 529.64 | 30.30 | -9.27E-02 | | 2.45E-01 |
| | | 552.65 | 16.40 | 2.03E-01 | | 5.02E-01 |
| + | KR-85 | 513.99 | 0.43 | 3.86E+01 | 2.18E+01 | 2.18E+01 |
| + | SR-85 | 513.99 | 99.27 | 2.31E-01 | 1.31E-01 | 1.31E-01 |
| + | Y-88 | 898.02 | 93.40 | 1.60E-02 | 6.50E-02 | 1.01E-01 |
| | | 1836.01 | 99.38 | -6.50E-04 | | 6.50E-02 |
| + | NB-93M | 16.57 | 9.43 | -5.57E+01 | 7.06E+01 | 7.06E+01 |
| + | NB-94 | 702.63 | 100.00 | -1.47E-02 | 6.83E-02 | 6.83E-02 |
| | | 871.10 | 100.00 | -2.44E-02 | | 6.88E-02 |
| + | NB-95 | 765.79 | 99.81 | 1.35E-01 | 1.57E-01 | 1.57E-01 |
| + | NB-95M | 235.69 | 25.00 | -7.09E+02 | 8.68E+01 | 8.68E+01 |
| + | ZR-95 | 724.18 | 43.70 | 1.85E-02 | 1.62E-01 | 2.48E-01 |
| | | 756.72 | 55.30 | 9.30E-03 | | 1.62E-01 |
| + | MO-99 | 181.06 | 6.20 | 4.72E+02 | 1.05E+03 | 1.58E+03 |
| | | 739.58 | 12.80 | -5.80E+01 | | 1.05E+03 |
| | | 778.00 | 4.50 | 3.14E+02 | | 2.72E+03 |
| + | RU-103 | 497.08 | 89.00 | 1.44E-02 | 1.25E-01 | 1.25E-01 |
| + | RU-106 | 621.84 | 9.80 | -2.37E-01 | 6.66E-01 | 6.66E-01 |
| + | AG-108M | 433.93 | 89.90 | -3.50E-02 | 6.84E-02 | 6.84E-02 |
| | | 614.37 | 90.40 | 2.99E-02 | | 7.43E-02 |
| | | 722.95 | 90.50 | 1.16E-02 | | 7.95E-02 |
| + | CD-109 | 88.03 | * 3.72 | 3.21E+00 | 3.25E+00 | 3.25E+00 |
| + | AG-110M | 657.75 | 93.14 | 2.64E-02 | 7.57E-02 | 7.57E-02 |
| | | 677.61 | 10.53 | 6.72E-02 | | 7.13E-01 |
| | | 706.67 | 16.46 | 9.31E-02 | | 4.74E-01 |
| | | 763.93 | 21.98 | -4.97E-01 | | 3.36E-01 |
| | | 884.67 | 71.63 | -1.41E-02 | | 1.09E-01 |
| | | 1384.27 | 23.94 | 1.08E-01 | | 3.50E-01 |
| + | CD-113M | 263.70 | 0.02 | -9.74E+01 | 2.12E+02 | 2.12E+02 |

Analysis Report for 1510085-15
CP5006S09-10

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SN-113 | 255.12 | 1.93 | 1.12E+00 | 9.45E-02 | 3.07E+00 |
| | | 391.69 | 64.90 | -3.77E-02 | | 9.45E-02 |
| + | TE123M | 159.00 | 84.10 | 3.67E-02 | 7.38E-02 | 7.38E-02 |
| + | SB-124 | 602.71 | 97.87 | -2.50E-02 | 9.65E-02 | 9.65E-02 |
| | | 645.85 | 7.26 | 3.41E-01 | | 1.31E+00 |
| | | 722.78 | 11.10 | 1.34E-01 | | 9.16E-01 |
| | | 1691.02 | 49.00 | 8.77E-03 | | 1.39E-01 |
| + | I-125 | 35.49 | 6.49 | -8.63E-01 | 3.14E+00 | 3.14E+00 |
| + | SB-125 | 176.33 | 6.89 | 1.82E-01 | 2.20E-01 | 7.65E-01 |
| | | 427.89 | 29.33 | 4.57E-02 | | 2.20E-01 |
| | | 463.38 | 10.35 | 8.92E-01 | | 7.10E-01 |
| | | 600.56 | 17.80 | -7.57E-02 | | 3.82E-01 |
| | | 635.90 | 11.32 | 1.25E-01 | | 5.96E-01 |
| + | SB-126 | 414.70 | 83.30 | -1.17E-01 | 3.84E-01 | 3.84E-01 |
| | | 666.33 | 99.60 | 1.14E-01 | | 3.90E-01 |
| | | 695.00 | 99.60 | 1.13E-01 | | 4.01E-01 |
| | | 720.50 | 53.80 | 1.61E-01 | | 7.32E-01 |
| + | SN-126 | 87.57 | * 37.00 | 3.09E-01 | 3.12E-01 | 3.12E-01 |
| + | SB-127 | 473.00 | 25.00 | 1.89E+00 | 4.27E+01 | 5.71E+01 |
| | | 685.20 | 35.70 | -1.58E+01 | | 4.27E+01 |
| | | 783.80 | 14.70 | -1.32E+01 | | 1.05E+02 |
| + | I-129 | 29.78 | 57.00 | -1.45E-01 | 4.77E-01 | 4.77E-01 |
| | | 33.60 | 13.20 | -8.55E-02 | | 1.32E+00 |
| | | 39.58 | 7.52 | 4.65E-01 | | 1.47E+00 |
| + | I-131 | 284.30 | 6.05 | 8.39E-01 | 8.01E-01 | 1.11E+01 |
| | | 364.48 | 81.20 | -1.93E-01 | | 8.01E-01 |
| | | 636.97 | 7.26 | 4.28E+00 | | 1.23E+01 |
| | | 722.89 | 1.80 | 7.82E+00 | | 5.34E+01 |
| + | TE-132 | 49.72 | 13.10 | -7.46E+02 | 3.77E+01 | 3.45E+02 |
| | | 228.16 | 88.00 | 1.64E+01 | | 3.77E+01 |
| + | BA-133 | 81.00 | 33.00 | -1.36E+00 | 8.58E-02 | 1.77E-01 |
| | | 302.84 | 17.80 | 9.59E-02 | | 3.09E-01 |
| | | 356.01 | 60.00 | -9.11E-01 | | 8.58E-02 |
| + | I-133 | 529.87 | 86.30 | -7.22E+08 | 1.91E+09 | 1.91E+09 |
| + | XE-133 | 81.00 | 38.00 | -6.28E+01 | 8.15E+00 | 8.15E+00 |
| + | CS-134 | 563.23 | 8.38 | 6.25E-03 | 7.55E-02 | 8.36E-01 |
| | | 569.32 | 15.43 | -8.13E-03 | | 4.75E-01 |
| | | 604.70 | 97.60 | -3.29E-03 | | 7.55E-02 |
| | | 795.84 | 85.40 | 8.62E-02 | | 1.05E-01 |
| | | 801.93 | 8.73 | 1.81E-02 | | 7.12E-01 |
| + | CS-135 | 268.24 | 16.00 | 3.49E-01 | 3.63E-01 | 3.63E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | -7.02E-01 | 3.01E-01 | 3.18E+00 |
| | | 163.89 | 4.61 | -1.53E+00 | | 5.11E+00 |
| | | 176.55 | 13.56 | 4.42E-01 | | 1.86E+00 |
| | | 273.65 | 12.66 | -3.61E+00 | | 1.99E+00 |
| | | 340.57 | 48.50 | 8.81E-01 | | 7.12E-01 |

Analysis Report for 1510085-15
CP5006S09-10

| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | CS-136 | 818.50 | 99.70 | -7.34E-02 | 3.01E-01 | 3.01E-01 |
| | | 1048.07 | 79.60 | -1.22E-01 | | 4.46E-01 |
| | | 1235.34 | 19.70 | 6.79E-01 | | 2.83E+00 |
| + | CS-137 | 661.65 | 85.12 | 3.78E-03 | 7.43E-02 | 7.43E-02 |
| + | LA-138 | 788.74 | 34.00 | 6.10E-02 | 1.21E-01 | 2.16E-01 |
| | | 1435.80 | 66.00 | 8.27E-02 | | 1.21E-01 |
| + | CE-139 | 165.85 | 80.35 | -9.01E-03 | 7.08E-02 | 7.08E-02 |
| + | BA-140 | 162.64 | 6.70 | -8.27E-03 | 1.24E+00 | 3.75E+00 |
| | | 304.84 | 4.50 | 6.49E-01 | | 5.97E+00 |
| | | 423.70 | 3.20 | -5.14E-01 | | 9.64E+00 |
| | | 437.55 | 2.00 | 4.15E+00 | | 1.59E+01 |
| | | 537.32 | 25.00 | 1.80E-01 | | 1.24E+00 |
| + | LA-140 | 328.77 | 20.50 | 7.31E-01 | 4.07E-01 | 1.43E+00 |
| | | 487.03 | 45.50 | 2.52E-01 | | 7.14E-01 |
| | | 815.85 | 23.50 | 5.15E-01 | | 1.44E+00 |
| | | 1596.49 | 95.49 | 4.18E-02 | | 4.07E-01 |
| + | CE-141 | 145.44 | 48.40 | 2.18E-01 | 2.11E-01 | 2.11E-01 |
| + | CE-143 | 57.36 | 11.80 | 1.86E+06 | 7.94E+05 | 2.33E+06 |
| | | 293.26 | 42.00 | 2.33E+06 | | 7.94E+05 |
| | | 664.55 | 5.20 | 2.30E+06 | | 5.36E+06 |
| + | CE-144 | 133.54 | 10.80 | -2.26E-02 | 4.91E-01 | 4.91E-01 |
| + | PM-144 | 476.78 | 42.00 | 8.00E-02 | 6.91E-02 | 1.69E-01 |
| | | 618.01 | 98.60 | 6.82E-03 | | 6.91E-02 |
| | | 696.49 | 99.49 | 4.63E-02 | | 7.80E-02 |
| + | PM-145 | 36.85 | 21.70 | -1.26E-01 | 3.22E-01 | 6.03E-01 |
| | | 37.36 | 39.70 | -1.85E-01 | | 3.22E-01 |
| | | 42.30 | 15.10 | -2.90E-01 | | 6.24E-01 |
| | | 72.40 | 2.31 | -5.43E+00 | | 3.28E+00 |
| + | PM-146 | 453.90 | 39.94 | 8.03E-03 | 1.50E-01 | 1.50E-01 |
| | | 735.90 | 14.01 | -4.71E-02 | | 4.52E-01 |
| | | 747.13 | 13.10 | -2.06E-01 | | 5.25E-01 |
| + | ND-147 | 91.11 | 28.90 | -2.87E+00 | 1.59E+00 | 1.59E+00 |
| | | 531.02 | 13.10 | 7.03E-01 | | 3.06E+00 |
| + | PM-149 | 285.90 | 3.10 | -5.62E+02 | 2.02E+04 | 2.02E+04 |
| + | EU-152 | 121.78 | 20.50 | 1.92E-01 | 2.41E-01 | 2.41E-01 |
| | | 244.69 | 5.40 | -8.55E-01 | | 1.09E+00 |
| | | 344.27 | 19.13 | -6.48E-05 | | 2.71E-01 |
| | | 778.89 | 9.20 | 2.03E-01 | | 7.04E-01 |
| | | 964.01 | 10.40 | 1.31E-01 | | 8.53E-01 |
| | | 1085.78 | 7.22 | -1.82E-01 | | 1.02E+00 |
| | | 1112.02 | 9.60 | -2.35E-02 | | 9.38E-01 |
| | | 1407.95 | 14.94 | 2.95E-01 | | 5.67E-01 |
| + | GD-153 | 97.43 | 31.30 | -9.51E-02 | 1.75E-01 | 1.75E-01 |
| | | 103.18 | 22.20 | 9.59E-02 | | 2.39E-01 |
| + | EU-154 | 123.07 | 40.50 | 4.70E-02 | 1.22E-01 | 1.22E-01 |
| | | 723.30 | 19.70 | 5.38E-02 | | 3.67E-01 |
| | | 873.19 | 11.50 | 3.80E-01 | | 6.43E-01 |
| | | 996.32 | 10.30 | -2.87E-03 | | 7.55E-01 |
| | | 1004.76 | 17.90 | 8.03E-02 | | 4.55E-01 |

Analysis Report for 1510085-15
CP5006S09-10

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | EU-154 | 1274.45 | 35.50 | 1.30E-01 | 1.22E-01 | 2.52E-01 |
| + | EU-155 | 86.50 | 30.90 | 1.57E-02 | 2.19E-01 | 2.19E-01 |
| | | 105.30 | 20.70 | 1.20E-01 | | 2.37E-01 |
| + | EU-156 | 811.77 | 10.40 | 1.37E-01 | 2.41E+00 | 2.41E+00 |
| | | 1153.47 | 7.20 | 1.20E+00 | | 4.98E+00 |
| | | 1230.71 | 8.90 | -1.49E+00 | | 4.33E+00 |
| + | HO-166M | 184.41 | 72.60 | 2.40E-01 | 9.68E-02 | 9.68E-02 |
| | | 280.45 | 29.60 | -2.54E-02 | | 1.65E-01 |
| | | 410.94 | 11.10 | 9.64E-03 | | 5.75E-01 |
| | | 711.69 | 54.10 | 2.04E-02 | | 1.33E-01 |
| + | TM-171 | 66.72 | 0.14 | -1.06E+01 | 4.99E+01 | 4.99E+01 |
| + | HF-172 | 81.75 | 4.52 | -1.85E+00 | 4.26E-01 | 1.34E+00 |
| | | 125.81 | 11.30 | -3.48E-02 | | 4.26E-01 |
| + | LU-172 | 181.53 | 20.60 | 1.49E+00 | 3.14E+00 | 5.60E+00 |
| | | 810.06 | 16.63 | 1.82E+00 | | 8.71E+00 |
| | | 912.12 | 15.25 | 5.33E+01 | | 2.11E+01 |
| | | 1093.66 | 62.50 | 9.24E-01 | | 3.14E+00 |
| + | LU-173 | 100.72 | 5.24 | 9.86E-01 | 2.88E-01 | 1.02E+00 |
| | | 272.11 | 21.20 | 2.22E-01 | | 2.88E-01 |
| + | HF-175 | 343.40 | 84.00 | 1.80E-03 | 8.53E-02 | 8.53E-02 |
| + | LU-176 | 88.34 | 13.30 | 9.25E-01 | 5.41E-02 | 5.14E-01 |
| | | 201.83 | 86.00 | 1.34E-02 | | 6.40E-02 |
| | | 306.78 | 94.00 | 1.38E-02 | | 5.41E-02 |
| + | TA-182 | 67.75 | 41.20 | 1.26E-01 | 1.97E-01 | 1.97E-01 |
| | | 1121.30 | 34.90 | 8.58E-01 | | 4.71E-01 |
| | | 1189.05 | 16.23 | 4.29E-03 | | 6.51E-01 |
| | | 1221.41 | 26.98 | -3.76E-02 | | 4.26E-01 |
| | | 1231.02 | 11.44 | -3.53E-01 | | 1.03E+00 |
| + | IR-192 | 308.46 | 29.68 | -1.53E-02 | 1.68E-01 | 2.15E-01 |
| | | 468.07 | 48.10 | 2.42E-04 | | 1.68E-01 |
| + | HG-203 | 279.19 | 77.30 | 8.61E-02 | 1.14E-01 | 1.14E-01 |
| + | BI-207 | 569.67 | 97.72 | 2.12E-02 | 7.43E-02 | 7.43E-02 |
| | | 1063.62 | 74.90 | 7.75E-03 | | 1.02E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.43E+00 | 9.37E-02 | 2.87E-01 |
| | | 860.37 | * 4.48 | 1.52E+00 | | 1.96E+00 |
| | | 2614.66 | * 35.85 | 1.16E+00 | | 9.37E-02 |
| + | BI-210M | 262.00 | 45.00 | 5.62E-02 | 1.13E-01 | 1.13E-01 |
| | | 300.00 | 23.00 | 1.60E-01 | | 2.54E-01 |
| + | PB-210 | 46.50 | 4.25 | 1.97E+00 | 2.11E+00 | 2.11E+00 |
| + | PB-211 | 404.84 | 2.90 | -1.40E-02 | 1.75E+00 | 1.75E+00 |
| | | 831.96 | 2.90 | -1.98E+00 | | 2.38E+00 |
| + | BI-212 | 727.17 | * 11.80 | 8.53E-01 | 8.51E-01 | 8.51E-01 |
| | | 1620.62 | * 2.75 | 1.08E+00 | | 1.51E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.58E+00 | 2.89E-01 | 2.89E-01 |
| | | 300.09 | 3.41 | 1.08E+00 | | 1.71E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.25E+00 | 2.24E-01 | 2.24E-01 |
| | | 1120.29 | * 15.10 | 1.72E+00 | | 8.97E-01 |
| | | 1764.49 | * 15.80 | 1.54E+00 | | 3.59E-01 |

Analysis Report for 1510085-15

CP5006S09-10

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | BI-214 | 2204.22 | | 4.98 | 1.46E+00 | 2.24E-01 | 1.90E+00 |
| + | PB-214 | 295.21 | * | 19.19 | 1.26E+00 | 2.45E-01 | 4.45E-01 |
| | | 351.92 | * | 37.19 | 1.68E+00 | | 2.45E-01 |
| + | RN-219 | 401.80 | | 6.50 | -5.70E-01 | 7.28E-01 | 7.28E-01 |
| + | RA-223 | 323.87 | | 3.88 | -7.24E-01 | 1.26E+00 | 1.26E+00 |
| + | RA-224 | 240.98 | * | 3.95 | 4.06E+00 | 3.27E+00 | 3.27E+00 |
| + | RA-225 | 40.00 | | 31.00 | 4.49E-01 | 1.43E+00 | 1.43E+00 |
| + | RA-226 | 186.21 | * | 3.28 | 3.90E+00 | 2.46E+00 | 2.46E+00 |
| + | TH-227 | 50.10 | | 8.40 | -1.91E+00 | 5.85E-01 | 8.82E-01 |
| | | 236.00 | | 11.50 | -4.78E+00 | | 5.85E-01 |
| | | 256.20 | | 6.30 | -3.20E-01 | | 7.59E-01 |
| + | AC-228 | 338.32 | * | 11.40 | 1.39E+00 | 4.29E-01 | 7.89E-01 |
| | | 911.07 | * | 27.70 | 1.20E+00 | | 4.29E-01 |
| | | 969.11 | * | 16.60 | 1.22E+00 | | 8.12E-01 |
| + | TH-230 | 48.44 | | 16.90 | 4.27E-01 | 5.02E-01 | 5.02E-01 |
| | | 62.85 | | 4.60 | 2.42E+00 | | 1.70E+00 |
| | | 67.67 | | 0.37 | 1.17E+01 | | 1.83E+01 |
| + | PA-231 | 283.67 | | 1.60 | 9.70E-01 | 2.38E+00 | 3.15E+00 |
| | | 302.67 | | 2.30 | 7.38E-01 | | 2.38E+00 |
| + | TH-231 | 25.64 | | 14.70 | 3.52E+00 | 9.67E-01 | 3.98E+00 |
| | | 84.21 | | 6.40 | -2.25E+00 | | 9.67E-01 |
| + | PA-233 | 311.98 | | 38.60 | -6.54E-02 | 2.68E-01 | 2.68E-01 |
| + | PA-234 | 131.20 | | 20.40 | -1.14E-01 | 2.49E-01 | 2.49E-01 |
| | | 733.99 | | 8.80 | 1.35E-02 | | 7.37E-01 |
| | | 946.00 | | 12.00 | 1.00E-01 | | 6.28E-01 |
| + | PA-234M | 1001.03 | | 0.92 | 5.27E+00 | 9.72E+00 | 9.72E+00 |
| + | TH-234 | 63.29 | * | 3.80 | 1.60E+00 | 2.26E+00 | 2.26E+00 |
| + | U-235 | 143.76 | | 10.50 | 9.19E-02 | 5.09E-01 | 5.09E-01 |
| | | 163.35 | | 4.70 | -3.08E-01 | | 1.02E+00 |
| | | 205.31 | | 4.70 | 1.28E-01 | | 1.14E+00 |
| + | NP-237 | 86.50 | | 12.60 | 3.80E-02 | 5.31E-01 | 5.31E-01 |
| + | NP-239 | 106.10 | | 22.70 | 7.59E+02 | 1.50E+03 | 1.50E+03 |
| | | 228.18 | | 10.70 | 1.57E+03 | | 3.61E+03 |
| | | 277.60 | | 14.10 | 1.52E+03 | | 2.79E+03 |
| + | AM-241 | 59.54 | | 35.90 | 8.02E-02 | 2.00E-01 | 2.00E-01 |
| + | AM-243 | 74.67 | * | 66.00 | 3.74E-01 | 1.56E-01 | 1.56E-01 |
| + | CM-243 | 209.75 | | 3.29 | 1.39E+00 | 4.01E-01 | 1.86E+00 |
| | | 228.14 | | 10.60 | 2.27E-01 | | 5.20E-01 |
| | | 277.60 | | 14.00 | 2.19E-01 | | 4.01E-01 |

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

Analysis Report for 1510085-15
CP5006S09-10

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 9.33E-01 | 9.33E-01 | 1.56E-01 | 4.44E-01 |
| NA-22 | 1274.54 | 99.94 | 9.09E-02 | 9.09E-02 | 4.68E-02 | 4.20E-02 |
| NA-24 | 1368.53 | 99.99 | 2.04E+13 | 1.05E+13 | -6.25E+11 | 9.11E+12 |
| | 2754.09 | 99.86 | 1.05E+13 | | 2.25E+12 | 3.70E+12 |
| AL-26 | 1808.65 | 99.76 | 5.28E-02 | 5.28E-02 | -7.75E-03 | 2.21E-02 |
| + K-40 | 1460.81 | * | 10.67 | 9.86E-01 | 2.04E+01 | 4.58E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 7.18E-02 | 7.18E-02 | 4.57E-02 | 3.51E-02 |
| | 78.34 | 96.00 | 9.00E-02 | | 2.21E-01 | 4.43E-02 |
| SC-46 | 889.25 | 99.98 | 9.63E-02 | 9.63E-02 | 1.87E-02 | 4.49E-02 |
| | 1120.51 | 99.99 | 1.78E-01 | | 3.17E-01 | 8.53E-02 |
| V-48 | 983.52 | 99.98 | 2.27E-01 | 2.27E-01 | -4.51E-02 | 1.04E-01 |
| | 1312.10 | 97.50 | 2.88E-01 | | -7.52E-02 | 1.31E-01 |
| CR-51 | 320.08 | 9.83 | 1.02E+00 | 1.02E+00 | -3.57E-01 | 4.84E-01 |
| MN-54 | 834.83 | 99.97 | 8.81E-02 | 8.81E-02 | 2.08E-02 | 4.15E-02 |
| CO-56 | 846.75 | 99.96 | 9.13E-02 | 9.13E-02 | 1.19E-02 | 4.25E-02 |
| | 1037.75 | 14.03 | 5.97E-01 | | -4.66E-01 | 2.72E-01 |
| | 1238.25 | 67.00 | 2.36E-01 | | 1.71E-01 | 1.12E-01 |
| | 1771.40 | 15.51 | 4.57E-01 | | 1.24E-01 | 1.93E-01 |
| | 2598.48 | 16.90 | 3.65E-01 | | 5.57E-02 | 1.45E-01 |
| CO-57 | 122.06 | 85.51 | 6.23E-02 | 6.23E-02 | 4.95E-02 | 3.03E-02 |
| | 136.48 | 10.60 | 5.21E-01 | | 3.29E-01 | 2.53E-01 |
| CO-58 | 810.76 | 99.40 | 8.85E-02 | 8.85E-02 | 3.67E-02 | 4.11E-02 |
| FE-59 | 1099.22 | 56.50 | 2.22E-01 | 2.22E-01 | -2.29E-02 | 1.02E-01 |
| | 1291.56 | 43.20 | 2.99E-01 | | 7.45E-03 | 1.37E-01 |
| CO-60 | 1173.22 | 100.00 | 8.81E-02 | 6.65E-02 | -2.89E-02 | 4.08E-02 |
| | 1332.49 | 100.00 | 6.65E-02 | | -5.16E-03 | 2.97E-02 |
| ZN-65 | 1115.52 | 50.75 | 1.86E-01 | 1.86E-01 | -3.99E-02 | 8.63E-02 |
| + GA-67 | 93.31 | * | 35.70 | 1.95E+02 | 1.53E+02 | 9.65E+01 |
| | 208.95 | * | 2.24 | 1.72E+03 | 1.35E+03 | 8.37E+02 |
| | 300.22 | 16.00 | 2.19E+02 | | 1.38E+02 | 1.05E+02 |
| SE-75 | 121.11 | 16.70 | 3.45E-01 | 9.54E-02 | 2.81E-02 | 1.68E-01 |
| | 136.00 | 59.20 | 1.01E-01 | | 1.03E-02 | 4.91E-02 |
| | 264.65 | 59.80 | 9.54E-02 | | -3.75E-02 | 4.56E-02 |
| | 279.53 | 25.20 | 2.52E-01 | | 4.34E-03 | 1.21E-01 |
| | 400.65 | 11.40 | 5.18E-01 | | -3.09E-02 | 2.45E-01 |
| RB-82 | 776.52 | 13.00 | 1.12E+00 | 1.12E+00 | 7.21E-02 | 5.20E-01 |

Analysis Report for 1510085-15

CP5006S09-10

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| RB-83 | 520.41 | 46.00 | 1.68E-01 | 1.68E-01 | 4.13E-02 | 7.96E-02 |
| | 529.64 | 30.30 | 2.45E-01 | | -9.27E-02 | 1.16E-01 |
| | 552.65 | 16.40 | 5.02E-01 | | 2.03E-01 | 2.37E-01 |
| KR-85 | 513.99 | 0.43 | 2.18E+01 | 2.18E+01 | 3.86E+01 | 1.05E+01 |
| SR-85 | 513.99 | 99.27 | 1.31E-01 | 1.31E-01 | 2.31E-01 | 6.32E-02 |
| Y-88 | 898.02 | 93.40 | 1.01E-01 | 6.50E-02 | 1.60E-02 | 4.70E-02 |
| | 1836.01 | 99.38 | 6.50E-02 | | -6.50E-04 | 2.72E-02 |
| NB-93M | 16.57 | 9.43 | 7.06E+01 | 7.06E+01 | -5.57E+01 | 3.29E+01 |
| NB-94 | 702.63 | 100.00 | 6.83E-02 | 6.83E-02 | -1.47E-02 | 3.20E-02 |
| | 871.10 | 100.00 | 6.88E-02 | | -2.44E-02 | 3.19E-02 |
| NB-95 | 765.79 | 99.81 | 1.57E-01 | 1.57E-01 | 1.35E-01 | 7.46E-02 |
| NB-95M | 235.69 | 25.00 | 8.68E+01 | 8.68E+01 | -7.09E+02 | 4.22E+01 |
| ZR-95 | 724.18 | 43.70 | 2.48E-01 | 1.62E-01 | 1.85E-02 | 1.17E-01 |
| MO-99 | 756.72 | 55.30 | 1.62E-01 | | 9.30E-03 | 7.52E-02 |
| | 181.06 | 6.20 | 1.58E+03 | 1.05E+03 | 4.72E+02 | 7.63E+02 |
| | 739.58 | 12.80 | 1.05E+03 | | -5.80E+01 | 4.91E+02 |
| | 778.00 | 4.50 | 2.72E+03 | | 3.14E+02 | 1.26E+03 |
| RU-103 | 497.08 | 89.00 | 1.25E-01 | 1.25E-01 | 1.44E-02 | 5.95E-02 |
| RU-106 | 621.84 | 9.80 | 6.66E-01 | 6.66E-01 | -2.37E-01 | 3.12E-01 |
| AG-108M | 433.93 | 89.90 | 6.84E-02 | 6.84E-02 | -3.50E-02 | 3.26E-02 |
| | 614.37 | 90.40 | 7.43E-02 | | 2.99E-02 | 3.50E-02 |
| | 722.95 | 90.50 | 7.95E-02 | | 1.16E-02 | 3.74E-02 |
| + CD-109 | 88.03 | * | 3.25E+00 | 3.25E+00 | 3.21E+00 | 1.61E+00 |
| AG-110M | 657.75 | 93.14 | 7.57E-02 | 7.57E-02 | 2.64E-02 | 3.55E-02 |
| | 677.61 | 10.53 | 7.13E-01 | | 6.72E-02 | 3.35E-01 |
| | 706.67 | 16.46 | 4.74E-01 | | 9.31E-02 | 2.23E-01 |
| | 763.93 | 21.98 | 3.36E-01 | | -4.97E-01 | 1.57E-01 |
| | 884.67 | 71.63 | 1.09E-01 | | -1.41E-02 | 5.08E-02 |
| | 1384.27 | 23.94 | 3.50E-01 | | 1.08E-01 | 1.59E-01 |
| CD-113M | 263.70 | 0.02 | 2.12E+02 | 2.12E+02 | -9.74E+01 | 1.02E+02 |
| SN-113 | 255.12 | 1.93 | 3.07E+00 | 9.45E-02 | 1.12E+00 | 1.47E+00 |
| | 391.69 | 64.90 | 9.45E-02 | | -3.77E-02 | 4.47E-02 |
| TE123M | 159.00 | 84.10 | 7.38E-02 | 7.38E-02 | 3.67E-02 | 3.58E-02 |
| SB-124 | 602.71 | 97.87 | 9.65E-02 | 9.65E-02 | -2.50E-02 | 4.55E-02 |
| | 645.85 | 7.26 | 1.31E+00 | | 3.41E-01 | 6.17E-01 |
| | 722.78 | 11.10 | 9.16E-01 | | 1.34E-01 | 4.30E-01 |
| | 1691.02 | 49.00 | 1.39E-01 | | 8.77E-03 | 5.77E-02 |
| I-125 | 35.49 | 6.49 | 3.14E+00 | 3.14E+00 | -8.63E-01 | 1.52E+00 |
| SB-125 | 176.33 | 6.89 | 7.65E-01 | 2.20E-01 | 1.82E-01 | 3.71E-01 |
| | 427.89 | 29.33 | 2.20E-01 | | 4.57E-02 | 1.05E-01 |
| | 463.38 | 10.35 | 7.10E-01 | | 8.92E-01 | 3.40E-01 |
| | 600.56 | 17.80 | 3.82E-01 | | -7.57E-02 | 1.80E-01 |
| | 635.90 | 11.32 | 5.96E-01 | | 1.25E-01 | 2.80E-01 |
| SB-126 | 414.70 | 83.30 | 3.84E-01 | 3.84E-01 | -1.17E-01 | 1.83E-01 |
| | 666.33 | 99.60 | 3.90E-01 | | 1.14E-01 | 1.84E-01 |
| | 695.00 | 99.60 | 4.01E-01 | | 1.13E-01 | 1.89E-01 |
| | 720.50 | 53.80 | 7.32E-01 | | 1.61E-01 | 3.45E-01 |
| + SN-126 | 87.57 | * | 3.12E-01 | 3.12E-01 | 3.09E-01 | 1.54E-01 |
| SB-127 | 473.00 | 25.00 | 5.71E+01 | 4.27E+01 | 1.89E+00 | 2.72E+01 |
| | 685.20 | 35.70 | 4.27E+01 | | -1.58E+01 | 2.01E+01 |
| | 783.80 | 14.70 | 1.05E+02 | | -1.32E+01 | 4.88E+01 |
| I-129 | 29.78 | 57.00 | 4.77E-01 | 4.77E-01 | -1.45E-01 | 2.31E-01 |
| | 33.60 | 13.20 | 1.32E+00 | | -8.55E-02 | 6.38E-01 |

Analysis Report for 1510085-15

CP5006S09-10

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| I-129 | 39.58 | 7.52 | 1.47E+00 | 4.77E-01 | 4.65E-01 | 7.16E-01 |
| I-131 | 284.30 | 6.05 | 1.11E+01 | 8.01E-01 | 8.39E-01 | 5.32E+00 |
| | 364.48 | 81.20 | 8.01E-01 | | -1.93E-01 | 3.79E-01 |
| | 636.97 | 7.26 | 1.23E+01 | | 4.28E+00 | 5.77E+00 |
| | 722.89 | 1.80 | 5.34E+01 | | 7.82E+00 | 2.51E+01 |
| TE-132 | 49.72 | 13.10 | 3.45E+02 | 3.77E+01 | -7.46E+02 | 1.68E+02 |
| | 228.16 | 88.00 | 3.77E+01 | | 1.64E+01 | 1.82E+01 |
| BA-133 | 81.00 | 33.00 | 1.77E-01 | 8.58E-02 | -1.36E+00 | 8.64E-02 |
| | 302.84 | 17.80 | 3.09E-01 | | 9.59E-02 | 1.48E-01 |
| | 356.01 | 60.00 | 8.58E-02 | | -9.11E-01 | 4.08E-02 |
| I-133 | 529.87 | 86.30 | 1.91E+09 | 1.91E+09 | -7.22E+08 | 9.00E+08 |
| XE-133 | 81.00 | 38.00 | 8.15E+00 | 8.15E+00 | -6.28E+01 | 3.98E+00 |
| CS-134 | 563.23 | 8.38 | 8.36E-01 | 7.55E-02 | 6.25E-03 | 3.96E-01 |
| | 569.32 | 15.43 | 4.75E-01 | | -8.13E-03 | 2.26E-01 |
| | 604.70 | 97.60 | 7.55E-02 | | -3.29E-03 | 3.58E-02 |
| | 795.84 | 85.40 | 1.05E-01 | | 8.62E-02 | 4.96E-02 |
| | 801.93 | 8.73 | 7.12E-01 | | 1.81E-02 | 3.29E-01 |
| CS-135 | 268.24 | 16.00 | 3.63E-01 | 3.63E-01 | 3.49E-01 | 1.75E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.18E+00 | 3.01E-01 | -7.02E-01 | 1.54E+00 |
| | 163.89 | 4.61 | 5.11E+00 | | -1.53E+00 | 2.47E+00 |
| | 176.55 | 13.56 | 1.86E+00 | | 4.42E-01 | 9.01E-01 |
| | 273.65 | 12.66 | 1.99E+00 | | -3.61E+00 | 9.54E-01 |
| | 340.57 | 48.50 | 7.12E-01 | | 8.81E-01 | 3.43E-01 |
| | 818.50 | 99.70 | 3.01E-01 | | -7.34E-02 | 1.39E-01 |
| | 1048.07 | 79.60 | 4.46E-01 | | -1.22E-01 | 2.05E-01 |
| | 1235.34 | 19.70 | 2.83E+00 | | 6.79E-01 | 1.33E+00 |
| CS-137 | 661.65 | 85.12 | 7.43E-02 | 7.43E-02 | 3.78E-03 | 3.48E-02 |
| LA-138 | 788.74 | 34.00 | 2.16E-01 | 1.21E-01 | 6.10E-02 | 1.01E-01 |
| | 1435.80 | 66.00 | 1.21E-01 | | 8.27E-02 | 5.51E-02 |
| CE-139 | 165.85 | 80.35 | 7.08E-02 | 7.08E-02 | -9.01E-03 | 3.42E-02 |
| BA-140 | 162.64 | 6.70 | 3.75E+00 | 1.24E+00 | -8.27E-03 | 1.82E+00 |
| | 304.84 | 4.50 | 5.97E+00 | | 6.49E-01 | 2.86E+00 |
| | 423.70 | 3.20 | 9.64E+00 | | -5.14E-01 | 4.59E+00 |
| | 437.55 | 2.00 | 1.59E+01 | | 4.15E+00 | 7.58E+00 |
| | 537.32 | 25.00 | 1.24E+00 | | 1.80E-01 | 5.84E-01 |
| LA-140 | 328.77 | 20.50 | 1.43E+00 | 4.07E-01 | 7.31E-01 | 6.84E-01 |
| | 487.03 | 45.50 | 7.14E-01 | | 2.52E-01 | 3.39E-01 |
| | 815.85 | 23.50 | 1.44E+00 | | 5.15E-01 | 6.70E-01 |
| | 1596.49 | 95.49 | 4.07E-01 | | 4.18E-02 | 1.82E-01 |
| CE-141 | 145.44 | 48.40 | 2.11E-01 | 2.11E-01 | 2.18E-01 | 1.03E-01 |
| CE-143 | 57.36 | 11.80 | 2.33E+06 | 7.94E+05 | 1.86E+06 | 1.14E+06 |
| | 293.26 | 42.00 | 7.94E+05 | | 2.33E+06 | 3.87E+05 |
| | 664.55 | 5.20 | 5.36E+06 | | 2.30E+06 | 2.53E+06 |
| CE-144 | 133.54 | 10.80 | 4.91E-01 | 4.91E-01 | -2.26E-02 | 2.38E-01 |
| PM-144 | 476.78 | 42.00 | 1.69E-01 | 6.91E-02 | 8.00E-02 | 8.03E-02 |
| | 618.01 | 98.60 | 6.91E-02 | | 6.82E-03 | 3.25E-02 |
| | 696.49 | 99.49 | 7.80E-02 | | 4.63E-02 | 3.68E-02 |
| PM-145 | 36.85 | 21.70 | 6.03E-01 | 3.22E-01 | -1.26E-01 | 2.93E-01 |
| | 37.36 | 39.70 | 3.22E-01 | | -1.85E-01 | 1.57E-01 |
| | 42.30 | 15.10 | 6.24E-01 | | -2.90E-01 | 3.03E-01 |

Analysis Report for 1510085-15

CP5006S09-10

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| PM-145 | 72.40 | 2.31 | 3.28E+00 | 3.22E-01 | -5.43E+00 | 1.61E+00 |
| PM-146 | 453.90 | 39.94 | 1.50E-01 | 1.50E-01 | 8.03E-03 | 7.10E-02 |
| | 735.90 | 14.01 | 4.52E-01 | | -4.71E-02 | 2.10E-01 |
| | 747.13 | 13.10 | 5.25E-01 | | -2.06E-01 | 2.46E-01 |
| ND-147 | 91.11 | 28.90 | 1.59E+00 | 1.59E+00 | -2.87E+00 | 7.80E-01 |
| | 531.02 | 13.10 | 3.06E+00 | | 7.03E-01 | 1.44E+00 |
| PM-149 | 285.90 | 3.10 | 2.02E+04 | 2.02E+04 | -5.62E+02 | 9.68E+03 |
| EU-152 | 121.78 | 20.50 | 2.41E-01 | 2.41E-01 | 1.92E-01 | 1.17E-01 |
| | 244.69 | 5.40 | 1.09E+00 | | -8.55E-01 | 5.27E-01 |
| | 344.27 | 19.13 | 2.71E-01 | | -6.48E-05 | 1.29E-01 |
| | 778.89 | 9.20 | 7.04E-01 | | 2.03E-01 | 3.27E-01 |
| | 964.01 | 10.40 | 8.53E-01 | | 1.31E-01 | 4.00E-01 |
| | 1085.78 | 7.22 | 1.02E+00 | | -1.82E-01 | 4.68E-01 |
| | 1112.02 | 9.60 | 9.38E-01 | | -2.35E-02 | 4.37E-01 |
| | 1407.95 | 14.94 | 5.67E-01 | | 2.95E-01 | 2.59E-01 |
| GD-153 | 97.43 | 31.30 | 1.75E-01 | 1.75E-01 | -9.51E-02 | 8.51E-02 |
| | 103.18 | 22.20 | 2.39E-01 | | 9.59E-02 | 1.16E-01 |
| EU-154 | 123.07 | 40.50 | 1.22E-01 | 1.22E-01 | 4.70E-02 | 5.94E-02 |
| | 723.30 | 19.70 | 3.67E-01 | | 5.38E-02 | 1.73E-01 |
| | 873.19 | 11.50 | 6.43E-01 | | 3.80E-01 | 2.99E-01 |
| | 996.32 | 10.30 | 7.55E-01 | | -2.87E-03 | 3.50E-01 |
| | 1004.76 | 17.90 | 4.55E-01 | | 8.03E-02 | 2.12E-01 |
| | 1274.45 | 35.50 | 2.52E-01 | | 1.30E-01 | 1.16E-01 |
| EU-155 | 86.50 | 30.90 | 2.19E-01 | 2.19E-01 | 1.57E-02 | 1.07E-01 |
| | 105.30 | 20.70 | 2.37E-01 | | 1.20E-01 | 1.16E-01 |
| EU-156 | 811.77 | 10.40 | 2.41E+00 | 2.41E+00 | 1.37E-01 | 1.11E+00 |
| | 1153.47 | 7.20 | 4.98E+00 | | 1.20E+00 | 2.32E+00 |
| | 1230.71 | 8.90 | 4.33E+00 | | -1.49E+00 | 2.02E+00 |
| HO-166M | 184.41 | 72.60 | 9.68E-02 | 9.68E-02 | 2.40E-01 | 4.73E-02 |
| | 280.45 | 29.60 | 1.65E-01 | | -2.54E-02 | 7.89E-02 |
| | 410.94 | 11.10 | 5.75E-01 | | 9.64E-03 | 2.75E-01 |
| | 711.69 | 54.10 | 1.33E-01 | | 2.04E-02 | 6.24E-02 |
| TM-171 | 66.72 | 0.14 | 4.99E+01 | 4.99E+01 | -1.06E+01 | 2.44E+01 |
| HF-172 | 81.75 | 4.52 | 1.34E+00 | 4.26E-01 | -1.85E+00 | 6.56E-01 |
| | 125.81 | 11.30 | 4.26E-01 | | -3.48E-02 | 2.07E-01 |
| LU-172 | 181.53 | 20.60 | 5.60E+00 | 3.14E+00 | 1.49E+00 | 2.71E+00 |
| | 810.06 | 16.63 | 8.71E+00 | | 1.82E+00 | 4.03E+00 |
| | 912.12 | 15.25 | 2.11E+01 | | 5.33E+01 | 1.02E+01 |
| | 1093.66 | 62.50 | 3.14E+00 | | 9.24E-01 | 1.46E+00 |
| LU-173 | 100.72 | 5.24 | 1.02E+00 | 2.88E-01 | 9.86E-01 | 4.99E-01 |
| | 272.11 | 21.20 | 2.88E-01 | | 2.22E-01 | 1.39E-01 |
| HF-175 | 343.40 | 84.00 | 8.53E-02 | 8.53E-02 | 1.80E-03 | 4.07E-02 |
| LU-176 | 88.34 | 13.30 | 5.14E-01 | 5.41E-02 | 9.25E-01 | 2.52E-01 |
| | 201.83 | 86.00 | 6.40E-02 | | 1.34E-02 | 3.10E-02 |
| | 306.78 | 94.00 | 5.41E-02 | | 1.38E-02 | 2.58E-02 |
| TA-182 | 67.75 | 41.20 | 1.97E-01 | 1.97E-01 | 1.26E-01 | 9.66E-02 |
| | 1121.30 | 34.90 | 4.71E-01 | | 8.58E-01 | 2.25E-01 |
| | 1189.05 | 16.23 | 6.51E-01 | | 4.29E-03 | 3.02E-01 |
| | 1221.41 | 26.98 | 4.26E-01 | | -3.76E-02 | 1.98E-01 |
| | 1231.02 | 11.44 | 1.03E+00 | | -3.53E-01 | 4.78E-01 |
| IR-192 | 308.46 | 29.68 | 2.15E-01 | 1.68E-01 | -1.53E-02 | 1.02E-01 |
| | 468.07 | 48.10 | 1.68E-01 | | 2.42E-04 | 7.98E-02 |
| HG-203 | 279.19 | 77.30 | 1.14E-01 | 1.14E-01 | 8.61E-02 | 5.47E-02 |

Analysis Report for 1510085-15

CP5006S09-10

| Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| BI-207 | 569.67 | | 97.72 | 7.43E-02 | 7.43E-02 | 2.12E-02 | 3.53E-02 |
| | 1063.62 | | 74.90 | 1.02E-01 | | 7.75E-03 | 4.72E-02 |
| + TL-208 | 583.14 | * | 30.22 | 2.87E-01 | 9.37E-02 | 1.43E+00 | 1.38E-01 |
| | 860.37 | * | 4.48 | 1.96E+00 | | 1.52E+00 | 9.22E-01 |
| | 2614.66 | * | 35.85 | 9.37E-02 | | 1.16E+00 | 3.32E-02 |
| BI-210M | 262.00 | | 45.00 | 1.13E-01 | 1.13E-01 | 5.62E-02 | 5.41E-02 |
| | 300.00 | | 23.00 | 2.54E-01 | | 1.60E-01 | 1.22E-01 |
| PB-210 | 46.50 | | 4.25 | 2.11E+00 | 2.11E+00 | 1.97E+00 | 1.03E+00 |
| PB-211 | 404.84 | | 2.90 | 1.75E+00 | 1.75E+00 | -1.40E-02 | 8.27E-01 |
| | 831.96 | | 2.90 | 2.38E+00 | | -1.98E+00 | 1.11E+00 |
| + BI-212 | 727.17 | * | 11.80 | 8.51E-01 | 8.51E-01 | 8.53E-01 | 4.07E-01 |
| | 1620.62 | * | 2.75 | 1.51E+00 | | 1.08E+00 | 6.11E-01 |
| + PB-212 | 238.63 | * | 44.60 | 2.89E-01 | 2.89E-01 | 1.58E+00 | 1.42E-01 |
| | 300.09 | | 3.41 | 1.71E+00 | | 1.08E+00 | 8.23E-01 |
| + BI-214 | 609.31 | * | 46.30 | 2.24E-01 | 2.24E-01 | 1.25E+00 | 1.08E-01 |
| | 1120.29 | * | 15.10 | 8.97E-01 | | 1.72E+00 | 4.28E-01 |
| | 1764.49 | * | 15.80 | 3.59E-01 | | 1.54E+00 | 1.53E-01 |
| | 2204.22 | | 4.98 | 1.90E+00 | | 1.46E+00 | 8.58E-01 |
| + PB-214 | 295.21 | * | 19.19 | 4.45E-01 | 2.45E-01 | 1.26E+00 | 2.16E-01 |
| | 351.92 | * | 37.19 | 2.45E-01 | | 1.68E+00 | 1.19E-01 |
| RN-219 | 401.80 | | 6.50 | 7.28E-01 | 7.28E-01 | -5.70E-01 | 3.43E-01 |
| RA-223 | 323.87 | | 3.88 | 1.26E+00 | 1.26E+00 | -7.24E-01 | 5.98E-01 |
| + RA-224 | 240.98 | * | 3.95 | 3.27E+00 | 3.27E+00 | 4.06E+00 | 1.61E+00 |
| RA-225 | 40.00 | | 31.00 | 1.43E+00 | 1.43E+00 | 4.49E-01 | 6.92E-01 |
| + RA-226 | 186.21 | * | 3.28 | 2.46E+00 | 2.46E+00 | 3.90E+00 | 1.20E+00 |
| TH-227 | 50.10 | | 8.40 | 8.82E-01 | 5.85E-01 | -1.91E+00 | 4.30E-01 |
| | 236.00 | | 11.50 | 5.85E-01 | | -4.78E+00 | 2.84E-01 |
| | 256.20 | | 6.30 | 7.59E-01 | | -3.20E-01 | 3.64E-01 |
| + AC-228 | 338.32 | * | 11.40 | 7.89E-01 | 4.29E-01 | 1.39E+00 | 3.84E-01 |
| | 911.07 | * | 27.70 | 4.29E-01 | | 1.20E+00 | 2.05E-01 |
| | 969.11 | * | 16.60 | 8.12E-01 | | 1.22E+00 | 3.89E-01 |
| TH-230 | 48.44 | | 16.90 | 5.02E-01 | 5.02E-01 | 4.27E-01 | 2.45E-01 |
| | 62.85 | | 4.60 | 1.70E+00 | | 2.42E+00 | 8.32E-01 |
| | 67.67 | | 0.37 | 1.83E+01 | | 1.17E+01 | 8.97E+00 |
| PA-231 | 283.67 | | 1.60 | 3.15E+00 | 2.38E+00 | 9.70E-01 | 1.51E+00 |
| | 302.67 | | 2.30 | 2.38E+00 | | 7.38E-01 | 1.14E+00 |
| TH-231 | 25.64 | | 14.70 | 3.98E+00 | 9.67E-01 | 3.52E+00 | 1.93E+00 |
| | 84.21 | | 6.40 | 9.67E-01 | | -2.25E+00 | 4.73E-01 |
| PA-233 | 311.98 | | 38.60 | 2.68E-01 | 2.68E-01 | -6.54E-02 | 1.27E-01 |
| PA-234 | 131.20 | | 20.40 | 2.49E-01 | 2.49E-01 | -1.14E-01 | 1.21E-01 |
| | 733.99 | | 8.80 | 7.37E-01 | | 1.35E-02 | 3.44E-01 |
| | 946.00 | | 12.00 | 6.28E-01 | | 1.00E-01 | 2.92E-01 |
| PA-234M | 1001.03 | | 0.92 | 9.72E+00 | 9.72E+00 | 5.27E+00 | 4.56E+00 |
| + TH-234 | 63.29 | * | 3.80 | 2.26E+00 | 2.26E+00 | 1.60E+00 | 1.11E+00 |
| U-235 | 143.76 | | 10.50 | 5.09E-01 | 5.09E-01 | 9.19E-02 | 2.47E-01 |
| | 163.35 | | 4.70 | 1.02E+00 | | -3.08E-01 | 4.96E-01 |
| | 205.31 | | 4.70 | 1.14E+00 | | 1.28E-01 | 5.53E-01 |
| NP-237 | 86.50 | | 12.60 | 5.31E-01 | 5.31E-01 | 3.80E-02 | 2.60E-01 |
| NP-239 | 106.10 | | 22.70 | 1.50E+03 | 1.50E+03 | 7.59E+02 | 7.32E+02 |
| | 228.18 | | 10.70 | 3.61E+03 | | 1.57E+03 | 1.74E+03 |
| | 277.60 | | 14.10 | 2.79E+03 | | 1.52E+03 | 1.34E+03 |
| AM-241 | 59.54 | | 35.90 | 2.00E-01 | 2.00E-01 | 8.02E-02 | 9.78E-02 |
| + AM-243 | 74.67 | * | 66.00 | 1.56E-01 | 1.56E-01 | 3.74E-01 | 7.67E-02 |

Analysis Report for 1510085-15
 CP5006S09-10

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CM-243 | 209.75 | 3.29 | 1.86E+00 | 4.01E-01 | 1.39E+00 | 9.04E-01 |
| | 228.14 | 10.60 | 5.20E-01 | | 2.27E-01 | 2.51E-01 |
| | 277.60 | 14.00 | 4.01E-01 | | 2.19E-01 | 1.93E-01 |

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| Creation Date | Comment | User |
|---------------|---------|------|
|---------------|---------|------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S09-10

Elapsed Live time: 3600
 Elapsed Real Time: 3601

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17: | 0 | 0 | 62 | 93 | 60 | 88 | 63 | 79 |
| 25: | 68 | 72 | 73 | 81 | 55 | 64 | 65 | 79 |
| 33: | 75 | 65 | 72 | 68 | 78 | 73 | 77 | 86 |
| 41: | 98 | 62 | 70 | 80 | 82 | 88 | 175 | 92 |
| 49: | 89 | 88 | 104 | 92 | 112 | 116 | 75 | 98 |
| 57: | 107 | 128 | 141 | 141 | 127 | 140 | 194 | 271 |
| 65: | 152 | 133 | 149 | 145 | 146 | 167 | 130 | 121 |
| 73: | 144 | 176 | 424 | 340 | 433 | 559 | 139 | 135 |
| 81: | 115 | 141 | 96 | 159 | 179 | 118 | 174 | 253 |
| 89: | 134 | 177 | 161 | 135 | 306 | 218 | 126 | 77 |
| 97: | 78 | 82 | 116 | 125 | 91 | 76 | 92 | 78 |
| 105: | 81 | 115 | 85 | 80 | 68 | 108 | 86 | 85 |
| 113: | 90 | 68 | 89 | 73 | 68 | 75 | 69 | 73 |
| 121: | 97 | 80 | 87 | 83 | 68 | 77 | 67 | 72 |
| 129: | 133 | 112 | 74 | 93 | 70 | 73 | 71 | 85 |
| 137: | 82 | 92 | 85 | 69 | 82 | 85 | 78 | 102 |
| 145: | 90 | 79 | 84 | 82 | 60 | 76 | 87 | 69 |
| 153: | 55 | 66 | 81 | 65 | 60 | 83 | 80 | 78 |
| 161: | 73 | 66 | 63 | 62 | 61 | 57 | 63 | 70 |
| 169: | 66 | 59 | 59 | 81 | 61 | 74 | 56 | 81 |
| 177: | 57 | 70 | 64 | 53 | 75 | 48 | 56 | 81 |
| 185: | 91 | 200 | 159 | 73 | 53 | 68 | 64 | 58 |
| 193: | 80 | 40 | 52 | 58 | 62 | 58 | 68 | 73 |
| 201: | 61 | 62 | 61 | 61 | 55 | 51 | 50 | 80 |
| 209: | 96 | 83 | 55 | 63 | 68 | 60 | 54 | 71 |
| 217: | 61 | 43 | 44 | 48 | 55 | 63 | 58 | 39 |
| 225: | 60 | 45 | 55 | 61 | 51 | 60 | 46 | 46 |
| 233: | 43 | 55 | 43 | 60 | 59 | 177 | 674 | 225 |
| 241: | 113 | 163 | 112 | 46 | 33 | 52 | 40 | 30 |
| 249: | 49 | 37 | 36 | 39 | 39 | 30 | 36 | 39 |
| 257: | 43 | 26 | 32 | 50 | 34 | 42 | 25 | 40 |
| 265: | 35 | 31 | 36 | 43 | 34 | 55 | 76 | 43 |
| 273: | 28 | 42 | 43 | 30 | 55 | 62 | 39 | 30 |
| 281: | 30 | 32 | 29 | 29 | 37 | 41 | 31 | 28 |
| 289: | 39 | 32 | 30 | 39 | 33 | 37 | 166 | 213 |
| 297: | 50 | 35 | 39 | 47 | 63 | 27 | 31 | 26 |
| 305: | 35 | 37 | 37 | 19 | 25 | 22 | 32 | 25 |
| 313: | 30 | 22 | 43 | 24 | 34 | 23 | 25 | 24 |
| 321: | 27 | 24 | 26 | 30 | 27 | 23 | 26 | 48 |
| 329: | 45 | 27 | 32 | 34 | 29 | 35 | 38 | 31 |
| 337: | 25 | 78 | 130 | 43 | 28 | 38 | 23 | 23 |
| 345: | 32 | 27 | 29 | 21 | 31 | 29 | 72 | 361 |
| 353: | 307 | 32 | 19 | 29 | 17 | 28 | 17 | 25 |
| 361: | 29 | 32 | 17 | 22 | 25 | 24 | 20 | 23 |

369: 16 24 25 25 24 22 22 23

Sample Title: CP5006S09-10

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 28 | 23 | 23 | 29 | 17 | 17 | 28 | 28 |
| 385: | 18 | 26 | 23 | 28 | 27 | 19 | 26 | 18 |
| 393: | 30 | 15 | 22 | 27 | 21 | 20 | 24 | 19 |
| 401: | 21 | 19 | 15 | 14 | 26 | 27 | 19 | 17 |
| 409: | 24 | 37 | 22 | 17 | 20 | 23 | 22 | 23 |
| 417: | 14 | 17 | 16 | 17 | 23 | 24 | 21 | 20 |
| 425: | 15 | 14 | 19 | 19 | 25 | 27 | 28 | 17 |
| 433: | 19 | 15 | 24 | 15 | 18 | 22 | 22 | 17 |
| 441: | 20 | 17 | 19 | 21 | 17 | 20 | 13 | 11 |
| 449: | 12 | 16 | 20 | 30 | 15 | 21 | 11 | 8 |
| 457: | 12 | 19 | 16 | 13 | 17 | 26 | 40 | 31 |
| 465: | 15 | 20 | 22 | 10 | 14 | 22 | 16 | 18 |
| 473: | 18 | 19 | 20 | 14 | 20 | 24 | 19 | 24 |
| 481: | 14 | 15 | 20 | 15 | 19 | 18 | 17 | 14 |
| 489: | 20 | 19 | 15 | 10 | 9 | 19 | 14 | 31 |
| 497: | 17 | 9 | 17 | 19 | 14 | 17 | 15 | 15 |
| 505: | 15 | 14 | 13 | 12 | 18 | 45 | 92 | 73 |
| 513: | 34 | 18 | 14 | 9 | 15 | 9 | 17 | 17 |
| 521: | 13 | 17 | 13 | 14 | 12 | 14 | 15 | 16 |
| 529: | 14 | 18 | 9 | 10 | 7 | 20 | 13 | 7 |
| 537: | 16 | 12 | 13 | 18 | 15 | 18 | 5 | 19 |
| 545: | 15 | 17 | 16 | 18 | 11 | 19 | 13 | 13 |
| 553: | 17 | 14 | 15 | 12 | 9 | 11 | 18 | 11 |
| 561: | 19 | 16 | 22 | 19 | 12 | 13 | 20 | 14 |
| 569: | 16 | 23 | 15 | 20 | 17 | 21 | 15 | 17 |
| 577: | 19 | 14 | 11 | 14 | 11 | 24 | 125 | 176 |
| 585: | 41 | 14 | 14 | 12 | 13 | 9 | 15 | 8 |
| 593: | 10 | 8 | 11 | 15 | 14 | 12 | 19 | 12 |
| 601: | 12 | 16 | 12 | 13 | 14 | 17 | 13 | 26 |
| 609: | 131 | 247 | 69 | 12 | 15 | 8 | 18 | 10 |
| 617: | 14 | 17 | 6 | 12 | 8 | 12 | 11 | 11 |
| 625: | 17 | 7 | 15 | 16 | 12 | 10 | 9 | 6 |
| 633: | 12 | 14 | 12 | 12 | 9 | 12 | 15 | 13 |
| 641: | 14 | 8 | 18 | 9 | 9 | 16 | 6 | 11 |
| 649: | 18 | 8 | 13 | 11 | 8 | 14 | 12 | 9 |
| 657: | 13 | 13 | 11 | 10 | 10 | 9 | 6 | 9 |
| 665: | 18 | 28 | 9 | 17 | 9 | 14 | 13 | 11 |
| 673: | 11 | 11 | 9 | 15 | 4 | 10 | 20 | 15 |
| 681: | 12 | 10 | 14 | 11 | 6 | 11 | 13 | 15 |
| 689: | 13 | 15 | 12 | 11 | 12 | 16 | 10 | 12 |
| 697: | 16 | 18 | 12 | 8 | 6 | 9 | 13 | 13 |
| 705: | 17 | 12 | 10 | 10 | 12 | 12 | 12 | 10 |
| 713: | 17 | 10 | 12 | 11 | 13 | 10 | 15 | 13 |
| 721: | 14 | 15 | 8 | 12 | 8 | 13 | 29 | 35 |
| 729: | 19 | 12 | 12 | 11 | 6 | 12 | 7 | 5 |
| 737: | 12 | 9 | 9 | 15 | 6 | 9 | 12 | 14 |
| 745: | 14 | 6 | 7 | 11 | 9 | 9 | 13 | 14 |
| 753: | 7 | 7 | 7 | 16 | 9 | 11 | 6 | 5 |
| 761: | 6 | 8 | 11 | 8 | 11 | 15 | 8 | 22 |
| 769: | 37 | 14 | 12 | 14 | 15 | 12 | 5 | 8 |
| 777: | 7 | 7 | 7 | 12 | 8 | 9 | 7 | 6 |
| 785: | 9 | 11 | 15 | 12 | 9 | 9 | 8 | 11 |
| 793: | 8 | 12 | 27 | 29 | 13 | 10 | 7 | 11 |

801: 7 5 3 8 7 4 7 10

Sample Title: CP5006S09-10

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 8 | 6 | 4 | 6 | 13 | 9 | 6 | 6 |
| 817: | 6 | 8 | 9 | 6 | 8 | 5 | 9 | 8 |
| 825: | 5 | 9 | 7 | 4 | 5 | 10 | 4 | 12 |
| 833: | 10 | 10 | 9 | 21 | 19 | 6 | 16 | 12 |
| 841: | 18 | 6 | 13 | 9 | 8 | 9 | 5 | 8 |
| 849: | 10 | 11 | 9 | 4 | 7 | 9 | 11 | 8 |
| 857: | 5 | 6 | 3 | 15 | 35 | 16 | 8 | 7 |
| 865: | 11 | 9 | 6 | 7 | 8 | 8 | 6 | 8 |
| 873: | 13 | 5 | 11 | 12 | 4 | 4 | 11 | 8 |
| 881: | 9 | 12 | 12 | 6 | 11 | 4 | 7 | 7 |
| 889: | 7 | 12 | 11 | 16 | 7 | 8 | 10 | 9 |
| 897: | 11 | 8 | 8 | 12 | 9 | 10 | 9 | 13 |
| 905: | 15 | 3 | 6 | 10 | 8 | 18 | 66 | 94 |
| 913: | 31 | 7 | 14 | 5 | 8 | 4 | 9 | 8 |
| 921: | 7 | 6 | 7 | 8 | 6 | 7 | 5 | 7 |
| 929: | 7 | 11 | 9 | 6 | 9 | 17 | 16 | 9 |
| 937: | 5 | 6 | 9 | 5 | 8 | 4 | 6 | 8 |
| 945: | 10 | 10 | 9 | 8 | 7 | 5 | 12 | 8 |
| 953: | 8 | 5 | 6 | 8 | 7 | 11 | 8 | 4 |
| 961: | 6 | 13 | 9 | 8 | 18 | 15 | 10 | 12 |
| 969: | 55 | 54 | 26 | 8 | 11 | 6 | 3 | 9 |
| 977: | 7 | 7 | 7 | 3 | 3 | 6 | 6 | 5 |
| 985: | 6 | 6 | 3 | 7 | 6 | 9 | 6 | 6 |
| 993: | 2 | 11 | 9 | 5 | 6 | 12 | 11 | 11 |
| 1001: | 9 | 11 | 9 | 13 | 12 | 6 | 5 | 5 |
| 1009: | 8 | 5 | 7 | 9 | 8 | 4 | 10 | 5 |
| 1017: | 8 | 9 | 7 | 10 | 9 | 5 | 11 | 8 |
| 1025: | 9 | 3 | 8 | 8 | 6 | 4 | 10 | 6 |
| 1033: | 8 | 13 | 5 | 5 | 8 | 4 | 6 | 3 |
| 1041: | 4 | 8 | 6 | 9 | 7 | 2 | 3 | 8 |
| 1049: | 10 | 5 | 10 | 4 | 12 | 7 | 11 | 7 |
| 1057: | 9 | 10 | 8 | 4 | 11 | 7 | 2 | 12 |
| 1065: | 5 | 8 | 4 | 8 | 6 | 6 | 3 | 4 |
| 1073: | 8 | 8 | 6 | 7 | 5 | 7 | 9 | 10 |
| 1081: | 11 | 8 | 1 | 6 | 12 | 7 | 6 | 7 |
| 1089: | 4 | 11 | 9 | 11 | 8 | 10 | 8 | 10 |
| 1097: | 6 | 10 | 4 | 5 | 2 | 12 | 7 | 6 |
| 1105: | 5 | 7 | 14 | 8 | 16 | 7 | 8 | 14 |
| 1113: | 5 | 5 | 9 | 8 | 9 | 12 | 11 | 39 |
| 1121: | 54 | 26 | 9 | 4 | 8 | 2 | 9 | 5 |
| 1129: | 10 | 9 | 11 | 4 | 4 | 14 | 6 | 9 |
| 1137: | 11 | 4 | 5 | 7 | 3 | 7 | 6 | 12 |
| 1145: | 9 | 6 | 9 | 5 | 10 | 9 | 4 | 7 |
| 1153: | 7 | 12 | 9 | 14 | 8 | 7 | 8 | 10 |
| 1161: | 5 | 11 | 4 | 7 | 8 | 8 | 6 | 9 |
| 1169: | 8 | 6 | 10 | 8 | 5 | 9 | 6 | 11 |
| 1177: | 13 | 8 | 4 | 8 | 9 | 16 | 9 | 7 |
| 1185: | 7 | 8 | 4 | 11 | 7 | 8 | 7 | 10 |
| 1193: | 9 | 8 | 10 | 8 | 8 | 8 | 7 | 6 |
| 1201: | 9 | 5 | 11 | 7 | 3 | 8 | 15 | 15 |
| 1209: | 15 | 6 | 9 | 11 | 5 | 6 | 9 | 15 |
| 1217: | 4 | 11 | 8 | 9 | 10 | 11 | 6 | 8 |
| 1225: | 7 | 12 | 14 | 9 | 7 | 8 | 9 | 11 |

1233: 9 12 10 10 16 22 16 12

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| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1241: | 16 | 8 | 9 | 6 | 4 | 5 | 9 | 10 |
| 1249: | 4 | 8 | 3 | 5 | 6 | 8 | 5 | 9 |
| 1257: | 7 | 6 | 2 | 5 | 8 | 9 | 3 | 8 |
| 1265: | 4 | 7 | 4 | 6 | 7 | 4 | 8 | 12 |
| 1273: | 9 | 7 | 5 | 3 | 6 | 4 | 4 | 7 |
| 1281: | 12 | 8 | 5 | 7 | 9 | 8 | 7 | 5 |
| 1289: | 3 | 3 | 3 | 8 | 11 | 7 | 1 | 6 |
| 1297: | 4 | 6 | 4 | 6 | 8 | 6 | 2 | 8 |
| 1305: | 6 | 3 | 8 | 5 | 4 | 3 | 4 | 6 |
| 1313: | 5 | 9 | 3 | 6 | 5 | 4 | 3 | 2 |
| 1321: | 6 | 1 | 4 | 4 | 6 | 8 | 5 | 3 |
| 1329: | 3 | 4 | 4 | 3 | 5 | 0 | 5 | 2 |
| 1337: | 5 | 5 | 3 | 3 | 3 | 2 | 2 | 4 |
| 1345: | 2 | 7 | 6 | 2 | 1 | 5 | 1 | 4 |
| 1353: | 0 | 3 | 3 | 1 | 7 | 6 | 2 | 1 |
| 1361: | 4 | 1 | 4 | 4 | 6 | 0 | 2 | 2 |
| 1369: | 6 | 4 | 3 | 4 | 4 | 5 | 4 | 2 |
| 1377: | 5 | 14 | 15 | 2 | 8 | 4 | 1 | 5 |
| 1385: | 6 | 5 | 3 | 3 | 2 | 3 | 4 | 4 |
| 1393: | 3 | 1 | 4 | 3 | 2 | 5 | 1 | 2 |
| 1401: | 5 | 10 | 5 | 5 | 1 | 6 | 6 | 7 |
| 1409: | 8 | 10 | 0 | 2 | 1 | 2 | 9 | 2 |
| 1417: | 3 | 1 | 3 | 5 | 3 | 0 | 7 | 1 |
| 1425: | 3 | 3 | 3 | 3 | 0 | 2 | 1 | 4 |
| 1433: | 7 | 7 | 3 | 3 | 6 | 7 | 0 | 1 |
| 1441: | 2 | 4 | 4 | 1 | 4 | 4 | 3 | 6 |
| 1449: | 1 | 3 | 4 | 1 | 2 | 4 | 1 | 5 |
| 1457: | 1 | 7 | 16 | 85 | 336 | 299 | 54 | 10 |
| 1465: | 6 | 2 | 2 | 1 | 4 | 3 | 2 | 1 |
| 1473: | 3 | 1 | 1 | 3 | 1 | 0 | 4 | 0 |
| 1481: | 2 | 3 | 2 | 2 | 0 | 2 | 0 | 3 |
| 1489: | 0 | 1 | 3 | 5 | 2 | 0 | 1 | 3 |
| 1497: | 4 | 4 | 3 | 4 | 1 | 2 | 2 | 1 |
| 1505: | 1 | 2 | 3 | 3 | 6 | 9 | 3 | 0 |
| 1513: | 1 | 2 | 1 | 3 | 3 | 3 | 1 | 3 |
| 1521: | 0 | 4 | 2 | 4 | 1 | 4 | 3 | 3 |
| 1529: | 2 | 2 | 2 | 5 | 1 | 3 | 0 | 2 |
| 1537: | 1 | 1 | 7 | 3 | 6 | 1 | 3 | 4 |
| 1545: | 2 | 0 | 2 | 2 | 1 | 1 | 1 | 2 |
| 1553: | 1 | 1 | 1 | 4 | 0 | 2 | 0 | 3 |
| 1561: | 3 | 2 | 2 | 1 | 2 | 2 | 3 | 0 |
| 1569: | 3 | 6 | 2 | 0 | 3 | 1 | 3 | 1 |
| 1577: | 2 | 3 | 1 | 2 | 1 | 5 | 4 | 3 |
| 1585: | 1 | 2 | 5 | 6 | 7 | 2 | 3 | 1 |
| 1593: | 5 | 5 | 7 | 1 | 1 | 2 | 4 | 3 |
| 1601: | 1 | 1 | 3 | 0 | 3 | 2 | 1 | 1 |
| 1609: | 2 | 2 | 2 | 2 | 1 | 0 | 1 | 0 |
| 1617: | 0 | 1 | 2 | 1 | 3 | 5 | 2 | 0 |
| 1625: | 2 | 1 | 4 | 1 | 1 | 4 | 4 | 5 |
| 1633: | 0 | 0 | 4 | 2 | 4 | 2 | 4 | 1 |
| 1641: | 1 | 2 | 0 | 1 | 1 | 3 | 1 | 0 |
| 1649: | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 1657: | 2 | 1 | 5 | 0 | 9 | 2 | 3 | 3 |

1665: 3 1 1 0 1 3 2 1

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| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|----|----|----|---|----|---|
| 1673: | 1 | 2 | 1 | 4 | 3 | 0 | 1 | 1 | |
| 1681: | 2 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | |
| 1689: | 0 | 1 | 3 | 0 | 1 | 1 | 0 | 2 | |
| 1697: | 2 | 2 | 0 | 3 | 2 | 0 | 0 | 2 | |
| 1705: | 0 | 0 | 0 | 1 | 5 | 4 | 2 | 1 | |
| 1713: | 0 | 3 | 0 | 6 | 0 | 1 | 3 | 1 | |
| 1721: | 0 | 2 | 2 | 1 | 0 | 0 | 3 | 1 | |
| 1729: | 8 | 9 | 4 | 1 | 1 | 2 | 2 | 0 | |
| 1737: | 2 | 3 | 0 | 2 | 0 | 1 | 0 | 3 | |
| 1745: | 5 | 1 | 2 | 0 | 1 | 2 | 1 | 3 | |
| 1753: | 1 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | |
| 1761: | 0 | 2 | 2 | 24 | 31 | 16 | 9 | 1 | |
| 1769: | 0 | 2 | 2 | 4 | 1 | 0 | 2 | 0 | |
| 1777: | 2 | 1 | 1 | 5 | 0 | 1 | 0 | 1 | |
| 1785: | 0 | 0 | 1 | 0 | 0 | 2 | 4 | 0 | |
| 1793: | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 2 | |
| 1801: | 0 | 0 | 3 | 1 | 3 | 1 | 1 | 2 | |
| 1809: | 2 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | |
| 1817: | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | |
| 1825: | 3 | 1 | 2 | 0 | 3 | 0 | 4 | 0 | |
| 1833: | 1 | 0 | 1 | 2 | 2 | 0 | 3 | 0 | |
| 1841: | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 10 | |
| 1849: | 2 | 5 | 1 | 3 | 1 | 2 | 0 | 0 | |
| 1857: | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 2 | |
| 1865: | 0 | 3 | 0 | 0 | 1 | 3 | 1 | 0 | |
| 1873: | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | |
| 1881: | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 3 | |
| 1889: | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 3 | |
| 1897: | 3 | 2 | 2 | 1 | 2 | 0 | 1 | 1 | |
| 1905: | 1 | 3 | 1 | 2 | 1 | 1 | 2 | 1 | |
| 1913: | 0 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | |
| 1921: | 3 | 1 | 2 | 1 | 1 | 0 | 1 | 0 | |
| 1929: | 2 | 0 | 3 | 0 | 1 | 2 | 2 | 0 | |
| 1937: | 2 | 0 | 2 | 2 | 1 | 1 | 1 | 0 | |
| 1945: | 3 | 1 | 1 | 1 | 0 | 1 | 2 | 1 | |
| 1953: | 0 | 2 | 2 | 2 | 2 | 0 | 1 | 3 | |
| 1961: | 3 | 1 | 2 | 0 | 1 | 2 | 1 | 2 | |
| 1969: | 2 | 3 | 1 | 1 | 0 | 0 | 1 | 3 | |
| 1977: | 2 | 0 | 1 | 3 | 1 | 3 | 1 | 0 | |
| 1985: | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | |
| 1993: | 0 | 0 | 0 | 1 | 3 | 2 | 1 | 1 | |
| 2001: | 1 | 1 | 1 | 0 | 1 | 3 | 0 | 2 | |
| 2009: | 1 | 3 | 1 | 4 | 0 | 2 | 0 | 0 | |
| 2017: | 1 | 2 | 2 | 1 | 1 | 2 | 0 | 0 | |
| 2025: | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | |
| 2033: | 0 | 4 | 0 | 1 | 1 | 1 | 1 | 1 | |
| 2041: | 1 | 2 | 0 | 1 | 1 | 1 | 1 | 1 | |
| 2049: | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | |
| 2057: | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | |
| 2065: | 1 | 4 | 0 | 2 | 1 | 1 | 1 | 1 | |
| 2073: | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 2 | |
| 2081: | 1 | 1 | 4 | 0 | 0 | 3 | 0 | 1 | |
| 2089: | 4 | 2 | 0 | 2 | 1 | 1 | 2 | 1 | |

2097: 3 2 0 1 0 6 1 4

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| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2105: | 7 | 1 | 4 | 2 | 0 | 1 | 1 | 0 |
| 2113: | 2 | 1 | 0 | 0 | 2 | 5 | 1 | 2 |
| 2121: | 0 | 1 | 1 | 2 | 0 | 2 | 0 | 1 |
| 2129: | 1 | 0 | 1 | 3 | 0 | 1 | 2 | 1 |
| 2137: | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 2145: | 1 | 2 | 0 | 1 | 1 | 2 | 1 | 0 |
| 2153: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2161: | 1 | 0 | 0 | 2 | 3 | 1 | 0 | 0 |
| 2169: | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 2 |
| 2177: | 0 | 2 | 0 | 2 | 0 | 2 | 1 | 2 |
| 2185: | 2 | 2 | 0 | 1 | 1 | 3 | 1 | 0 |
| 2193: | 3 | 1 | 1 | 3 | 2 | 1 | 2 | 1 |
| 2201: | 0 | 1 | 4 | 3 | 12 | 3 | 4 | 0 |
| 2209: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2217: | 2 | 1 | 1 | 3 | 0 | 1 | 1 | 1 |
| 2225: | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 0 |
| 2233: | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 1 |
| 2241: | 0 | 2 | 3 | 0 | 3 | 1 | 0 | 1 |
| 2249: | 1 | 0 | 2 | 2 | 0 | 2 | 2 | 2 |
| 2257: | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 2 |
| 2265: | 2 | 2 | 0 | 2 | 0 | 1 | 1 | 1 |
| 2273: | 0 | 1 | 1 | 1 | 2 | 2 | 0 | 3 |
| 2281: | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 1 |
| 2289: | 0 | 1 | 1 | 2 | 2 | 2 | 0 | 1 |
| 2297: | 1 | 3 | 2 | 0 | 0 | 0 | 1 | 2 |
| 2305: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2313: | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 2321: | 0 | 0 | 0 | 1 | 0 | 2 | 2 | 0 |
| 2329: | 1 | 0 | 2 | 5 | 2 | 1 | 3 | 2 |
| 2337: | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 0 |
| 2345: | 0 | 4 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2353: | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 |
| 2361: | 1 | 3 | 2 | 1 | 2 | 2 | 1 | 1 |
| 2369: | 0 | 0 | 1 | 0 | 5 | 2 | 2 | 1 |
| 2377: | 2 | 3 | 2 | 1 | 2 | 0 | 1 | 3 |
| 2385: | 0 | 2 | 1 | 0 | 0 | 1 | 2 | 3 |
| 2393: | 1 | 1 | 2 | 1 | 2 | 0 | 1 | 2 |
| 2401: | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 2 |
| 2409: | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 0 |
| 2417: | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2425: | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 2433: | 2 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 2441: | 1 | 0 | 0 | 3 | 3 | 0 | 2 | 2 |
| 2449: | 8 | 4 | 3 | 1 | 3 | 0 | 1 | 2 |
| 2457: | 1 | 0 | 1 | 2 | 2 | 1 | 0 | 1 |
| 2465: | 0 | 1 | 1 | 2 | 1 | 0 | 3 | 0 |
| 2473: | 1 | 2 | 2 | 0 | 0 | 0 | 1 | 0 |
| 2481: | 3 | 0 | 0 | 1 | 1 | 3 | 1 | 1 |
| 2489: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 2497: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 2505: | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 2513: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2521: | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |

2529: 1 1 1 1 1 0 0 0

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| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|----|----|----|---|
| 2537: | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | |
| 2545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 2553: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | |
| 2561: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | |
| 2569: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | |
| 2577: | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | |
| 2585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 2593: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2601: | 1 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2609: | 1 | 0 | 0 | 5 | 9 | 28 | 46 | 20 | |
| 2617: | 9 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2625: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | |
| 2633: | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 2 | |
| 2641: | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | |
| 2649: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2657: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 2665: | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | |
| 2673: | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | |
| 2681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 2689: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 2697: | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | |
| 2705: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2713: | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | |
| 2721: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | |
| 2729: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2737: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2745: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2753: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2761: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2769: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2777: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 2785: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 2793: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2801: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | |
| 2809: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 2817: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2833: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | |
| 2841: | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | |
| 2849: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2857: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2865: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2873: | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 2 | |
| 2881: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2889: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2897: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2913: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 2921: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | |
| 2929: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | |
| 2937: | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | |
| 2945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2953: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | |

2961: 0 0 2 0 0 0 1 0

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| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2969: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2977: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2985: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2993: | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| 3001: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3009: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3025: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3041: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3065: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3081: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3089: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3097: | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3105: | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3113: | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3137: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3145: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3153: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 |
| 3201: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3217: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3233: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3241: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3249: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3257: | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 3265: | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3273: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3297: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3329: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3345: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3369: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3377: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3385: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

3393: 0 1 0 1 0 0 0 0

Sample Title: CP5006S09-10

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3425: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3433: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3457: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3465: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3481: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3497: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3633: | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3641: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 |
| 3657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3697: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3729: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3753: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3761: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3785: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3809: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3817: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

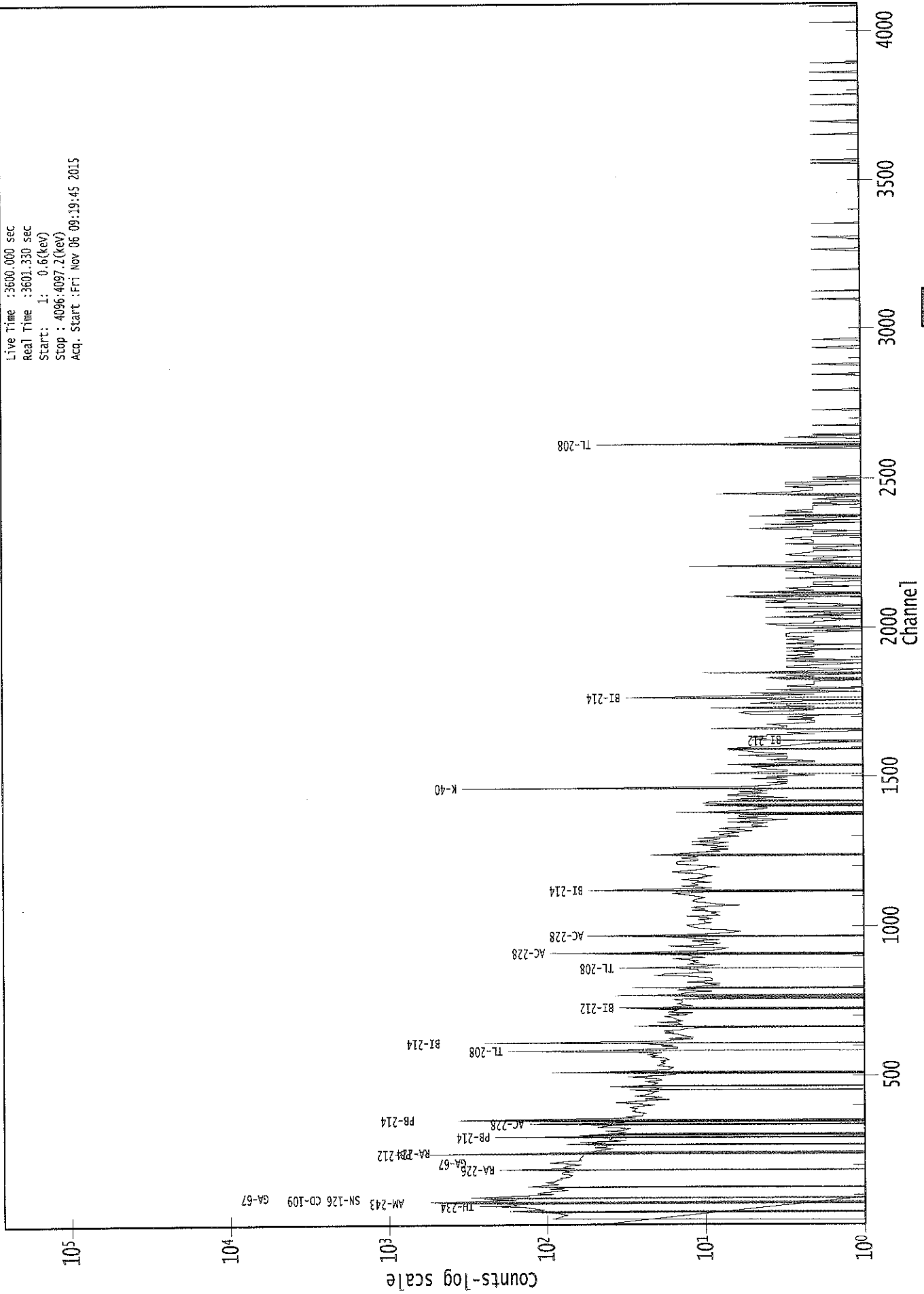
3825: 0 0 0 0 0 0 0 1 2

Sample Title: CP5006S09-10

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3881: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3889: | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3961: | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 4017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4057: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |

0000029247.CNF

Live Time : 3600.000 sec
Real Time : 3601.330 sec
Start : 1: 0.6(keV)
Stop : 4096:4097.2(keV)
Acq. Start : Fri Nov 06 09:19:45 2015



4096:4097.2

Analysis Report for 1510085-16
CP5006S12-13

11/6

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-16
Sample Description : CP5006S12-13
Sample Type : SOIL

Sample Size : 5.148E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:43:02AM
Acquisition Started : 11/6/2015 9:19:52AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.04 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 7 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29248

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-16
CP5006S12-13

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 10:20:09AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 47.06 | 47.17 | 0.0000 | 0.00 |
| 2 | 76.33 | 76.42 | 0.0000 | 0.00 |
| 3 | 84.42 | 84.50 | 0.0000 | 0.00 |
| 4 | 87.35 | 87.43 | 0.0000 | 0.00 |
| 5 | 93.15 | 93.23 | 0.0000 | 0.00 |
| 6 | 99.84 | 99.91 | 0.0000 | 0.00 |
| 7 | 105.34 | 105.41 | 0.0000 | 0.00 |
| 8 | 129.97 | 130.02 | 0.0000 | 0.00 |
| 9 | 148.50 | 148.55 | 0.0000 | 0.00 |
| 10 | 186.06 | 186.09 | 0.0000 | 0.00 |
| 11 | 208.91 | 208.93 | 0.0000 | 0.00 |
| 12 | 238.68 | 238.67 | 0.0000 | 0.00 |
| 13 | 241.81 | 241.81 | 0.0000 | 0.00 |
| 14 | 273.28 | 273.26 | 0.0000 | 0.00 |
| 15 | 295.21 | 295.18 | 0.0000 | 0.00 |
| 16 | 300.16 | 300.13 | 0.0000 | 0.00 |
| 17 | 327.34 | 327.29 | 0.0000 | 0.00 |
| 18 | 338.32 | 338.26 | 0.0000 | 0.00 |
| 19 | 351.90 | 351.84 | 0.0000 | 0.00 |
| 20 | 462.25 | 462.13 | 0.0000 | 0.00 |
| 21 | 491.44 | 491.31 | 0.0000 | 0.00 |
| 22 | 511.22 | 511.07 | 0.0000 | 0.00 |
| 23 | 583.26 | 583.08 | 0.0000 | 0.00 |
| 24 | 609.37 | 609.18 | 0.0000 | 0.00 |
| 25 | 726.95 | 726.70 | 0.0000 | 0.00 |
| 26 | 771.55 | 771.28 | 0.0000 | 0.00 |
| 27 | 786.29 | 786.02 | 0.0000 | 0.00 |
| 28 | 795.57 | 795.29 | 0.0000 | 0.00 |
| 29 | 860.90 | 860.60 | 0.0000 | 0.00 |
| 30 | 911.33 | 911.01 | 0.0000 | 0.00 |
| 31 | 965.37 | 965.03 | 0.0000 | 0.00 |
| 32 | 969.15 | 968.80 | 0.0000 | 0.00 |
| 33 | 1000.35 | 999.98 | 0.0000 | 0.00 |
| 34 | 1073.41 | 1073.02 | 0.0000 | 0.00 |
| 35 | 1119.75 | 1119.34 | 0.0000 | 0.00 |
| 36 | 1218.21 | 1217.76 | 0.0000 | 0.00 |
| 37 | 1239.22 | 1238.77 | 0.0000 | 0.00 |
| 38 | 1341.02 | 1340.53 | 0.0000 | 0.00 |
| 39 | 1460.92 | 1460.40 | 0.0000 | 0.00 |
| 40 | 1542.67 | 1542.12 | 0.0000 | 0.00 |
| 41 | 1587.75 | 1587.19 | 0.0000 | 0.00 |
| 42 | 1592.61 | 1592.05 | 0.0000 | 0.00 |

Analysis Report for 1510085-16
CP5006S12-13

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1632.13 | 1631.55 | 0.0000 | 0.00 |
| 44 | 1638.43 | 1637.85 | 0.0000 | 0.00 |
| 45 | 1660.69 | 1660.11 | 0.0000 | 0.00 |
| 46 | 1764.41 | 1763.81 | 0.0000 | 0.00 |
| 47 | 1875.13 | 1874.50 | 0.0000 | 0.00 |
| 48 | 1963.22 | 1962.57 | 0.0000 | 0.00 |
| 49 | 1992.03 | 1991.38 | 0.0000 | 0.00 |
| 50 | 2008.05 | 2007.39 | 0.0000 | 0.00 |
| 51 | 2102.79 | 2102.12 | 0.0000 | 0.00 |
| 52 | 2280.70 | 2280.00 | 0.0000 | 0.00 |
| 53 | 2292.84 | 2292.13 | 0.0000 | 0.00 |
| 54 | 2330.13 | 2329.41 | 0.0000 | 0.00 |
| 55 | 2434.97 | 2434.25 | 0.0000 | 0.00 |
| 56 | 2448.26 | 2447.54 | 0.0000 | 0.00 |
| 57 | 2614.13 | 2613.39 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-16

CP5006S12-13

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 10:20:09AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 47.06 | 44 - | 50 | 47.17 | 1.96E+02 | 101.07 | 1.71E+03 | 1.20 |
| 2 | 76.33 | 72 - | 83 | 76.42 | 1.00E+03 | 173.72 | 3.27E+03 | 3.48 |
| M 3 | 84.42 | 83 - | 91 | 84.50 | 1.03E+02 | 64.65 | 9.20E+02 | 1.26 |
| m 4 | 87.35 | 83 - | 91 | 87.43 | 1.54E+02 | 78.91 | 1.20E+03 | 1.78 |
| 5 | 93.15 | 91 - | 97 | 93.23 | 1.76E+02 | 95.70 | 1.43E+03 | 1.47 |
| 6 | 99.84 | 98 - | 102 | 99.91 | 5.55E+01 | 59.24 | 7.31E+02 | 2.42 |
| 7 | 105.34 | 103 - | 107 | 105.41 | 6.27E+01 | 60.46 | 7.59E+02 | 1.66 |
| 8 | 129.97 | 126 - | 133 | 130.02 | 1.04E+02 | 81.26 | 1.01E+03 | 3.75 |
| 9 | 148.50 | 146 - | 151 | 148.55 | 7.68E+01 | 63.74 | 7.48E+02 | 3.69 |
| 10 | 186.06 | 182 - | 190 | 186.09 | 2.47E+02 | 85.31 | 9.68E+02 | 1.41 |
| 11 | 208.91 | 206 - | 212 | 208.93 | 1.02E+02 | 64.35 | 6.72E+02 | 2.07 |
| M 12 | 238.68 | 234 - | 245 | 238.67 | 1.03E+03 | 76.76 | 4.09E+02 | 1.53 |
| m 13 | 241.81 | 234 - | 245 | 241.81 | 3.31E+02 | 89.53 | 5.02E+02 | 2.28 |
| 14 | 273.28 | 267 - | 280 | 273.26 | 2.28E+02 | 84.88 | 6.96E+02 | 8.94 |
| M 15 | 295.21 | 291 - | 302 | 295.18 | 3.44E+02 | 49.27 | 2.82E+02 | 1.43 |
| m 16 | 300.16 | 291 - | 302 | 300.13 | 5.83E+01 | 41.58 | 3.51E+02 | 1.66 |
| 17 | 327.34 | 323 - | 332 | 327.29 | 5.66E+01 | 66.51 | 5.99E+02 | 1.88 |
| 18 | 338.32 | 334 - | 341 | 338.26 | 1.51E+02 | 58.79 | 4.75E+02 | 1.74 |
| 19 | 351.90 | 348 - | 355 | 351.84 | 5.88E+02 | 69.80 | 4.19E+02 | 1.42 |
| 20 | 462.25 | 457 - | 467 | 462.13 | 9.55E+01 | 53.07 | 3.25E+02 | 2.27 |
| 21 | 491.44 | 488 - | 495 | 491.31 | 3.48E+01 | 35.50 | 1.84E+02 | 5.28 |
| 22 | 511.22 | 508 - | 515 | 511.07 | 2.03E+02 | 44.09 | 1.90E+02 | 2.18 |
| 23 | 583.26 | 578 - | 587 | 583.08 | 2.80E+02 | 57.04 | 3.04E+02 | 1.66 |
| 24 | 609.37 | 607 - | 613 | 609.18 | 3.92E+02 | 50.72 | 1.91E+02 | 1.61 |
| 25 | 726.95 | 722 - | 731 | 726.70 | 9.03E+01 | 43.21 | 2.15E+02 | 1.67 |
| 26 | 771.55 | 765 - | 780 | 771.28 | 5.77E+01 | 52.12 | 2.51E+02 | 5.16 |
| 27 | 786.29 | 784 - | 790 | 786.02 | 2.22E+01 | 25.52 | 1.04E+02 | 1.53 |
| 28 | 795.57 | 791 - | 799 | 795.29 | 4.14E+01 | 31.80 | 1.29E+02 | 2.17 |
| 29 | 860.90 | 856 - | 865 | 860.60 | 7.59E+01 | 34.67 | 1.24E+02 | 1.96 |
| 30 | 911.33 | 907 - | 915 | 911.01 | 2.28E+02 | 41.26 | 1.21E+02 | 1.70 |
| M 31 | 965.37 | 962 - | 975 | 965.03 | 3.73E+01 | 29.39 | 1.14E+02 | 2.19 |
| m 32 | 969.15 | 962 - | 975 | 968.80 | 1.01E+02 | 31.87 | 1.05E+02 | 2.19 |
| 33 | 1000.35 | 996 - | 1005 | 999.98 | 4.29E+01 | 27.59 | 8.22E+01 | 4.20 |
| 34 | 1073.41 | 1071 - | 1075 | 1073.02 | 1.53E+01 | 15.62 | 4.14E+01 | 2.59 |
| 35 | 1119.75 | 1113 - | 1125 | 1119.34 | 9.45E+01 | 41.26 | 1.55E+02 | 2.63 |
| 36 | 1218.21 | 1215 - | 1221 | 1217.76 | 2.21E+01 | 22.66 | 7.78E+01 | 3.77 |
| 37 | 1239.22 | 1235 - | 1245 | 1238.77 | 4.44E+01 | 42.09 | 2.07E+02 | 2.24 |
| 38 | 1341.02 | 1336 - | 1344 | 1340.53 | 1.63E+01 | 18.06 | 3.93E+01 | 8.15 |
| 39 | 1460.92 | 1455 - | 1466 | 1460.40 | 8.04E+02 | 59.16 | 3.47E+01 | 2.41 |
| 40 | 1542.67 | 1539 - | 1544 | 1542.12 | 8.18E+00 | 7.87 | 5.64E+00 | 1.04 |

Analysis Report for 1510085-16

CP5006S12-13

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| M | 41 | 1587.75 | 1585 - | 1595 | 1587.19 | 1.47E+01 | 11.38 | 2.00E+01 | 2.37 |
| m | 42 | 1592.61 | 1585 - | 1595 | 1592.05 | 2.16E+01 | 13.62 | 1.32E+01 | 4.24 |
| | 43 | 1632.13 | 1626 - | 1635 | 1631.55 | 1.27E+01 | 16.06 | 2.87E+01 | 3.07 |
| | 44 | 1638.43 | 1635 - | 1640 | 1637.85 | 1.06E+01 | 9.33 | 8.73E+00 | 2.27 |
| | 45 | 1660.69 | 1656 - | 1664 | 1660.11 | 1.13E+01 | 10.02 | 7.33E+00 | 3.43 |
| | 46 | 1764.41 | 1759 - | 1767 | 1763.81 | 8.29E+01 | 21.19 | 1.82E+01 | 2.74 |
| | 47 | 1875.13 | 1870 - | 1878 | 1874.50 | 1.17E+01 | 10.22 | 8.63E+00 | 4.77 |
| | 48 | 1963.22 | 1959 - | 1967 | 1962.57 | 9.42E+00 | 8.26 | 5.17E+00 | 1.56 |
| | 49 | 1992.03 | 1988 - | 1994 | 1991.38 | 6.91E+00 | 8.99 | 8.18E+00 | 1.77 |
| | 50 | 2008.05 | 2004 - | 2009 | 2007.39 | 6.38E+00 | 6.40 | 3.25E+00 | 1.69 |
| | 51 | 2102.79 | 2096 - | 2107 | 2102.12 | 1.49E+01 | 17.20 | 2.82E+01 | 3.88 |
| | 52 | 2280.70 | 2277 - | 2282 | 2280.00 | 7.00E+00 | 5.29 | 0.00E+00 | 2.99 |
| | 53 | 2292.84 | 2286 - | 2296 | 2292.13 | 9.50E+00 | 10.98 | 1.10E+01 | 6.79 |
| | 54 | 2330.13 | 2323 - | 2333 | 2329.41 | 1.35E+01 | 11.68 | 1.09E+01 | 6.91 |
| | 55 | 2434.97 | 2429 - | 2438 | 2434.25 | 8.00E+00 | 5.66 | 0.00E+00 | 1.88 |
| | 56 | 2448.26 | 2441 - | 2453 | 2447.54 | 1.30E+01 | 7.21 | 0.00E+00 | 1.66 |
| | 57 | 2614.13 | 2609 - | 2619 | 2613.39 | 1.19E+02 | 24.55 | 1.75E+01 | 2.49 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 10:20:09AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| | 1 | 47.06 | 44 - | 50 | 1.96E+02 | 101.07 | 1.71E+03 | 7.98E+01 |
| | 2 | 76.33 | 72 - | 83 | 1.00E+03 | 173.72 | 3.27E+03 | 1.33E+02 |
| M | 3 | 84.42 | 83 - | 91 | 1.03E+02 | 64.65 | 9.20E+02 | 4.99E+01 |
| m | 4 | 87.35 | 83 - | 91 | 1.54E+02 | 78.91 | 1.20E+03 | 5.70E+01 |
| | 5 | 93.15 | 91 - | 97 | 1.76E+02 | 95.70 | 1.43E+03 | 7.56E+01 |
| | 6 | 99.84 | 98 - | 102 | 5.55E+01 | 59.24 | 7.31E+02 | 4.71E+01 |
| | 7 | 105.34 | 103 - | 107 | 6.27E+01 | 60.46 | 7.59E+02 | 4.80E+01 |
| | 8 | 129.97 | 126 - | 133 | 1.04E+02 | 81.26 | 1.01E+03 | 6.47E+01 |
| | 9 | 148.50 | 146 - | 151 | 7.68E+01 | 63.74 | 7.48E+02 | 5.04E+01 |
| | 10 | 186.06 | 182 - | 190 | 2.47E+02 | 85.31 | 9.68E+02 | 6.52E+01 |
| | 11 | 208.91 | 206 - | 212 | 1.02E+02 | 64.35 | 6.72E+02 | 5.02E+01 |

Analysis Report for 1510085-16

CP5006S12-13

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| M | 12 | 238.68 | 234 - | 245 | 1.03E+03 | 76.76 | 4.09E+02 | 3.33E+01 |
| m | 13 | 241.81 | 234 - | 245 | 3.31E+02 | 89.53 | 5.02E+02 | 3.68E+01 |
| | 14 | 273.28 | 267 - | 280 | 2.28E+02 | 84.88 | 6.96E+02 | 6.52E+01 |
| M | 15 | 295.21 | 291 - | 302 | 3.44E+02 | 49.27 | 2.82E+02 | 2.76E+01 |
| m | 16 | 300.16 | 291 - | 302 | 5.83E+01 | 41.58 | 3.51E+02 | 3.08E+01 |
| | 17 | 327.34 | 323 - | 332 | 5.66E+01 | 66.51 | 5.99E+02 | 5.33E+01 |
| | 18 | 338.32 | 334 - | 341 | 1.51E+02 | 58.79 | 4.75E+02 | 4.39E+01 |
| | 19 | 351.90 | 348 - | 355 | 5.88E+02 | 69.80 | 4.19E+02 | 4.13E+01 |
| | 20 | 462.25 | 457 - | 467 | 9.55E+01 | 53.07 | 3.25E+02 | 4.06E+01 |
| | 21 | 491.44 | 488 - | 495 | 3.48E+01 | 35.50 | 1.84E+02 | 2.75E+01 |
| | 22 | 511.22 | 508 - | 515 | 2.03E+02 | 44.09 | 1.90E+02 | 2.77E+01 |
| | 23 | 583.26 | 578 - | 587 | 2.80E+02 | 57.04 | 3.04E+02 | 3.80E+01 |
| | 24 | 609.37 | 607 - | 613 | 3.92E+02 | 50.72 | 1.91E+02 | 2.61E+01 |
| | 25 | 726.95 | 722 - | 731 | 9.03E+01 | 43.21 | 2.15E+02 | 3.19E+01 |
| | 26 | 771.55 | 765 - | 780 | 5.77E+01 | 52.12 | 2.51E+02 | 4.10E+01 |
| | 27 | 786.29 | 784 - | 790 | 2.22E+01 | 25.52 | 1.04E+02 | 1.95E+01 |
| | 28 | 795.57 | 791 - | 799 | 4.14E+01 | 31.80 | 1.29E+02 | 2.39E+01 |
| | 29 | 860.90 | 856 - | 865 | 7.59E+01 | 34.67 | 1.24E+02 | 2.46E+01 |
| | 30 | 911.33 | 907 - | 915 | 2.28E+02 | 41.26 | 1.21E+02 | 2.31E+01 |
| M | 31 | 965.37 | 962 - | 975 | 3.73E+01 | 29.39 | 1.14E+02 | 1.76E+01 |
| m | 32 | 969.15 | 962 - | 975 | 1.01E+02 | 31.87 | 1.05E+02 | 1.69E+01 |
| | 33 | 1000.35 | 996 - | 1005 | 4.29E+01 | 27.59 | 8.22E+01 | 2.00E+01 |
| | 34 | 1073.41 | 1071 - | 1075 | 1.53E+01 | 15.62 | 4.14E+01 | 1.11E+01 |
| | 35 | 1119.75 | 1113 - | 1125 | 9.45E+01 | 41.26 | 1.55E+02 | 2.99E+01 |
| | 36 | 1218.21 | 1215 - | 1221 | 2.21E+01 | 22.66 | 7.78E+01 | 1.69E+01 |
| | 37 | 1239.22 | 1235 - | 1245 | 4.44E+01 | 42.09 | 2.07E+02 | 3.28E+01 |
| | 38 | 1341.02 | 1336 - | 1344 | 1.63E+01 | 18.06 | 3.93E+01 | 1.33E+01 |
| | 39 | 1460.92 | 1455 - | 1466 | 8.04E+02 | 59.16 | 3.47E+01 | 1.39E+01 |
| | 40 | 1542.67 | 1539 - | 1544 | 8.18E+00 | 7.87 | 5.64E+00 | 4.45E+00 |
| M | 41 | 1587.75 | 1585 - | 1595 | 1.47E+01 | 11.38 | 2.00E+01 | 7.36E+00 |
| m | 42 | 1592.61 | 1585 - | 1595 | 2.16E+01 | 13.62 | 1.32E+01 | 5.97E+00 |
| | 43 | 1632.13 | 1626 - | 1635 | 1.27E+01 | 16.06 | 2.87E+01 | 1.18E+01 |
| | 44 | 1638.43 | 1635 - | 1640 | 1.06E+01 | 9.33 | 8.73E+00 | 5.48E+00 |
| | 45 | 1660.69 | 1656 - | 1664 | 1.13E+01 | 10.02 | 7.33E+00 | 6.11E+00 |
| | 46 | 1764.41 | 1759 - | 1767 | 8.29E+01 | 21.19 | 1.82E+01 | 8.91E+00 |
| | 47 | 1875.13 | 1870 - | 1878 | 1.17E+01 | 10.22 | 8.63E+00 | 6.25E+00 |
| | 48 | 1963.22 | 1959 - | 1967 | 9.42E+00 | 8.26 | 5.17E+00 | 4.55E+00 |
| | 49 | 1992.03 | 1988 - | 1994 | 6.91E+00 | 8.99 | 8.18E+00 | 5.99E+00 |
| | 50 | 2008.05 | 2004 - | 2009 | 6.38E+00 | 6.40 | 3.25E+00 | 3.24E+00 |
| | 51 | 2102.79 | 2096 - | 2107 | 1.49E+01 | 17.20 | 2.82E+01 | 1.26E+01 |
| | 52 | 2280.70 | 2277 - | 2282 | 7.00E+00 | 5.29 | 0.00E+00 | 0.00E+00 |
| | 53 | 2292.84 | 2286 - | 2296 | 9.50E+00 | 10.98 | 1.10E+01 | 7.47E+00 |
| | 54 | 2330.13 | 2323 - | 2333 | 1.35E+01 | 11.68 | 1.09E+01 | 7.46E+00 |
| | 55 | 2434.97 | 2429 - | 2438 | 8.00E+00 | 5.66 | 0.00E+00 | 0.00E+00 |
| | 56 | 2448.26 | 2441 - | 2453 | 1.30E+01 | 7.21 | 0.00E+00 | 0.00E+00 |
| | 57 | 2614.13 | 2609 - | 2619 | 1.19E+02 | 24.55 | 1.75E+01 | 9.22E+00 |

Analysis Report for 1510085-16

CP5006S12-13

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 10:20:09AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|--|
| 1 | 47.06 | 44 - | 50 | 47.17 | 1.96E+02 | 101.07 | 1.71E+03 | PB-210 |
| 2 | 76.33 | 72 - | 83 | 76.42 | 1.00E+03 | 173.72 | 3.27E+03 | ..... |
| M 3 | 84.42 | 83 - | 91 | 84.50 | 1.03E+02 | 64.65 | 9.20E+02 | TH-231 |
| m 4 | 87.35 | 83 - | 91 | 87.43 | 1.54E+02 | 78.91 | 1.20E+03 | SN-126 CD-109 NP-237 EU-155 LU-176 |
| 5 | 93.15 | 91 - | 97 | 93.23 | 1.76E+02 | 95.70 | 1.43E+03 | GA-67 |
| 6 | 99.84 | 98 - | 102 | 99.91 | 5.55E+01 | 59.24 | 7.31E+02 | LU-173 |
| 7 | 105.34 | 103 - | 107 | 105.41 | 6.27E+01 | 60.46 | 7.59E+02 | EU-155 NP-239 |
| 8 | 129.97 | 126 - | 133 | 130.02 | 1.04E+02 | 81.26 | 1.01E+03 | ..... |
| 9 | 148.50 | 146 - | 151 | 148.55 | 7.68E+01 | 63.74 | 7.48E+02 | ..... |
| 10 | 186.06 | 182 - | 190 | 186.09 | 2.47E+02 | 85.31 | 9.68E+02 | RA-226 |
| 11 | 208.91 | 206 - | 212 | 208.93 | 1.02E+02 | 64.35 | 6.72E+02 | GA-67 CM-243 |
| M 12 | 238.68 | 234 - | 245 | 238.67 | 1.03E+03 | 76.76 | 4.09E+02 | PB-212 |
| m 13 | 241.81 | 234 - | 245 | 241.81 | 3.31E+02 | 89.53 | 5.02E+02 | RA-224 |
| 14 | 273.28 | 267 - | 280 | 273.26 | 2.28E+02 | 84.88 | 6.96E+02 | CS-136 |
| M 15 | 295.21 | 291 - | 302 | 295.18 | 3.44E+02 | 49.27 | 2.82E+02 | PB-214 |
| m 16 | 300.16 | 291 - | 302 | 300.13 | 5.83E+01 | 41.58 | 3.51E+02 | GA-67 PB-212 BI-210M |
| 17 | 327.34 | 323 - | 332 | 327.29 | 5.66E+01 | 66.51 | 5.99E+02 | ..... |
| 18 | 338.32 | 334 - | 341 | 338.26 | 1.51E+02 | 58.79 | 4.75E+02 | AC-228 |
| 19 | 351.90 | 348 - | 355 | 351.84 | 5.88E+02 | 69.80 | 4.19E+02 | PB-214 |
| 20 | 462.25 | 457 - | 467 | 462.13 | 9.55E+01 | 53.07 | 3.25E+02 | ..... |
| 21 | 491.44 | 488 - | 495 | 491.31 | 3.48E+01 | 35.50 | 1.84E+02 | ..... |
| 22 | 511.22 | 508 - | 515 | 511.07 | 2.03E+02 | 44.09 | 1.90E+02 | ..... |

Analysis Report for 1510085-16

CP5006S12-13

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| | 23 | 583.26 | 578 - | 587 | 583.08 | 2.80E+02 | 57.04 | 3.04E+02 | TL-208 |
| | 24 | 609.37 | 607 - | 613 | 609.18 | 3.92E+02 | 50.72 | 1.91E+02 | BI-214 |
| | 25 | 726.95 | 722 - | 731 | 726.70 | 9.03E+01 | 43.21 | 2.15E+02 | BI-212 |
| | 26 | 771.55 | 765 - | 780 | 771.28 | 5.77E+01 | 52.12 | 2.51E+02 | ..... |
| | 27 | 786.29 | 784 - | 790 | 786.02 | 2.22E+01 | 25.52 | 1.04E+02 | ..... |
| | 28 | 795.57 | 791 - | 799 | 795.29 | 4.14E+01 | 31.80 | 1.29E+02 | CS-134 |
| | 29 | 860.90 | 856 - | 865 | 860.60 | 7.59E+01 | 34.67 | 1.24E+02 | TL-208 |
| | 30 | 911.33 | 907 - | 915 | 911.01 | 2.28E+02 | 41.26 | 1.21E+02 | AC-228 LU-172 |
| M | 31 | 965.37 | 962 - | 975 | 965.03 | 3.73E+01 | 29.39 | 1.14E+02 | ..... |
| m | 32 | 969.15 | 962 - | 975 | 968.80 | 1.01E+02 | 31.87 | 1.05E+02 | AC-228 |
| | 33 | 1000.35 | 996 - | 1005 | 999.98 | 4.29E+01 | 27.59 | 8.22E+01 | PA-234M |
| | 34 | 1073.41 | 1071 - | 1075 | 1073.02 | 1.53E+01 | 15.62 | 4.14E+01 | ..... |
| | 35 | 1119.75 | 1113 - | 1125 | 1119.34 | 9.45E+01 | 41.26 | 1.55E+02 | BI-214 SC-46 |
| | 36 | 1218.21 | 1215 - | 1221 | 1217.76 | 2.21E+01 | 22.66 | 7.78E+01 | ..... |
| | 37 | 1239.22 | 1235 - | 1245 | 1238.77 | 4.44E+01 | 42.09 | 2.07E+02 | CO-56 |
| | 38 | 1341.02 | 1336 - | 1344 | 1340.53 | 1.63E+01 | 18.06 | 3.93E+01 | ..... |
| | 39 | 1460.92 | 1455 - | 1466 | 1460.40 | 8.04E+02 | 59.16 | 3.47E+01 | K-40 |
| | 40 | 1542.67 | 1539 - | 1544 | 1542.12 | 8.18E+00 | 7.87 | 5.64E+00 | ..... |
| M | 41 | 1587.75 | 1585 - | 1595 | 1587.19 | 1.47E+01 | 11.38 | 2.00E+01 | ..... |
| m | 42 | 1592.61 | 1585 - | 1595 | 1592.05 | 2.16E+01 | 13.62 | 1.32E+01 | ..... |
| | 43 | 1632.13 | 1626 - | 1635 | 1631.55 | 1.27E+01 | 16.06 | 2.87E+01 | ..... |
| | 44 | 1638.43 | 1635 - | 1640 | 1637.85 | 1.06E+01 | 9.33 | 8.73E+00 | ..... |
| | 45 | 1660.69 | 1656 - | 1664 | 1660.11 | 1.13E+01 | 10.02 | 7.33E+00 | ..... |
| | 46 | 1764.41 | 1759 - | 1767 | 1763.81 | 8.29E+01 | 21.19 | 1.82E+01 | BI-214 |
| | 47 | 1875.13 | 1870 - | 1878 | 1874.50 | 1.17E+01 | 10.22 | 8.63E+00 | ..... |
| | 48 | 1963.22 | 1959 - | 1967 | 1962.57 | 9.42E+00 | 8.26 | 5.17E+00 | ..... |
| | 49 | 1992.03 | 1988 - | 1994 | 1991.38 | 6.91E+00 | 8.99 | 8.18E+00 | ..... |
| | 50 | 2008.05 | 2004 - | 2009 | 2007.39 | 6.38E+00 | 6.40 | 3.25E+00 | ..... |
| | 51 | 2102.79 | 2096 - | 2107 | 2102.12 | 1.49E+01 | 17.20 | 2.82E+01 | ..... |
| | 52 | 2280.70 | 2277 - | 2282 | 2280.00 | 7.00E+00 | 5.29 | 0.00E+00 | ..... |
| | 53 | 2292.84 | 2286 - | 2296 | 2292.13 | 9.50E+00 | 10.98 | 1.10E+01 | ..... |
| | 54 | 2330.13 | 2323 - | 2333 | 2329.41 | 1.35E+01 | 11.68 | 1.09E+01 | ..... |
| | 55 | 2434.97 | 2429 - | 2438 | 2434.25 | 8.00E+00 | 5.66 | 0.00E+00 | ..... |
| | 56 | 2448.26 | 2441 - | 2453 | 2447.54 | 1.30E+01 | 7.21 | 0.00E+00 | ..... |
| | 57 | 2614.13 | 2609 - | 2619 | 2613.39 | 1.19E+02 | 24.55 | 1.75E+01 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 10:20:09AM

: 60925

Analysis Report for 1510085-16
CP5006S12-13

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 1 | 47.06 | 1.96E+02 | 101.07 | 1.38E-02 | 1.68E-03 |
| | 2 | 76.33 | 1.00E+03 | 173.72 | 2.74E-02 | 3.34E-03 |
| M | 3 | 84.42 | 1.03E+02 | 64.65 | 2.83E-02 | 4.15E-03 |
| m | 4 | 87.35 | 1.54E+02 | 78.91 | 2.84E-02 | 4.44E-03 |
| | 5 | 93.15 | 1.76E+02 | 95.70 | 2.85E-02 | 4.28E-03 |
| | 6 | 99.84 | 5.55E+01 | 59.24 | 2.83E-02 | 3.98E-03 |
| | 7 | 105.34 | 6.27E+01 | 60.46 | 2.80E-02 | 3.73E-03 |
| | 8 | 129.97 | 1.04E+02 | 81.26 | 2.59E-02 | 2.75E-03 |
| | 9 | 148.50 | 7.68E+01 | 63.74 | 2.42E-02 | 2.19E-03 |
| | 10 | 186.06 | 2.47E+02 | 85.31 | 2.11E-02 | 1.65E-03 |
| | 11 | 208.91 | 1.02E+02 | 64.35 | 1.95E-02 | 1.63E-03 |
| M | 12 | 238.68 | 1.03E+03 | 76.76 | 1.79E-02 | 1.60E-03 |
| m | 13 | 241.81 | 3.31E+02 | 89.53 | 1.77E-02 | 1.60E-03 |
| | 14 | 273.28 | 2.28E+02 | 84.88 | 1.63E-02 | 1.56E-03 |
| M | 15 | 295.21 | 3.44E+02 | 49.27 | 1.55E-02 | 1.48E-03 |
| m | 16 | 300.16 | 5.83E+01 | 41.58 | 1.53E-02 | 1.46E-03 |
| | 17 | 327.34 | 5.66E+01 | 66.51 | 1.44E-02 | 1.33E-03 |
| | 18 | 338.32 | 1.51E+02 | 58.79 | 1.41E-02 | 1.27E-03 |
| | 19 | 351.90 | 5.88E+02 | 69.80 | 1.37E-02 | 1.21E-03 |
| | 20 | 462.25 | 9.55E+01 | 53.07 | 1.13E-02 | 9.48E-04 |
| | 21 | 491.44 | 3.48E+01 | 35.50 | 1.09E-02 | 9.18E-04 |
| | 22 | 511.22 | 2.03E+02 | 44.09 | 1.06E-02 | 8.98E-04 |
| | 23 | 583.26 | 2.80E+02 | 57.04 | 9.58E-03 | 8.25E-04 |
| | 24 | 609.37 | 3.92E+02 | 50.72 | 9.27E-03 | 7.98E-04 |
| | 25 | 726.95 | 9.03E+01 | 43.21 | 8.09E-03 | 7.03E-04 |
| | 26 | 771.55 | 5.77E+01 | 52.12 | 7.72E-03 | 6.75E-04 |
| | 27 | 786.29 | 2.22E+01 | 25.52 | 7.60E-03 | 6.65E-04 |
| | 28 | 795.57 | 4.14E+01 | 31.80 | 7.53E-03 | 6.59E-04 |
| | 29 | 860.90 | 7.59E+01 | 34.67 | 7.06E-03 | 6.17E-04 |
| | 30 | 911.33 | 2.28E+02 | 41.26 | 6.74E-03 | 5.87E-04 |
| M | 31 | 965.37 | 3.73E+01 | 29.39 | 6.43E-03 | 5.59E-04 |
| m | 32 | 969.15 | 1.01E+02 | 31.87 | 6.41E-03 | 5.57E-04 |
| | 33 | 1000.35 | 4.29E+01 | 27.59 | 6.25E-03 | 5.41E-04 |
| | 34 | 1073.41 | 1.53E+01 | 15.62 | 5.90E-03 | 5.04E-04 |
| | 35 | 1119.75 | 9.45E+01 | 41.26 | 5.71E-03 | 4.80E-04 |
| | 36 | 1218.21 | 2.21E+01 | 22.66 | 5.34E-03 | 4.74E-04 |
| | 37 | 1239.22 | 4.44E+01 | 42.09 | 5.27E-03 | 4.83E-04 |
| | 38 | 1341.02 | 1.63E+01 | 18.06 | 4.96E-03 | 5.23E-04 |
| | 39 | 1460.92 | 8.04E+02 | 59.16 | 4.67E-03 | 4.73E-04 |
| | 40 | 1542.67 | 8.18E+00 | 7.87 | 4.51E-03 | 4.39E-04 |
| M | 41 | 1587.75 | 1.47E+01 | 11.38 | 4.43E-03 | 4.21E-04 |
| m | 42 | 1592.61 | 2.16E+01 | 13.62 | 4.42E-03 | 4.19E-04 |
| | 43 | 1632.13 | 1.27E+01 | 16.06 | 4.36E-03 | 4.02E-04 |
| | 44 | 1638.43 | 1.06E+01 | 9.33 | 4.35E-03 | 4.00E-04 |
| | 45 | 1660.69 | 1.13E+01 | 10.02 | 4.32E-03 | 3.90E-04 |
| | 46 | 1764.41 | 8.29E+01 | 21.19 | 4.19E-03 | 3.48E-04 |
| | 47 | 1875.13 | 1.17E+01 | 10.22 | 4.08E-03 | 3.18E-04 |
| | 48 | 1963.22 | 9.42E+00 | 8.26 | 4.01E-03 | 3.18E-04 |
| | 49 | 1992.03 | 6.91E+00 | 8.99 | 4.00E-03 | 3.18E-04 |
| | 50 | 2008.05 | 6.38E+00 | 6.40 | 3.99E-03 | 3.18E-04 |

Analysis Report for 1510085-16
CP5006S12-13

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 51 | 2102.79 | 1.49E+01 | 17.20 | 3.95E-03 | 3.18E-04 |
| 52 | 2280.70 | 7.00E+00 | 5.29 | 3.93E-03 | 3.18E-04 |
| 53 | 2292.84 | 9.50E+00 | 10.98 | 3.93E-03 | 3.18E-04 |
| 54 | 2330.13 | 1.35E+01 | 11.68 | 3.93E-03 | 3.18E-04 |
| 55 | 2434.97 | 8.00E+00 | 5.66 | 3.96E-03 | 3.18E-04 |
| 56 | 2448.26 | 1.30E+01 | 7.21 | 3.96E-03 | 3.18E-04 |
| 57 | 2614.13 | 1.19E+02 | 24.55 | 4.05E-03 | 3.18E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 10:20:09AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. | |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|----------|
| | 1 | 47.06 | 1.96E+02 | 101.07 | 6.46E+01 | 1.16E+01 | 1.31E+02 | 1.02E+02 |
| | 2 | 76.33 | 1.00E+03 | 173.72 | | | 1.00E+03 | 1.74E+02 |
| M | 3 | 84.42 | 1.03E+02 | 64.65 | | | 1.03E+02 | 6.47E+01 |
| m | 4 | 87.35 | 1.54E+02 | 78.91 | 1.46E+00 | 7.88E+00 | 1.52E+02 | 7.93E+01 |
| | 5 | 93.15 | 1.76E+02 | 95.70 | 5.70E+01 | 9.03E+00 | 1.19E+02 | 9.61E+01 |
| | 6 | 99.84 | 5.55E+01 | 59.24 | | | 5.55E+01 | 5.92E+01 |
| | 7 | 105.34 | 6.27E+01 | 60.46 | | | 6.27E+01 | 6.05E+01 |
| | 8 | 129.97 | 1.04E+02 | 81.26 | | | 1.04E+02 | 8.13E+01 |
| | 9 | 148.50 | 7.68E+01 | 63.74 | | | 7.68E+01 | 6.37E+01 |
| | 10 | 186.06 | 2.47E+02 | 85.31 | 4.72E+01 | 7.97E+00 | 2.00E+02 | 8.57E+01 |
| | 11 | 208.91 | 1.02E+02 | 64.35 | | | 1.02E+02 | 6.43E+01 |
| M | 12 | 238.68 | 1.03E+03 | 76.76 | 2.36E+01 | 1.35E+01 | 1.01E+03 | 7.79E+01 |
| m | 13 | 241.81 | 3.31E+02 | 89.53 | 6.38E+00 | 3.91E+00 | 3.25E+02 | 8.96E+01 |
| | 14 | 273.28 | 2.28E+02 | 84.88 | | | 2.28E+02 | 8.49E+01 |
| M | 15 | 295.21 | 3.44E+02 | 49.27 | 8.57E+00 | 6.10E+00 | 3.36E+02 | 4.97E+01 |
| m | 16 | 300.16 | 5.83E+01 | 41.58 | | | 5.83E+01 | 4.16E+01 |
| | 17 | 327.34 | 5.66E+01 | 66.51 | 0.00E+00 | 0.00E+00 | 5.66E+01 | 6.65E+01 |
| | 18 | 338.32 | 1.51E+02 | 58.79 | | | 1.51E+02 | 5.88E+01 |
| | 19 | 351.90 | 5.88E+02 | 69.80 | 1.40E+01 | 5.55E+00 | 5.74E+02 | 7.00E+01 |
| | 20 | 462.25 | 9.55E+01 | 53.07 | | | 9.55E+01 | 5.31E+01 |
| | 21 | 491.44 | 3.48E+01 | 35.50 | | | 3.48E+01 | 3.55E+01 |
| | 22 | 511.22 | 2.03E+02 | 44.09 | 8.41E+01 | 5.50E+00 | 1.19E+02 | 4.44E+01 |
| | 23 | 583.26 | 2.80E+02 | 57.04 | 7.32E+00 | 4.08E+00 | 2.73E+02 | 5.72E+01 |

Analysis Report for 1510085-16

CP5006S12-13

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| | 24 | 609.37 | 3.92E+02 | 50.72 | 1.30E+01 | 3.89E+00 | 3.79E+02 | 5.09E+01 |
| | 25 | 726.95 | 9.03E+01 | 43.21 | | | 9.03E+01 | 4.32E+01 |
| | 26 | 771.55 | 5.77E+01 | 52.12 | | | 5.77E+01 | 5.21E+01 |
| | 27 | 786.29 | 2.22E+01 | 25.52 | | | 2.22E+01 | 2.55E+01 |
| | 28 | 795.57 | 4.14E+01 | 31.80 | | | 4.14E+01 | 3.18E+01 |
| | 29 | 860.90 | 7.59E+01 | 34.67 | | | 7.59E+01 | 3.47E+01 |
| | 30 | 911.33 | 2.28E+02 | 41.26 | 5.60E+00 | 3.32E+00 | 2.23E+02 | 4.14E+01 |
| M | 31 | 965.37 | 3.73E+01 | 29.39 | | | 3.73E+01 | 2.94E+01 |
| m | 32 | 969.15 | 1.01E+02 | 31.87 | | | 1.01E+02 | 3.19E+01 |
| | 33 | 1000.35 | 4.29E+01 | 27.59 | | | 4.29E+01 | 2.76E+01 |
| | 34 | 1073.41 | 1.53E+01 | 15.62 | | | 1.53E+01 | 1.56E+01 |
| | 35 | 1119.75 | 9.45E+01 | 41.26 | | | 9.45E+01 | 4.13E+01 |
| | 36 | 1218.21 | 2.21E+01 | 22.66 | | | 2.21E+01 | 2.27E+01 |
| | 37 | 1239.22 | 4.44E+01 | 42.09 | | | 4.44E+01 | 4.21E+01 |
| | 38 | 1341.02 | 1.63E+01 | 18.06 | | | 1.63E+01 | 1.81E+01 |
| | 39 | 1460.92 | 8.04E+02 | 59.16 | 1.12E+01 | 2.55E+00 | 7.92E+02 | 5.92E+01 |
| | 40 | 1542.67 | 8.18E+00 | 7.87 | | | 8.18E+00 | 7.87E+00 |
| M | 41 | 1587.75 | 1.47E+01 | 11.38 | | | 1.47E+01 | 1.14E+01 |
| m | 42 | 1592.61 | 2.16E+01 | 13.62 | | | 2.16E+01 | 1.36E+01 |
| | 43 | 1632.13 | 1.27E+01 | 16.06 | | | 1.27E+01 | 1.61E+01 |
| | 44 | 1638.43 | 1.06E+01 | 9.33 | | | 1.06E+01 | 9.33E+00 |
| | 45 | 1660.69 | 1.13E+01 | 10.02 | | | 1.13E+01 | 1.00E+01 |
| | 46 | 1764.41 | 8.29E+01 | 21.19 | 4.23E+00 | 2.21E+00 | 7.87E+01 | 2.13E+01 |
| | 47 | 1875.13 | 1.17E+01 | 10.22 | | | 1.17E+01 | 1.02E+01 |
| | 48 | 1963.22 | 9.42E+00 | 8.26 | | | 9.42E+00 | 8.26E+00 |
| | 49 | 1992.03 | 6.91E+00 | 8.99 | | | 6.91E+00 | 8.99E+00 |
| | 50 | 2008.05 | 6.38E+00 | 6.40 | | | 6.38E+00 | 6.40E+00 |
| | 51 | 2102.79 | 1.49E+01 | 17.20 | | | 1.49E+01 | 1.72E+01 |
| | 52 | 2280.70 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 53 | 2292.84 | 9.50E+00 | 10.98 | | | 9.50E+00 | 1.10E+01 |
| | 54 | 2330.13 | 1.35E+01 | 11.68 | | | 1.35E+01 | 1.17E+01 |
| | 55 | 2434.97 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| | 56 | 2448.26 | 1.30E+01 | 7.21 | | | 1.30E+01 | 7.21E+00 |
| | 57 | 2614.13 | 1.19E+02 | 24.55 | 7.38E+00 | 1.57E+00 | 1.12E+02 | 2.46E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-16
CP5006S12-13

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 10:20:09AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 1 | 1.96E+02 | 101.07 | 6.46E+01 | 1.16E+01 | 1.31E+02 | 1.02E+02 |
| | 2 | 1.00E+03 | 173.72 | | | 1.00E+03 | 1.74E+02 |
| M | 3 | 1.03E+02 | 64.65 | | | 1.03E+02 | 6.47E+01 |
| m | 4 | 1.54E+02 | 78.91 | 1.46E+00 | 7.88E+00 | 1.52E+02 | 7.93E+01 |
| | 5 | 1.76E+02 | 95.70 | 5.70E+01 | 9.03E+00 | 1.19E+02 | 9.61E+01 |
| | 6 | 5.55E+01 | 59.24 | | | 5.55E+01 | 5.92E+01 |
| | 7 | 6.27E+01 | 60.46 | | | 6.27E+01 | 6.05E+01 |
| | 8 | 1.04E+02 | 81.26 | | | 1.04E+02 | 8.13E+01 |
| | 9 | 7.68E+01 | 63.74 | | | 7.68E+01 | 6.37E+01 |
| | 10 | 2.47E+02 | 85.31 | 4.72E+01 | 7.97E+00 | 2.00E+02 | 8.57E+01 |
| | 11 | 1.02E+02 | 64.35 | | | 1.02E+02 | 6.43E+01 |
| M | 12 | 1.03E+03 | 76.76 | 2.36E+01 | 1.35E+01 | 1.01E+03 | 7.79E+01 |
| m | 13 | 3.31E+02 | 89.53 | 6.38E+00 | 3.91E+00 | 3.25E+02 | 8.96E+01 |
| | 14 | 2.28E+02 | 84.88 | | | 2.28E+02 | 8.49E+01 |
| M | 15 | 3.44E+02 | 49.27 | 8.57E+00 | 6.10E+00 | 3.36E+02 | 4.97E+01 |
| m | 16 | 5.83E+01 | 41.58 | | | 5.83E+01 | 4.16E+01 |
| | 17 | 5.66E+01 | 66.51 | 0.00E+00 | 0.00E+00 | 5.66E+01 | 6.65E+01 |
| | 18 | 1.51E+02 | 58.79 | | | 1.51E+02 | 5.88E+01 |
| | 19 | 5.88E+02 | 69.80 | 1.40E+01 | 5.55E+00 | 5.74E+02 | 7.00E+01 |
| | 20 | 9.55E+01 | 53.07 | | | 9.55E+01 | 5.31E+01 |
| | 21 | 3.48E+01 | 35.50 | | | 3.48E+01 | 3.55E+01 |
| | 22 | 2.03E+02 | 44.09 | 8.41E+01 | 5.50E+00 | 1.19E+02 | 4.44E+01 |
| | 23 | 2.80E+02 | 57.04 | 7.32E+00 | 4.08E+00 | 2.73E+02 | 5.72E+01 |
| | 24 | 3.92E+02 | 50.72 | 1.30E+01 | 3.89E+00 | 3.79E+02 | 5.09E+01 |
| | 25 | 9.03E+01 | 43.21 | | | 9.03E+01 | 4.32E+01 |
| | 26 | 5.77E+01 | 52.12 | | | 5.77E+01 | 5.21E+01 |
| | 27 | 2.22E+01 | 25.52 | | | 2.22E+01 | 2.55E+01 |
| | 28 | 4.14E+01 | 31.80 | | | 4.14E+01 | 3.18E+01 |
| | 29 | 7.59E+01 | 34.67 | | | 7.59E+01 | 3.47E+01 |
| | 30 | 2.28E+02 | 41.26 | 5.60E+00 | 3.32E+00 | 2.23E+02 | 4.14E+01 |
| M | 31 | 3.73E+01 | 29.39 | | | 3.73E+01 | 2.94E+01 |
| m | 32 | 1.01E+02 | 31.87 | | | 1.01E+02 | 3.19E+01 |
| | 33 | 4.29E+01 | 27.59 | | | 4.29E+01 | 2.76E+01 |
| | 34 | 1.53E+01 | 15.62 | | | 1.53E+01 | 1.56E+01 |
| | 35 | 9.45E+01 | 41.26 | | | 9.45E+01 | 4.13E+01 |
| | 36 | 2.21E+01 | 22.66 | | | 2.21E+01 | 2.27E+01 |
| | 37 | 4.44E+01 | 42.09 | | | 4.44E+01 | 4.21E+01 |
| | 38 | 1.63E+01 | 18.06 | | | 1.63E+01 | 1.81E+01 |
| | 39 | 8.04E+02 | 59.16 | 1.12E+01 | 2.55E+00 | 7.92E+02 | 5.92E+01 |
| | 40 | 8.18E+00 | 7.87 | | | 8.18E+00 | 7.87E+00 |
| M | 41 | 1.47E+01 | 11.38 | | | 1.47E+01 | 1.14E+01 |

Analysis Report for 1510085-16

CP5006S12-13

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| m | 42 | 1592.61 | 2.16E+01 | 13.62 | | | 2.16E+01 | 1.36E+01 |
| | 43 | 1632.13 | 1.27E+01 | 16.06 | | | 1.27E+01 | 1.61E+01 |
| | 44 | 1638.43 | 1.06E+01 | 9.33 | | | 1.06E+01 | 9.33E+00 |
| | 45 | 1660.69 | 1.13E+01 | 10.02 | | | 1.13E+01 | 1.00E+01 |
| | 46 | 1764.41 | 8.29E+01 | 21.19 | 4.23E+00 | 2.21E+00 | 7.87E+01 | 2.13E+01 |
| | 47 | 1875.13 | 1.17E+01 | 10.22 | | | 1.17E+01 | 1.02E+01 |
| | 48 | 1963.22 | 9.42E+00 | 8.26 | | | 9.42E+00 | 8.26E+00 |
| | 49 | 1992.03 | 6.91E+00 | 8.99 | | | 6.91E+00 | 8.99E+00 |
| | 50 | 2008.05 | 6.38E+00 | 6.40 | | | 6.38E+00 | 6.40E+00 |
| | 51 | 2102.79 | 1.49E+01 | 17.20 | | | 1.49E+01 | 1.72E+01 |
| | 52 | 2280.70 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 53 | 2292.84 | 9.50E+00 | 10.98 | | | 9.50E+00 | 1.10E+01 |
| | 54 | 2330.13 | 1.35E+01 | 11.68 | | | 1.35E+01 | 1.17E+01 |
| | 55 | 2434.97 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| | 56 | 2448.26 | 1.30E+01 | 7.21 | | | 1.30E+01 | 7.21E+00 |
| | 57 | 2614.13 | 1.19E+02 | 24.55 | 7.38E+00 | 1.57E+00 | 1.12E+02 | 2.46E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.998 | 1460.81 * | 10.67 | 2.32E+01 | 2.96E+00 |
| GA-67 | 0.652 | 93.31 * | 35.70 | 1.03E+02 | 4.26E+02 |
| | | 208.95 * | 2.24 | 2.03E+03 | 8.08E+03 |
| | | 300.22 * | 16.00 | 2.08E+02 | 8.62E+02 |
| EU-155 | 0.933 | 86.50 * | 30.90 | 2.56E-01 | 1.39E-01 |
| | | 105.30 * | 20.70 | 1.60E-01 | 1.55E-01 |
| TL-208 | 0.974 | 583.14 * | 30.22 | 1.37E+00 | 3.11E-01 |
| | | 860.37 * | 4.48 | 3.50E+00 | 1.63E+00 |
| | | 2614.66 * | 35.85 | 1.12E+00 | 2.62E-01 |
| PB-210 | 0.951 | 46.50 * | 4.25 | 3.27E+00 | 2.56E+00 |
| BI-212 | 0.759 | 727.17 * | 11.80 | 1.38E+00 | 6.71E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 1.000 | 238.63 * | 44.60 | 1.84E+00 | 2.18E-01 |
| | | 300.09 * | 3.41 | 1.63E+00 | 1.17E+00 |
| BI-214 | 0.919 | 609.31 * | 46.30 | 1.29E+00 | 2.05E-01 |

Analysis Report for 1510085-16
CP5006S12-13

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| BI-214 | 0.919 | 1120.29 * | 15.10 | 1.60E+00 | 7.11E-01 |
| | | 1764.49 * | 15.80 | 1.73E+00 | 4.91E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 1.000 | 295.21 * | 19.19 | 1.65E+00 | 2.91E-01 |
| | | 351.92 * | 37.19 | 1.64E+00 | 2.47E-01 |
| RA-224 | 0.895 | 240.98 * | 3.95 | 6.77E+00 | 1.97E+00 |
| RA-226 | 0.996 | 186.21 * | 3.28 | 4.22E+00 | 7.93E+00 |
| AC-228 | 0.994 | 338.32 * | 11.40 | 1.37E+00 | 5.48E-01 |
| | | 911.07 * | 27.70 | 1.74E+00 | 3.57E-01 |
| | | 969.11 * | 16.60 | 1.38E+00 | 4.53E-01 |
| TH-231 | 0.609 | 25.64 | 14.70 | | |
| | | 84.21 * | 6.40 | 8.26E-01 | 5.35E-01 |
| PA-234M | 0.928 | 1001.03 * | 0.92 | 1.09E+01 | 7.06E+00 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 10:20:09AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| 2 | 76.33 | 2.78723E-01 | 8.66 | | |
| 6 | 99.84 | 1.54114E-02 | 53.38 | Tol. | LU-173 |
| 8 | 129.97 | 2.88102E-02 | 39.18 | | |
| 9 | 148.50 | 2.13402E-02 | 41.49 | | |
| 14 | 273.28 | 6.33232E-02 | 18.62 | Sum | |
| 17 | 327.34 | 1.57194E-02 | 58.77 | | |
| 20 | 462.25 | 2.65391E-02 | 27.78 | | |
| 21 | 491.44 | 9.66426E-03 | 51.01 | | |
| 22 | 511.22 | 3.30036E-02 | 18.70 | | |
| 26 | 771.55 | 1.60155E-02 | 45.20 | | |
| 27 | 786.29 | 6.15991E-03 | 57.54 | | |
| 28 | 795.57 | 1.14963E-02 | 38.42 | Sum | |
| M 31 | 965.37 | 1.03492E-02 | 39.44 | Sum | |
| 34 | 1073.41 | 4.24383E-03 | 51.12 | | |
| 36 | 1218.21 | 6.13388E-03 | 51.31 | Sum | |
| 37 | 1239.22 | 1.23442E-02 | 47.36 | Sum | |

Analysis Report for 1510085-16
CP5006S12-13

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 38 | 1341.02 | 4.53704E-03 | 55.29 | | |
| 40 | 1542.67 | 2.27273E-03 | 48.12 | | |
| M 41 | 1587.75 | 4.09455E-03 | 38.60 | Sum | |
| m 42 | 1592.61 | 5.99523E-03 | 31.55 | D-Esc | |
| 43 | 1632.13 | 3.51852E-03 | 63.40 | | |
| 44 | 1638.43 | 2.95370E-03 | 43.86 | Sum | |
| 45 | 1660.69 | 3.14815E-03 | 44.23 | | |
| 47 | 1875.13 | 3.24653E-03 | 43.73 | | |
| 48 | 1963.22 | 2.61574E-03 | 43.87 | | |
| 49 | 1992.03 | 1.91919E-03 | 65.03 | | |
| 50 | 2008.05 | 1.77083E-03 | 50.22 | | |
| 51 | 2102.79 | 4.13314E-03 | 57.81 | S-Esc | |
| 52 | 2280.70 | 1.94444E-03 | 37.80 | | |
| 53 | 2292.84 | 2.63889E-03 | 57.77 | | |
| 54 | 2330.13 | 3.75731E-03 | 43.19 | | |
| 55 | 2434.97 | 2.22222E-03 | 35.36 | | |
| 56 | 2448.26 | 3.61111E-03 | 27.74 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty | |
|-----------------|------------------|-----------------|----------|-------------------------|-------------------------|----------|
| K-40 | 0.99 | 1460.81 | * | 10.67 | 2.32E+01 | 2.96E+00 |
| GA-67 | 0.65 | 93.31 | * | 35.70 | 1.03E+02 | 4.26E+02 |
| | | 208.95 | * | 2.24 | 2.03E+03 | 8.08E+03 |
| | | 300.22 | * | 16.00 | 2.08E+02 | 8.62E+02 |
| EU-155 | 0.93 | 86.50 | * | 30.90 | 2.56E-01 | 1.39E-01 |
| | | 105.30 | * | 20.70 | 1.60E-01 | 1.55E-01 |
| TL-208 | 0.97 | 583.14 | * | 30.22 | 1.37E+00 | 3.11E-01 |
| | | 860.37 | * | 4.48 | 3.50E+00 | 1.63E+00 |
| | | 2614.66 | * | 35.85 | 1.12E+00 | 2.62E-01 |
| PB-210 | 0.95 | 46.50 | * | 4.25 | 3.27E+00 | 2.56E+00 |
| BI-212 | 0.75 | 727.17 | * | 11.80 | 1.38E+00 | 6.71E-01 |

Analysis Report for 1510085-16
CP5006S12-13

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| BI-212 | 0.75 | 1620.62 | 2.75 | | |
| PB-212 | 1.00 | 238.63 * | 44.60 | 1.84E+00 | 2.18E-01 |
| | | 300.09 * | 3.41 | 1.63E+00 | 1.17E+00 |
| BI-214 | 0.91 | 609.31 * | 46.30 | 1.29E+00 | 2.05E-01 |
| | | 1120.29 * | 15.10 | 1.60E+00 | 7.11E-01 |
| | | 1764.49 * | 15.80 | 1.73E+00 | 4.91E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 1.00 | 295.21 * | 19.19 | 1.65E+00 | 2.91E-01 |
| | | 351.92 * | 37.19 | 1.64E+00 | 2.47E-01 |
| RA-224 | 0.89 | 240.98 * | 3.95 | 6.77E+00 | 1.97E+00 |
| RA-226 | 0.99 | 186.21 * | 3.28 | 4.22E+00 | 7.93E+00 |
| AC-228 | 0.99 | 338.32 * | 11.40 | 1.37E+00 | 5.48E-01 |
| | | 911.07 * | 27.70 | 1.74E+00 | 3.57E-01 |
| | | 969.11 * | 16.60 | 1.38E+00 | 4.53E-01 |
| TH-231 | 0.60 | 25.64 | 14.70 | | |
| | | 84.21 * | 6.40 | 8.26E-01 | 5.35E-01 |
| PA-234M | 0.92 | 1001.03 * | 0.92 | 1.09E+01 | 7.06E+00 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | 0.998 | 2.32E+01 | 2.96E+00 | |
| GA-67 | 0.652 | 7.86E+01 | 3.17E+02 | |
| X CD-109 | 0.928 | | | |
| X SN-126 | 0.992 | | | |
| EU-155 | 0.933 | 2.13E-01 | 1.04E-01 | |
| TL-208 | 0.974 | 1.26E+00 | 1.99E-01 | |
| PB-210 | 0.951 | 3.27E+00 | 2.56E+00 | |
| BI-212 | 0.759 | 1.38E+00 | 6.71E-01 | |
| PB-212 | 1.000 | 1.82E+00 | 2.15E-01 | |
| BI-214 | 0.919 | 1.37E+00 | 1.83E-01 | |

Analysis Report for 1510085-16
CP5006S12-13

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| PB-214 | 1.000 | 1.64E+00 | 1.88E-01 | |
| RA-224 | 0.895 | 6.77E+00 | 1.97E+00 | |
| RA-226 | 0.996 | 4.22E+00 | 7.93E+00 | |
| AC-228 | 0.994 | 1.55E+00 | 2.49E-01 | |
| TH-231 | 0.609 | 8.26E-01 | 5.35E-01 | |
| PA-234M | 0.928 | 1.09E+01 | 7.06E+00 | |
| X NP-237 | 0.892 | | | |

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-16
CP5006S12-13

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 10:20:09AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 2 | 76.33 | 2.78723E-01 | 8.66 | | |
| 6 | 99.84 | 1.54114E-02 | 53.38 | Tol. | LU-173 |
| 8 | 129.97 | 2.88102E-02 | 39.18 | | |
| 9 | 148.50 | 2.13402E-02 | 41.49 | | |
| 14 | 273.28 | 6.33232E-02 | 18.62 | Sum | |
| 17 | 327.34 | 1.57194E-02 | 58.77 | | |
| 20 | 462.25 | 2.65391E-02 | 27.78 | | |
| 21 | 491.44 | 9.66426E-03 | 51.01 | | |
| 22 | 511.22 | 3.30036E-02 | 18.70 | | |
| 26 | 771.55 | 1.60155E-02 | 45.20 | | |
| 27 | 786.29 | 6.15991E-03 | 57.54 | | |
| 28 | 795.57 | 1.14963E-02 | 38.42 | Sum | |
| M 31 | 965.37 | 1.03492E-02 | 39.44 | Sum | |
| 34 | 1073.41 | 4.24383E-03 | 51.12 | | |
| 36 | 1218.21 | 6.13388E-03 | 51.31 | Sum | |
| 37 | 1239.22 | 1.23442E-02 | 47.36 | Sum | |
| 38 | 1341.02 | 4.53704E-03 | 55.29 | | |
| 40 | 1542.67 | 2.27273E-03 | 48.12 | | |
| M 41 | 1587.75 | 4.09455E-03 | 38.60 | Sum | |
| m 42 | 1592.61 | 5.99523E-03 | 31.55 | D-Esc | |
| 43 | 1632.13 | 3.51852E-03 | 63.40 | | |
| 44 | 1638.43 | 2.95370E-03 | 43.86 | Sum | |
| 45 | 1660.69 | 3.14815E-03 | 44.23 | | |
| 47 | 1875.13 | 3.24653E-03 | 43.73 | | |
| 48 | 1963.22 | 2.61574E-03 | 43.87 | | |
| 49 | 1992.03 | 1.91919E-03 | 65.03 | | |
| 50 | 2008.05 | 1.77083E-03 | 50.22 | | |
| 51 | 2102.79 | 4.13314E-03 | 57.81 | S-Esc | |
| 52 | 2280.70 | 1.94444E-03 | 37.80 | | |
| 53 | 2292.84 | 2.63889E-03 | 57.77 | | |
| 54 | 2330.13 | 3.75731E-03 | 43.19 | | |
| 55 | 2434.97 | 2.22222E-03 | 35.36 | | |
| 56 | 2448.26 | 3.61111E-03 | 27.74 | | |

Analysis Report for 1510085-16
CP5006S12-13

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| + | BE-7 | 477.59 | 10.42 | -1.89E-01 | 8.17E-01 | 8.17E-01 |
| + | NA-22 | 1274.54 | 99.94 | 3.66E-02 | 9.61E-02 | 9.61E-02 |
| + | NA-24 | 1368.53 | 99.99 | -3.55E+12 | 2.95E+12 | 2.22E+13 |
| | | 2754.09 | 99.86 | 0.00E+00 | | 2.95E+12 |
| + | AL-26 | 1808.65 | 99.76 | -8.11E-03 | 5.89E-02 | 5.89E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.32E+01 | 9.62E-01 | 9.62E-01 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -1.38E-02 | 5.82E-02 | 5.82E-02 |
| | | 78.34 | 96.00 | 3.13E-01 | | 8.35E-02 |
| + | SC-46 | 889.25 | 99.98 | -1.97E-02 | 8.93E-02 | 8.93E-02 |
| | | 1120.51 | 99.99 | 2.34E-01 | | 1.80E-01 |
| + | V-48 | 983.52 | 99.98 | -7.08E-02 | 2.94E-01 | 2.94E-01 |
| | | 1312.10 | 97.50 | -7.90E-03 | | 3.71E-01 |
| + | CR-51 | 320.08 | 9.83 | -2.00E-02 | 1.27E+00 | 1.27E+00 |
| + | MN-54 | 834.83 | 99.97 | -2.01E-02 | 8.90E-02 | 8.90E-02 |
| + | CO-56 | 846.75 | 99.96 | -2.27E-02 | 1.04E-01 | 1.04E-01 |
| | | 1037.75 | 14.03 | -6.43E-02 | | 8.17E-01 |
| | | 1238.25 | 67.00 | 2.23E-01 | | 2.76E-01 |
| | | 1771.40 | 15.51 | 5.87E-02 | | 5.11E-01 |
| | | 2598.48 | 16.90 | -1.39E-01 | | 2.05E-01 |
| + | CO-57 | 122.06 | 85.51 | -6.78E-03 | 6.02E-02 | 6.02E-02 |
| | | 136.48 | 10.60 | 5.24E-01 | | 5.49E-01 |
| + | CO-58 | 810.76 | 99.40 | 1.59E-02 | 9.80E-02 | 9.80E-02 |
| + | FE-59 | 1099.22 | 56.50 | 3.29E-02 | 2.69E-01 | 2.69E-01 |
| | | 1291.56 | 43.20 | -7.39E-02 | | 3.23E-01 |
| + | CO-60 | 1173.22 | 100.00 | 2.48E-02 | 8.33E-02 | 1.10E-01 |
| | | 1332.49 | 100.00 | -5.91E-04 | | 8.33E-02 |
| + | ZN-65 | 1115.52 | 50.75 | -4.59E-01 | 2.18E-01 | 2.18E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.03E+02 | 1.35E+02 | 1.35E+02 |
| | | 208.95 | * 2.24 | 2.03E+03 | | 2.06E+03 |
| | | 300.22 | * 16.00 | 2.08E+02 | | 4.56E+02 |
| + | SE-75 | 121.11 | 16.70 | -8.83E-02 | 1.03E-01 | 3.34E-01 |

Analysis Report for 1510085-16
CP5006S12-13

| Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|----------|
| | SE-75 | 136.00 | 59.20 | -5.08E-02 | 1.03E-01 | 1.03E-01 |
| | | 264.65 | 59.80 | 6.16E-02 | | 1.10E-01 |
| | | 279.53 | 25.20 | -3.21E-02 | | 2.70E-01 |
| | | 400.65 | 11.40 | 3.89E-01 | | 6.72E-01 |
| + | RB-82 | 776.52 | 13.00 | 1.70E-02 | 1.40E+00 | 1.40E+00 |
| + | RB-83 | 520.41 | 46.00 | 1.84E-03 | 1.50E-01 | 1.50E-01 |
| | | 529.64 | 30.30 | 3.51E-02 | | 2.48E-01 |
| | | 552.65 | 16.40 | -2.99E-02 | | 4.70E-01 |
| + | KR-85 | 513.99 | 0.43 | -1.44E+01 | 1.68E+01 | 1.68E+01 |
| + | SR-85 | 513.99 | 99.27 | -8.65E-02 | 1.01E-01 | 1.01E-01 |
| + | Y-88 | 898.02 | 93.40 | 4.75E-02 | 1.02E-01 | 1.04E-01 |
| | | 1836.01 | 99.38 | 1.58E-02 | | 1.02E-01 |
| + | NB-93M | 16.57 | 9.43 | -9.42E+03 | 5.73E+03 | 5.73E+03 |
| + | NB-94 | 702.63 | 100.00 | -1.02E-02 | 7.78E-02 | 7.78E-02 |
| | | 871.10 | 100.00 | 2.98E-03 | | 7.82E-02 |
| + | NB-95 | 765.79 | 99.81 | -1.90E-02 | 1.54E-01 | 1.54E-01 |
| + | NB-95M | 235.69 | 25.00 | -6.98E+02 | 1.20E+02 | 1.20E+02 |
| + | ZR-95 | 724.18 | 43.70 | 2.24E-01 | 2.04E-01 | 3.36E-01 |
| | | 756.72 | 55.30 | 4.22E-02 | | 2.04E-01 |
| + | MO-99 | 181.06 | 6.20 | 1.26E+02 | 1.13E+03 | 1.72E+03 |
| | | 739.58 | 12.80 | -2.10E+02 | | 1.13E+03 |
| | | 778.00 | 4.50 | -8.00E+02 | | 3.45E+03 |
| + | RU-103 | 497.08 | 89.00 | -1.30E-02 | 1.05E-01 | 1.05E-01 |
| + | RU-106 | 621.84 | 9.80 | -6.01E-02 | 7.69E-01 | 7.69E-01 |
| + | AG-108M | 433.93 | 89.90 | -2.33E-02 | 6.03E-02 | 6.03E-02 |
| | | 614.37 | 90.40 | -2.68E-03 | | 8.54E-02 |
| | | 722.95 | 90.50 | 2.59E-04 | | 9.86E-02 |
| + | CD-109 | 88.03 | 3.72 | 2.20E+00 | 2.66E+00 | 2.66E+00 |
| + | AG-110M | 657.75 | 93.14 | -6.83E-02 | 8.26E-02 | 8.26E-02 |
| | | 677.61 | 10.53 | 2.20E-01 | | 8.30E-01 |
| | | 706.67 | 16.46 | 2.05E-02 | | 5.04E-01 |
| | | 763.93 | 21.98 | 8.01E-02 | | 4.04E-01 |
| | | 884.67 | 71.63 | 4.43E-02 | | 1.19E-01 |
| | | 1384.27 | 23.94 | -2.93E-02 | | 3.67E-01 |
| + | CD-113M | 263.70 | 0.02 | 1.95E+02 | 2.48E+02 | 2.48E+02 |
| + | SN-113 | 255.12 | 1.93 | 1.53E+00 | 9.64E-02 | 3.67E+00 |
| | | 391.69 | 64.90 | -5.48E-02 | | 9.64E-02 |
| + | TE123M | 159.00 | 84.10 | -3.63E-03 | 7.76E-02 | 7.76E-02 |
| + | SB-124 | 602.71 | 97.87 | -2.00E-01 | 1.13E-01 | 1.13E-01 |
| | | 645.85 | 7.26 | -8.18E-01 | | 1.28E+00 |
| | | 722.78 | 11.10 | 2.98E-03 | | 1.14E+00 |
| | | 1691.02 | 49.00 | -7.81E-02 | | 2.04E-01 |
| + | I-125 | 35.49 | 6.49 | 3.04E-01 | 6.13E+00 | 6.13E+00 |
| + | SB-125 | 176.33 | 6.89 | -7.45E-02 | 2.16E-01 | 8.14E-01 |
| | | 427.89 | 29.33 | -3.88E-03 | | 2.16E-01 |
| | | 463.38 | 10.35 | 7.37E-01 | | 7.55E-01 |
| | | 600.56 | 17.80 | 3.36E-01 | | 4.67E-01 |
| | | 635.90 | 11.32 | -4.09E-01 | | 6.14E-01 |

Analysis Report for 1510085-16
CP5006S12-13

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SB-126 | 414.70 | 83.30 | -9.08E-02 | 3.97E-01 | 3.97E-01 |
| | | 666.33 | 99.60 | 7.20E-03 | | 4.39E-01 |
| | | 695.00 | 99.60 | 2.44E-01 | | 4.67E-01 |
| | | 720.50 | 53.80 | -7.19E-02 | | 7.60E-01 |
| + | SN-126 | 87.57 | * 37.00 | 2.11E-01 | 2.55E-01 | 2.55E-01 |
| + | SB-127 | 473.00 | 25.00 | -4.92E+00 | 4.76E+01 | 5.15E+01 |
| | | 685.20 | 35.70 | -4.18E-02 | | 4.76E+01 |
| | | 783.80 | 14.70 | 1.91E+01 | | 1.32E+02 |
| + | I-129 | 29.78 | 57.00 | 3.36E-01 | 1.36E+00 | 1.36E+00 |
| | | 33.60 | 13.20 | -1.64E+00 | | 2.62E+00 |
| | | 39.58 | 7.52 | -1.27E+00 | | 2.32E+00 |
| + | I-131 | 284.30 | 6.05 | 2.46E+00 | 9.44E-01 | 1.26E+01 |
| | | 364.48 | 81.20 | 1.24E-01 | | 9.44E-01 |
| | | 636.97 | 7.26 | -1.99E+00 | | 1.29E+01 |
| | | 722.89 | 1.80 | 1.74E-01 | | 6.63E+01 |
| + | TE-132 | 49.72 | 13.10 | 4.18E+01 | 3.92E+01 | 3.83E+02 |
| | | 228.16 | 88.00 | -5.63E+00 | | 3.92E+01 |
| + | BA-133 | 81.00 | 33.00 | 8.05E-02 | 1.01E-01 | 1.48E-01 |
| | | 302.84 | 17.80 | 1.41E-01 | | 3.61E-01 |
| | | 356.01 | 60.00 | 2.72E-02 | | 1.01E-01 |
| + | I-133 | 529.87 | 86.30 | -5.78E+07 | 1.89E+09 | 1.89E+09 |
| + | XE-133 | 81.00 | 38.00 | 3.71E+00 | 6.82E+00 | 6.82E+00 |
| + | CS-134 | 563.23 | 8.38 | 1.60E-01 | 9.68E-02 | 8.11E-01 |
| | | 569.32 | 15.43 | 7.30E-02 | | 4.20E-01 |
| | | 604.70 | 97.60 | -9.84E-02 | | 9.68E-02 |
| | | 795.84 | 85.40 | 9.48E-02 | | 1.10E-01 |
| | | 801.93 | 8.73 | -2.10E-01 | | 8.47E-01 |
| + | CS-135 | 268.24 | 16.00 | -2.58E-01 | 3.75E-01 | 3.75E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 1.96E+00 | 3.82E-01 | 3.58E+00 |
| | | 163.89 | 4.61 | 6.17E-01 | | 5.98E+00 |
| | | 176.55 | 13.56 | 2.76E-01 | | 1.95E+00 |
| | | 273.65 | 12.66 | -1.94E+00 | | 2.34E+00 |
| | | 340.57 | 48.50 | 1.12E-01 | | 7.06E-01 |
| | | 818.50 | 99.70 | 1.43E-01 | | 3.82E-01 |
| | | 1048.07 | 79.60 | -1.58E-01 | | 4.72E-01 |
| | | 1235.34 | 19.70 | -2.58E-01 | | 3.29E+00 |
| + | CS-137 | 661.65 | 85.12 | 3.12E-03 | 8.94E-02 | 8.94E-02 |
| + | LA-138 | 788.74 | 34.00 | 1.84E-01 | 9.96E-02 | 2.48E-01 |
| | | 1435.80 | 66.00 | -6.60E-02 | | 9.96E-02 |
| + | CE-139 | 165.85 | 80.35 | 2.79E-02 | 8.12E-02 | 8.12E-02 |
| + | BA-140 | 162.64 | 6.70 | 7.97E-01 | 1.20E+00 | 4.36E+00 |
| | | 304.84 | 4.50 | 2.38E+00 | | 6.99E+00 |
| | | 423.70 | 3.20 | -3.25E+00 | | 9.45E+00 |
| | | 437.55 | 2.00 | 7.44E+00 | | 1.51E+01 |
| | | 537.32 | 25.00 | 2.20E-01 | | 1.20E+00 |
| + | LA-140 | 328.77 | 20.50 | 1.07E+00 | 4.75E-01 | 1.72E+00 |

Analysis Report for 1510085-16

CP5006S12-13

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | LA-140 | 487.03 | 45.50 | -1.61E-01 | 4.75E-01 | 6.23E-01 |
| | | 815.85 | 23.50 | -8.97E-01 | | 1.52E+00 |
| | | 1596.49 | 95.49 | 3.42E-02 | | 4.75E-01 |
| + | CE-141 | 145.44 | 48.40 | 1.05E-01 | 2.19E-01 | 2.19E-01 |
| + | CE-143 | 57.36 | 11.80 | 1.50E+04 | 8.28E+05 | 1.95E+06 |
| | | 293.26 | 42.00 | 3.97E+05 | | 8.28E+05 |
| | | 664.55 | 5.20 | 1.05E+06 | | 6.03E+06 |
| + | CE-144 | 133.54 | 10.80 | 3.90E-02 | 5.06E-01 | 5.06E-01 |
| + | PM-144 | 476.78 | 42.00 | -3.36E-02 | 8.29E-02 | 1.45E-01 |
| | | 618.01 | 98.60 | 4.36E-02 | | 8.29E-02 |
| | | 696.49 | 99.49 | 2.61E-02 | | 8.96E-02 |
| + | PM-145 | 36.85 | 21.70 | 4.76E-02 | 5.68E-01 | 1.11E+00 |
| | | 37.36 | 39.70 | 2.44E-02 | | 5.68E-01 |
| | | 42.30 | 15.10 | 4.46E-01 | | 9.41E-01 |
| | | 72.40 | 2.31 | -1.58E+00 | | 2.31E+00 |
| + | PM-146 | 453.90 | 39.94 | -1.51E-02 | 1.39E-01 | 1.39E-01 |
| | | 735.90 | 14.01 | -2.49E-01 | | 5.09E-01 |
| | | 747.13 | 13.10 | -1.42E-01 | | 5.92E-01 |
| + | ND-147 | 91.11 | 28.90 | -5.96E-01 | 1.61E+00 | 1.61E+00 |
| | | 531.02 | 13.10 | -4.94E-02 | | 2.93E+00 |
| + | PM-149 | 285.90 | 3.10 | 4.42E+03 | 2.29E+04 | 2.29E+04 |
| + | EU-152 | 121.78 | 20.50 | -2.63E-02 | 2.33E-01 | 2.33E-01 |
| | | 244.69 | 5.40 | -9.35E-02 | | 1.06E+00 |
| | | 344.27 | 19.13 | 6.08E-02 | | 3.17E-01 |
| | | 778.89 | 9.20 | 2.52E-01 | | 9.38E-01 |
| | | 964.01 | 10.40 | -2.46E+00 | | 1.01E+00 |
| | | 1085.78 | 7.22 | -1.88E-01 | | 1.30E+00 |
| | | 1112.02 | 9.60 | 1.01E-02 | | 9.64E-01 |
| | | 1407.95 | 14.94 | 2.36E-01 | | 6.42E-01 |
| + | GD-153 | 97.43 | 31.30 | -5.87E-02 | 1.72E-01 | 1.72E-01 |
| | | 103.18 | 22.20 | -3.12E-01 | | 2.49E-01 |
| + | EU-154 | 123.07 | 40.50 | 1.34E-02 | 1.22E-01 | 1.22E-01 |
| | | 723.30 | 19.70 | 1.20E-03 | | 4.56E-01 |
| | | 873.19 | 11.50 | -1.57E-01 | | 6.86E-01 |
| | | 996.32 | 10.30 | -5.92E-02 | | 8.53E-01 |
| | | 1004.76 | 17.90 | -7.90E-02 | | 4.33E-01 |
| | | 1274.45 | 35.50 | 1.02E-01 | | 2.66E-01 |
| + | EU-155 | 86.50 | * 30.90 | 2.56E-01 | 2.51E-01 | 3.09E-01 |
| | | 105.30 | * 20.70 | 1.60E-01 | | 2.51E-01 |
| + | EU-156 | 811.77 | 10.40 | -5.17E-01 | 2.66E+00 | 2.66E+00 |
| | | 1153.47 | 7.20 | 1.88E+00 | | 5.38E+00 |
| | | 1230.71 | 8.90 | -1.40E+00 | | 4.54E+00 |
| + | HO-166M | 184.41 | 72.60 | 1.07E-01 | 9.72E-02 | 9.72E-02 |
| | | 280.45 | 29.60 | -2.30E-02 | | 1.94E-01 |
| | | 410.94 | 11.10 | 4.30E-01 | | 6.24E-01 |
| | | 711.69 | 54.10 | 6.28E-02 | | 1.44E-01 |
| + | TM-171 | 66.72 | 0.14 | 3.16E+01 | 4.27E+01 | 4.27E+01 |
| + | HF-172 | 81.75 | 4.52 | 2.03E-01 | 4.60E-01 | 1.06E+00 |
| | | 125.81 | 11.30 | -1.28E-02 | | 4.60E-01 |

Analysis Report for 1510085-16
CP5006S12-13

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | LU-172 | 181.53 | 20.60 | 5.16E-01 | 3.06E+00 | 5.98E+00 |
| | | 810.06 | 16.63 | 1.59E+00 | | 9.80E+00 |
| | | 912.12 | 15.25 | 6.93E+01 | | 2.53E+01 |
| | | 1093.66 | 62.50 | -1.08E+00 | | 3.06E+00 |
| + | LU-173 | 100.72 | 5.24 | 3.51E-01 | 3.36E-01 | 1.01E+00 |
| | | 272.11 | 21.20 | 2.54E-01 | | 3.36E-01 |
| + | HF-175 | 343.40 | 84.00 | -7.40E-03 | 9.31E-02 | 9.31E-02 |
| + | LU-176 | 88.34 | 13.30 | 7.89E-01 | 6.24E-02 | 5.34E-01 |
| | | 201.83 | 86.00 | -7.00E-03 | | 6.85E-02 |
| | | 306.78 | 94.00 | 9.70E-03 | | 6.24E-02 |
| + | TA-182 | 67.75 | 41.20 | -3.80E-02 | 1.60E-01 | 1.60E-01 |
| | | 1121.30 | 34.90 | 6.74E-01 | | 4.82E-01 |
| | | 1189.05 | 16.23 | 1.20E-02 | | 7.12E-01 |
| | | 1221.41 | 26.98 | 1.53E-01 | | 5.07E-01 |
| | | 1231.02 | 11.44 | -7.20E-02 | | 1.11E+00 |
| + | IR-192 | 308.46 | 29.68 | -9.58E-02 | 1.62E-01 | 2.56E-01 |
| | | 468.07 | 48.10 | 8.90E-03 | | 1.62E-01 |
| + | HG-203 | 279.19 | 77.30 | 4.79E-02 | 1.21E-01 | 1.21E-01 |
| + | BI-207 | 569.67 | 97.72 | 1.12E-02 | 6.47E-02 | 6.47E-02 |
| | | 1063.62 | 74.90 | -1.76E-02 | | 1.16E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.37E+00 | 2.35E-01 | 4.00E-01 |
| | | 860.37 | * 4.48 | 3.50E+00 | | 2.40E+00 |
| | | 2614.66 | * 35.85 | 1.12E+00 | | 2.35E-01 |
| + | BI-210M | 262.00 | 45.00 | -3.69E-02 | 1.26E-01 | 1.26E-01 |
| | | 300.00 | 23.00 | 1.06E-01 | | 2.92E-01 |
| + | PB-210 | 46.50 | * 4.25 | 3.27E+00 | 4.13E+00 | 4.13E+00 |
| + | PB-211 | 404.84 | 2.90 | -3.46E-01 | 2.12E+00 | 2.12E+00 |
| | | 831.96 | 2.90 | -7.94E-01 | | 2.77E+00 |
| + | BI-212 | 727.17 | * 11.80 | 1.38E+00 | 1.02E+00 | 1.02E+00 |
| | | 1620.62 | 2.75 | 3.03E-01 | | 3.15E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.84E+00 | 2.53E-01 | 2.53E-01 |
| | | 300.09 | * 3.41 | 1.63E+00 | | 3.57E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.29E+00 | 1.92E-01 | 1.92E-01 |
| | | 1120.29 | * 15.10 | 1.60E+00 | | 1.06E+00 |
| | | 1764.49 | * 15.80 | 1.73E+00 | | 4.88E-01 |
| | | 2204.22 | 4.98 | 1.08E+00 | | 1.83E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.65E+00 | 2.48E-01 | 6.24E-01 |
| | | 351.92 | * 37.19 | 1.64E+00 | | 2.48E-01 |
| + | RN-219 | 401.80 | 6.50 | 5.45E-02 | 9.50E-01 | 9.50E-01 |
| + | RA-223 | 323.87 | 3.88 | -9.87E-01 | 1.60E+00 | 1.60E+00 |
| + | RA-224 | 240.98 | * 3.95 | 6.77E+00 | 2.87E+00 | 2.87E+00 |
| + | RA-225 | 40.00 | 31.00 | -1.21E+00 | 2.21E+00 | 2.21E+00 |
| + | RA-226 | 186.21 | * 3.28 | 4.22E+00 | 2.86E+00 | 2.86E+00 |
| + | TH-227 | 50.10 | 8.40 | 1.06E-01 | 8.12E-01 | 9.76E-01 |
| | | 236.00 | 11.50 | -4.70E+00 | | 8.12E-01 |
| | | 256.20 | 6.30 | 4.35E-02 | | 9.22E-01 |
| + | AC-228 | 338.32 | * 11.40 | 1.37E+00 | 3.89E-01 | 8.22E-01 |
| | | 911.07 | * 27.70 | 1.74E+00 | | 3.89E-01 |

Analysis Report for 1510085-16
CP5006S12-13

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | AC-228 | 969.11 | * | 16.60 | 1.38E+00 | 3.89E-01 | 9.74E-01 |
| + | TH-230 | 48.44 | | 16.90 | -2.89E-01 | 5.51E-01 | 5.51E-01 |
| | | 62.85 | | 4.60 | 1.25E+00 | | 1.43E+00 |
| | | 67.67 | | 0.37 | -3.53E+00 | | 1.49E+01 |
| + | PA-231 | 283.67 | | 1.60 | 6.93E-01 | 2.78E+00 | 3.56E+00 |
| | | 302.67 | | 2.30 | 1.09E+00 | | 2.78E+00 |
| + | TH-231 | 25.64 | | 14.70 | -1.57E+00 | 1.44E+00 | 1.57E+01 |
| | | 84.21 | * | 6.40 | 8.26E-01 | | 1.44E+00 |
| + | PA-233 | 311.98 | | 38.60 | 8.08E-02 | 3.32E-01 | 3.32E-01 |
| + | PA-234 | 131.20 | | 20.40 | 2.28E-01 | 2.63E-01 | 2.63E-01 |
| | | 733.99 | | 8.80 | -2.66E-01 | | 8.18E-01 |
| | | 946.00 | | 12.00 | -2.31E-02 | | 6.80E-01 |
| + | PA-234M | 1001.03 | * | 0.92 | 1.09E+01 | 1.08E+01 | 1.08E+01 |
| + | TH-234 | 63.29 | | 3.80 | 1.51E+00 | 1.71E+00 | 1.71E+00 |
| + | U-235 | 143.76 | | 10.50 | 1.07E-01 | 5.19E-01 | 5.19E-01 |
| | | 163.35 | | 4.70 | 2.23E-01 | | 1.22E+00 |
| | | 205.31 | | 4.70 | 3.76E-01 | | 1.28E+00 |
| + | NP-237 | 86.50 | * | 12.60 | 6.21E-01 | 7.50E-01 | 7.50E-01 |
| + | NP-239 | 106.10 | | 22.70 | 6.70E+02 | 1.64E+03 | 1.64E+03 |
| | | 228.18 | | 10.70 | -5.39E+02 | | 3.76E+03 |
| | | 277.60 | | 14.10 | 1.81E+03 | | 2.98E+03 |
| + | AM-241 | 59.54 | | 35.90 | -6.81E-02 | 1.66E-01 | 1.66E-01 |
| + | AM-243 | 74.67 | | 66.00 | -2.91E-01 | 1.13E-01 | 1.13E-01 |
| + | CM-243 | 209.75 | | 3.29 | 9.67E-01 | 4.29E-01 | 1.96E+00 |
| | | 228.14 | | 10.60 | -7.78E-02 | | 5.41E-01 |
| | | 277.60 | | 14.00 | 2.60E-01 | | 4.29E-01 |

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510085-16
CP5006S12-13

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| BE-7 | 477.59 | 10.42 | 8.17E-01 | 8.17E-01 | -1.89E-01 | 3.83E-01 |
| NA-22 | 1274.54 | 99.94 | 9.61E-02 | 9.61E-02 | 3.66E-02 | 4.41E-02 |
| NA-24 | 1368.53 | 99.99 | 2.22E+13 | 2.95E+12 | -3.55E+12 | 9.87E+12 |
| | 2754.09 | 99.86 | 2.95E+12 | | 0.00E+00 | 0.00E+00 |
| AL-26 | 1808.65 | 99.76 | 5.89E-02 | 5.89E-02 | -8.11E-03 | 2.47E-02 |
| + K-40 | 1460.81 | * 10.67 | 9.62E-01 | 9.62E-01 | 2.32E+01 | 4.42E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 5.82E-02 | 5.82E-02 | -1.38E-02 | 2.83E-02 |
| | 78.34 | 96.00 | 8.35E-02 | | 3.13E-01 | 4.10E-02 |
| SC-46 | 889.25 | 99.98 | 8.93E-02 | 8.93E-02 | -1.97E-02 | 4.10E-02 |
| | 1120.51 | 99.99 | 1.80E-01 | | 2.34E-01 | 8.53E-02 |
| V-48 | 983.52 | 99.98 | 2.94E-01 | 2.94E-01 | -7.08E-02 | 1.35E-01 |
| | 1312.10 | 97.50 | 3.71E-01 | | -7.90E-03 | 1.71E-01 |
| CR-51 | 320.08 | 9.83 | 1.27E+00 | 1.27E+00 | -2.00E-02 | 6.07E-01 |
| MN-54 | 834.83 | 99.97 | 8.90E-02 | 8.90E-02 | -2.01E-02 | 4.16E-02 |
| CO-56 | 846.75 | 99.96 | 1.04E-01 | 1.04E-01 | -2.27E-02 | 4.83E-02 |
| | 1037.75 | 14.03 | 8.17E-01 | | -6.43E-02 | 3.78E-01 |
| | 1238.25 | 67.00 | 2.76E-01 | | 2.23E-01 | 1.31E-01 |
| | 1771.40 | 15.51 | 5.11E-01 | | 5.87E-02 | 2.16E-01 |
| | 2598.48 | 16.90 | 2.05E-01 | | -1.39E-01 | 6.47E-02 |
| CO-57 | 122.06 | 85.51 | 6.02E-02 | 6.02E-02 | -6.78E-03 | 2.92E-02 |
| | 136.48 | 10.60 | 5.49E-01 | | 5.24E-01 | 2.67E-01 |
| CO-58 | 810.76 | 99.40 | 9.80E-02 | 9.80E-02 | 1.59E-02 | 4.54E-02 |
| FE-59 | 1099.22 | 56.50 | 2.69E-01 | 2.69E-01 | 3.29E-02 | 1.25E-01 |
| | 1291.56 | 43.20 | 3.23E-01 | | -7.39E-02 | 1.47E-01 |
| CO-60 | 1173.22 | 100.00 | 1.10E-01 | 8.33E-02 | 2.48E-02 | 5.14E-02 |
| | 1332.49 | 100.00 | 8.33E-02 | | -5.91E-04 | 3.77E-02 |
| ZN-65 | 1115.52 | 50.75 | 2.18E-01 | 2.18E-01 | -4.59E-01 | 1.02E-01 |
| + GA-67 | 93.31 | * 35.70 | 1.35E+02 | 1.35E+02 | 1.03E+02 | 6.62E+01 |
| | 208.95 | * 2.24 | 2.06E+03 | | 2.03E+03 | 1.00E+03 |
| | 300.22 | * 16.00 | 4.56E+02 | | 2.08E+02 | 2.23E+02 |
| SE-75 | 121.11 | 16.70 | 3.34E-01 | 1.03E-01 | -8.83E-02 | 1.62E-01 |
| | 136.00 | 59.20 | 1.03E-01 | | -5.08E-02 | 4.98E-02 |
| | 264.65 | 59.80 | 1.10E-01 | | 6.16E-02 | 5.25E-02 |
| | 279.53 | 25.20 | 2.70E-01 | | -3.21E-02 | 1.29E-01 |
| | 400.65 | 11.40 | 6.72E-01 | | 3.89E-01 | 3.19E-01 |
| RB-82 | 776.52 | 13.00 | 1.40E+00 | 1.40E+00 | 1.70E-02 | 6.57E-01 |
| RB-83 | 520.41 | 46.00 | 1.50E-01 | 1.50E-01 | 1.84E-03 | 6.98E-02 |
| | 529.64 | 30.30 | 2.48E-01 | | 3.51E-02 | 1.16E-01 |
| | 552.65 | 16.40 | 4.70E-01 | | -2.99E-02 | 2.19E-01 |
| KR-85 | 513.99 | 0.43 | 1.68E+01 | 1.68E+01 | -1.44E+01 | 7.98E+00 |
| SR-85 | 513.99 | 99.27 | 1.01E-01 | 1.01E-01 | -8.65E-02 | 4.79E-02 |
| Y-88 | 898.02 | 93.40 | 1.04E-01 | 1.02E-01 | 4.75E-02 | 4.80E-02 |
| | 1836.01 | 99.38 | 1.02E-01 | | 1.58E-02 | 4.52E-02 |
| NB-93M | 16.57 | 9.43 | 5.73E+03 | 5.73E+03 | -9.42E+03 | 2.78E+03 |
| NB-94 | 702.63 | 100.00 | 7.78E-02 | 7.78E-02 | -1.02E-02 | 3.65E-02 |
| | 871.10 | 100.00 | 7.82E-02 | | 2.98E-03 | 3.63E-02 |
| NB-95 | 765.79 | 99.81 | 1.54E-01 | 1.54E-01 | -1.90E-02 | 7.23E-02 |
| NB-95M | 235.69 | 25.00 | 1.20E+02 | 1.20E+02 | -6.98E+02 | 5.88E+01 |
| ZR-95 | 724.18 | 43.70 | 3.36E-01 | 2.04E-01 | 2.24E-01 | 1.60E-01 |
| | 756.72 | 55.30 | 2.04E-01 | | 4.22E-02 | 9.58E-02 |

Analysis Report for 1510085-16
CP5006S12-13

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| MO-99 | 181.06 | 6.20 | 1.72E+03 | 1.13E+03 | 1.26E+02 | 8.33E+02 |
| | 739.58 | 12.80 | 1.13E+03 | | -2.10E+02 | 5.29E+02 |
| | 778.00 | 4.50 | 3.45E+03 | | -8.00E+02 | 1.61E+03 |
| RU-103 | 497.08 | 89.00 | 1.05E-01 | 1.05E-01 | -1.30E-02 | 4.92E-02 |
| RU-106 | 621.84 | 9.80 | 7.69E-01 | 7.69E-01 | -6.01E-02 | 3.61E-01 |
| AG-108M | 433.93 | 89.90 | 6.03E-02 | 6.03E-02 | -2.33E-02 | 2.83E-02 |
| | 614.37 | 90.40 | 8.54E-02 | | -2.68E-03 | 4.03E-02 |
| | 722.95 | 90.50 | 9.86E-02 | | 2.59E-04 | 4.66E-02 |
| CD-109 | 88.03 | * | 3.72 | 2.66E+00 | 2.20E+00 | 1.31E+00 |
| AG-110M | 657.75 | 93.14 | 8.26E-02 | 8.26E-02 | -6.83E-02 | 3.87E-02 |
| | 677.61 | 10.53 | 8.30E-01 | | 2.20E-01 | 3.91E-01 |
| | 706.67 | 16.46 | 5.04E-01 | | 2.05E-02 | 2.36E-01 |
| | 763.93 | 21.98 | 4.04E-01 | | 8.01E-02 | 1.89E-01 |
| | 884.67 | 71.63 | 1.19E-01 | | 4.43E-02 | 5.53E-02 |
| CD-113M | 1384.27 | 23.94 | 3.67E-01 | | -2.93E-02 | 1.65E-01 |
| SN-113 | 263.70 | 0.02 | 2.48E+02 | 2.48E+02 | 1.95E+02 | 1.19E+02 |
| TE123M | 255.12 | 1.93 | 3.67E+00 | 9.64E-02 | 1.53E+00 | 1.76E+00 |
| | 391.69 | 64.90 | 9.64E-02 | | -5.48E-02 | 4.53E-02 |
| | 159.00 | 84.10 | 7.76E-02 | | 7.76E-02 | -3.63E-03 | 3.76E-02 |
| SB-124 | 602.71 | 97.87 | 1.13E-01 | 1.13E-01 | -2.00E-01 | 5.35E-02 |
| | 645.85 | 7.26 | 1.28E+00 | | -8.18E-01 | 5.96E-01 |
| | 722.78 | 11.10 | 1.14E+00 | | 2.98E-03 | 5.37E-01 |
| | 1691.02 | 49.00 | 2.04E-01 | | -7.81E-02 | 8.87E-02 |
| I-125 | 35.49 | 6.49 | 6.13E+00 | 6.13E+00 | 3.04E-01 | 2.98E+00 |
| SB-125 | 176.33 | 6.89 | 8.14E-01 | 2.16E-01 | -7.45E-02 | 3.94E-01 |
| | 427.89 | 29.33 | 2.16E-01 | | -3.88E-03 | 1.02E-01 |
| | 463.38 | 10.35 | 7.55E-01 | | 7.37E-01 | 3.61E-01 |
| | 600.56 | 17.80 | 4.67E-01 | | 3.36E-01 | 2.22E-01 |
| | 635.90 | 11.32 | 6.14E-01 | | -4.09E-01 | 2.87E-01 |
| SB-126 | 414.70 | 83.30 | 3.97E-01 | 3.97E-01 | -9.08E-02 | 1.88E-01 |
| | 666.33 | 99.60 | 4.39E-01 | | 7.20E-03 | 2.07E-01 |
| | 695.00 | 99.60 | 4.67E-01 | | 2.44E-01 | 2.21E-01 |
| | 720.50 | 53.80 | 7.60E-01 | | -7.19E-02 | 3.56E-01 |
| SN-126 | 87.57 | * | 37.00 | 2.55E-01 | 2.11E-01 | 1.26E-01 |
| SB-127 | 473.00 | 25.00 | 5.15E+01 | 4.76E+01 | -4.92E+00 | 2.42E+01 |
| | 685.20 | 35.70 | 4.76E+01 | | -4.18E-02 | 2.23E+01 |
| | 783.80 | 14.70 | 1.32E+02 | | 1.91E+01 | 6.22E+01 |
| I-129 | 29.78 | 57.00 | 1.36E+00 | 1.36E+00 | 3.36E-01 | 6.60E-01 |
| | 33.60 | 13.20 | 2.62E+00 | | -1.64E+00 | 1.27E+00 |
| | 39.58 | 7.52 | 2.32E+00 | | -1.27E+00 | 1.13E+00 |
| I-131 | 284.30 | 6.05 | 1.26E+01 | 9.44E-01 | 2.46E+00 | 6.04E+00 |
| | 364.48 | 81.20 | 9.44E-01 | | 1.24E-01 | 4.48E-01 |
| | 636.97 | 7.26 | 1.29E+01 | | -1.99E+00 | 6.04E+00 |
| | 722.89 | 1.80 | 6.63E+01 | | 1.74E-01 | 3.14E+01 |
| TE-132 | 49.72 | 13.10 | 3.83E+02 | 3.92E+01 | 4.18E+01 | 1.86E+02 |
| | 228.16 | 88.00 | 3.92E+01 | | -5.63E+00 | 1.89E+01 |
| BA-133 | 81.00 | 33.00 | 1.48E-01 | 1.01E-01 | 8.05E-02 | 7.18E-02 |
| | 302.84 | 17.80 | 3.61E-01 | | 1.41E-01 | 1.73E-01 |
| | 356.01 | 60.00 | 1.01E-01 | | 2.72E-02 | 4.80E-02 |
| I-133 | 529.87 | 86.30 | 1.89E+09 | 1.89E+09 | -5.78E+07 | 8.84E+08 |
| XE-133 | 81.00 | 38.00 | 6.82E+00 | 6.82E+00 | 3.71E+00 | 3.31E+00 |
| CS-134 | 563.23 | 8.38 | 8.11E-01 | 9.68E-02 | 1.60E-01 | 3.81E-01 |
| | 569.32 | 15.43 | 4.20E-01 | | 7.30E-02 | 1.97E-01 |

Analysis Report for 1510085-16
CP5006S12-13

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CS-134 | 604.70 | 97.60 | 9.68E-02 | 9.68E-02 | -9.84E-02 | 4.62E-02 |
| | 795.84 | 85.40 | 1.10E-01 | | 9.48E-02 | 5.18E-02 |
| | 801.93 | 8.73 | 8.47E-01 | | -2.10E-01 | 3.92E-01 |
| CS-135 | 268.24 | 16.00 | 3.75E-01 | 3.75E-01 | -2.58E-01 | 1.80E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 3.58E+00 | 3.82E-01 | 1.96E+00 | 1.74E+00 |
| | 163.89 | 4.61 | 5.98E+00 | | 6.17E-01 | 2.90E+00 |
| | 176.55 | 13.56 | 1.95E+00 | | 2.76E-01 | 9.44E-01 |
| | 273.65 | 12.66 | 2.34E+00 | | -1.94E+00 | 1.12E+00 |
| | 340.57 | 48.50 | 7.06E-01 | | 1.12E-01 | 3.39E-01 |
| | 818.50 | 99.70 | 3.82E-01 | | 1.43E-01 | 1.78E-01 |
| | 1048.07 | 79.60 | 4.72E-01 | | -1.58E-01 | 2.16E-01 |
| | 1235.34 | 19.70 | 3.29E+00 | | -2.58E-01 | 1.55E+00 |
| CS-137 | 661.65 | 85.12 | 8.94E-02 | 8.94E-02 | 3.12E-03 | 4.20E-02 |
| LA-138 | 788.74 | 34.00 | 2.48E-01 | 9.96E-02 | 1.84E-01 | 1.16E-01 |
| | 1435.80 | 66.00 | 9.96E-02 | | -6.60E-02 | 4.35E-02 |
| CE-139 | 165.85 | 80.35 | 8.12E-02 | 8.12E-02 | 2.79E-02 | 3.93E-02 |
| BA-140 | 162.64 | 6.70 | 4.36E+00 | 1.20E+00 | 7.97E-01 | 2.11E+00 |
| | 304.84 | 4.50 | 6.99E+00 | | 2.38E+00 | 3.35E+00 |
| | 423.70 | 3.20 | 9.45E+00 | | -3.25E+00 | 4.47E+00 |
| | 437.55 | 2.00 | 1.51E+01 | | 7.44E+00 | 7.12E+00 |
| | 537.32 | 25.00 | 1.20E+00 | | 2.20E-01 | 5.61E-01 |
| LA-140 | 328.77 | 20.50 | 1.72E+00 | 4.75E-01 | 1.07E+00 | 8.25E-01 |
| | 487.03 | 45.50 | 6.23E-01 | | -1.61E-01 | 2.91E-01 |
| | 815.85 | 23.50 | 1.52E+00 | | -8.97E-01 | 7.00E-01 |
| | 1596.49 | 95.49 | 4.75E-01 | | 3.42E-02 | 2.14E-01 |
| CE-141 | 145.44 | 48.40 | 2.19E-01 | 2.19E-01 | 1.05E-01 | 1.06E-01 |
| CE-143 | 57.36 | 11.80 | 1.95E+06 | 8.28E+05 | 1.50E+04 | 9.43E+05 |
| | 293.26 | 42.00 | 8.28E+05 | | 3.97E+05 | 4.02E+05 |
| | 664.55 | 5.20 | 6.03E+06 | | 1.05E+06 | 2.85E+06 |
| CE-144 | 133.54 | 10.80 | 5.06E-01 | 5.06E-01 | 3.90E-02 | 2.45E-01 |
| PM-144 | 476.78 | 42.00 | 1.45E-01 | 8.29E-02 | -3.36E-02 | 6.81E-02 |
| | 618.01 | 98.60 | 8.29E-02 | | 4.36E-02 | 3.91E-02 |
| | 696.49 | 99.49 | 8.96E-02 | | 2.61E-02 | 4.23E-02 |
| PM-145 | 36.85 | 21.70 | 1.11E+00 | 5.68E-01 | 4.76E-02 | 5.38E-01 |
| | 37.36 | 39.70 | 5.68E-01 | | 2.44E-02 | 2.76E-01 |
| | 42.30 | 15.10 | 9.41E-01 | | 4.46E-01 | 4.57E-01 |
| | 72.40 | 2.31 | 2.31E+00 | | -1.58E+00 | 1.12E+00 |
| PM-146 | 453.90 | 39.94 | 1.39E-01 | 1.39E-01 | -1.51E-02 | 6.51E-02 |
| | 735.90 | 14.01 | 5.09E-01 | | -2.49E-01 | 2.37E-01 |
| | 747.13 | 13.10 | 5.92E-01 | | -1.42E-01 | 2.77E-01 |
| ND-147 | 91.11 | 28.90 | 1.61E+00 | 1.61E+00 | -5.96E-01 | 7.90E-01 |
| | 531.02 | 13.10 | 2.93E+00 | | -4.94E-02 | 1.37E+00 |
| PM-149 | 285.90 | 3.10 | 2.29E+04 | 2.29E+04 | 4.42E+03 | 1.10E+04 |
| EU-152 | 121.78 | 20.50 | 2.33E-01 | 2.33E-01 | -2.63E-02 | 1.13E-01 |
| | 244.69 | 5.40 | 1.06E+00 | | -9.35E-02 | 5.09E-01 |
| | 344.27 | 19.13 | 3.17E-01 | | 6.08E-02 | 1.51E-01 |
| | 778.89 | 9.20 | 9.38E-01 | | 2.52E-01 | 4.41E-01 |
| | 964.01 | 10.40 | 1.01E+00 | | -2.46E+00 | 4.74E-01 |
| | 1085.78 | 7.22 | 1.30E+00 | | -1.88E-01 | 6.04E-01 |
| | 1112.02 | 9.60 | 9.64E-01 | | 1.01E-02 | 4.46E-01 |

Analysis Report for 1510085-16
CP5006S12-13

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| EU-152 | 1407.95 | 14.94 | 6.42E-01 | 2.33E-01 | 2.36E-01 | 2.93E-01 |
| GD-153 | 97.43 | 31.30 | 1.72E-01 | 1.72E-01 | -5.87E-02 | 8.38E-02 |
| | 103.18 | 22.20 | 2.49E-01 | | -3.12E-01 | 1.21E-01 |
| EU-154 | 123.07 | 40.50 | 1.22E-01 | 1.22E-01 | 1.34E-02 | 5.93E-02 |
| | 723.30 | 19.70 | 4.56E-01 | | 1.20E-03 | 2.16E-01 |
| | 873.19 | 11.50 | 6.86E-01 | | -1.57E-01 | 3.18E-01 |
| | 996.32 | 10.30 | 8.53E-01 | | -5.92E-02 | 3.96E-01 |
| | 1004.76 | 17.90 | 4.33E-01 | | -7.90E-02 | 1.99E-01 |
| | 1274.45 | 35.50 | 2.66E-01 | | 1.02E-01 | 1.22E-01 |
| + EU-155 | 86.50 | * 30.90 | 3.09E-01 | 2.51E-01 | 2.56E-01 | 1.52E-01 |
| | 105.30 | * 20.70 | 2.51E-01 | | 1.60E-01 | 1.22E-01 |
| EU-156 | 811.77 | 10.40 | 2.66E+00 | 2.66E+00 | -5.17E-01 | 1.23E+00 |
| | 1153.47 | 7.20 | 5.38E+00 | | 1.88E+00 | 2.50E+00 |
| | 1230.71 | 8.90 | 4.54E+00 | | -1.40E+00 | 2.11E+00 |
| HO-166M | 184.41 | 72.60 | 9.72E-02 | 9.72E-02 | 1.07E-01 | 4.73E-02 |
| | 280.45 | 29.60 | 1.94E-01 | | -2.30E-02 | 9.27E-02 |
| | 410.94 | 11.10 | 6.24E-01 | | 4.30E-01 | 2.98E-01 |
| | 711.69 | 54.10 | 1.44E-01 | | 6.28E-02 | 6.78E-02 |
| TM-171 | 66.72 | 0.14 | 4.27E+01 | 4.27E+01 | 3.16E+01 | 2.08E+01 |
| HF-172 | 81.75 | 4.52 | 1.06E+00 | 4.60E-01 | 2.03E-01 | 5.14E-01 |
| | 125.81 | 11.30 | 4.60E-01 | | -1.28E-02 | 2.23E-01 |
| LU-172 | 181.53 | 20.60 | 5.98E+00 | 3.06E+00 | 5.16E-01 | 2.89E+00 |
| | 810.06 | 16.63 | 9.80E+00 | | 1.59E+00 | 4.54E+00 |
| | 912.12 | 15.25 | 2.53E+01 | | 6.93E+01 | 1.22E+01 |
| | 1093.66 | 62.50 | 3.06E+00 | | -1.08E+00 | 1.41E+00 |
| LU-173 | 100.72 | 5.24 | 1.01E+00 | 3.36E-01 | 3.51E-01 | 4.91E-01 |
| | 272.11 | 21.20 | 3.36E-01 | | 2.54E-01 | 1.62E-01 |
| HF-175 | 343.40 | 84.00 | 9.31E-02 | 9.31E-02 | -7.40E-03 | 4.43E-02 |
| LU-176 | 88.34 | 13.30 | 5.34E-01 | 6.24E-02 | 7.89E-01 | 2.62E-01 |
| | 201.83 | 86.00 | 6.85E-02 | | -7.00E-03 | 3.31E-02 |
| | 306.78 | 94.00 | 6.24E-02 | | 9.70E-03 | 2.98E-02 |
| TA-182 | 67.75 | 41.20 | 1.60E-01 | 1.60E-01 | -3.80E-02 | 7.78E-02 |
| | 1121.30 | 34.90 | 4.82E-01 | | 6.74E-01 | 2.29E-01 |
| | 1189.05 | 16.23 | 7.12E-01 | | 1.20E-02 | 3.29E-01 |
| | 1221.41 | 26.98 | 5.07E-01 | | 1.53E-01 | 2.37E-01 |
| | 1231.02 | 11.44 | 1.11E+00 | | -7.20E-02 | 5.16E-01 |
| IR-192 | 308.46 | 29.68 | 2.56E-01 | 1.62E-01 | -9.58E-02 | 1.22E-01 |
| | 468.07 | 48.10 | 1.62E-01 | | 8.90E-03 | 7.62E-02 |
| HG-203 | 279.19 | 77.30 | 1.21E-01 | 1.21E-01 | 4.79E-02 | 5.78E-02 |
| BI-207 | 569.67 | 97.72 | 6.47E-02 | 6.47E-02 | 1.12E-02 | 3.03E-02 |
| | 1063.62 | 74.90 | 1.16E-01 | | -1.76E-02 | 5.34E-02 |
| + TL-208 | 583.14 | * 30.22 | 4.00E-01 | 2.35E-01 | 1.37E+00 | 1.93E-01 |
| | 860.37 | * 4.48 | 2.40E+00 | | 3.50E+00 | 1.14E+00 |
| | 2614.66 | * 35.85 | 2.35E-01 | | 1.12E+00 | 1.04E-01 |
| BI-210M | 262.00 | 45.00 | 1.26E-01 | 1.26E-01 | -3.69E-02 | 6.05E-02 |
| | 300.00 | 23.00 | 2.92E-01 | | 1.06E-01 | 1.40E-01 |
| + PB-210 | 46.50 | * 4.25 | 4.13E+00 | 4.13E+00 | 3.27E+00 | 2.03E+00 |
| PB-211 | 404.84 | 2.90 | 2.12E+00 | 2.12E+00 | -3.46E-01 | 1.01E+00 |
| | 831.96 | 2.90 | 2.77E+00 | | -7.94E-01 | 1.29E+00 |
| + BI-212 | 727.17 | * 11.80 | 1.02E+00 | 1.02E+00 | 1.38E+00 | 4.88E-01 |
| | 1620.62 | 2.75 | 3.15E+00 | | 3.03E-01 | 1.41E+00 |
| + PB-212 | 238.63 | * 44.60 | 2.53E-01 | 2.53E-01 | 1.84E+00 | 1.24E-01 |
| | 300.09 | * 3.41 | 3.57E+00 | | 1.63E+00 | 1.75E+00 |

Analysis Report for 1510085-16
CP5006S12-13

| | Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---|---------------------|---------------------|---------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| + | BI-214 | 609.31 * | | 46.30 | 1.92E-01 | 1.92E-01 | 1.29E+00 | 9.16E-02 |
| | | 1120.29 * | | 15.10 | 1.06E+00 | | 1.60E+00 | 5.07E-01 |
| | | 1764.49 * | | 15.80 | 4.88E-01 | | 1.73E+00 | 2.14E-01 |
| | | 2204.22 | | 4.98 | 1.83E+00 | | 1.08E+00 | 8.13E-01 |
| + | PB-214 | 295.21 * | | 19.19 | 6.24E-01 | 2.48E-01 | 1.65E+00 | 3.05E-01 |
| | | 351.92 * | | 37.19 | 2.48E-01 | | 1.64E+00 | 1.20E-01 |
| | RN-219 | 401.80 | | 6.50 | 9.50E-01 | 9.50E-01 | 5.45E-02 | 4.51E-01 |
| | RA-223 | 323.87 | | 3.88 | 1.60E+00 | 1.60E+00 | -9.87E-01 | 7.64E-01 |
| + | RA-224 | 240.98 * | | 3.95 | 2.87E+00 | 2.87E+00 | 6.77E+00 | 1.41E+00 |
| | | 40.00 | | 31.00 | 2.21E+00 | 2.21E+00 | -1.21E+00 | 1.07E+00 |
| + | RA-226 | 186.21 * | | 3.28 | 2.86E+00 | 2.86E+00 | 4.22E+00 | 1.40E+00 |
| | | TH-227 | 50.10 | | 8.40 | 9.76E-01 | 8.12E-01 | 1.06E-01 | 4.73E-01 |
| | | 236.00 | | 11.50 | 8.12E-01 | | -4.70E+00 | 3.96E-01 |
| | | 256.20 | | 6.30 | 9.22E-01 | | 4.35E-02 | 4.43E-01 |
| + | AC-228 | 338.32 * | | 11.40 | 8.22E-01 | 3.89E-01 | 1.37E+00 | 3.99E-01 |
| | | 911.07 * | | 27.70 | 3.89E-01 | | 1.74E+00 | 1.84E-01 |
| | | 969.11 * | | 16.60 | 9.74E-01 | | 1.38E+00 | 4.69E-01 |
| | TH-230 | 48.44 | | 16.90 | 5.51E-01 | 5.51E-01 | -2.89E-01 | 2.68E-01 |
| | | 62.85 | | 4.60 | 1.43E+00 | | 1.25E+00 | 6.95E-01 |
| | | 67.67 | | 0.37 | 1.49E+01 | | -3.53E+00 | 7.23E+00 |
| | PA-231 | 283.67 | | 1.60 | 3.56E+00 | 2.78E+00 | 6.93E-01 | 1.70E+00 |
| | | 302.67 | | 2.30 | 2.78E+00 | | 1.09E+00 | 1.33E+00 |
| + | TH-231 | 25.64 | | 14.70 | 1.57E+01 | 1.44E+00 | -1.57E+00 | 7.63E+00 |
| | | 84.21 * | | 6.40 | 1.44E+00 | | 8.26E-01 | 7.12E-01 |
| | PA-233 | 311.98 | | 38.60 | 3.32E-01 | 3.32E-01 | 8.08E-02 | 1.58E-01 |
| | PA-234 | 131.20 | | 20.40 | 2.63E-01 | 2.63E-01 | 2.28E-01 | 1.28E-01 |
| | | 733.99 | | 8.80 | 8.18E-01 | | -2.66E-01 | 3.81E-01 |
| | | 946.00 | | 12.00 | 6.80E-01 | | -2.31E-02 | 3.15E-01 |
| + | PA-234M | 1001.03 * | | 0.92 | 1.08E+01 | 1.08E+01 | 1.09E+01 | 5.06E+00 |
| | | TH-234 | 63.29 | | 3.80 | 1.71E+00 | 1.71E+00 | 1.51E+00 | 8.34E-01 |
| | U-235 | 143.76 | | 10.50 | 5.19E-01 | 5.19E-01 | 1.07E-01 | 2.52E-01 |
| | | 163.35 | | 4.70 | 1.22E+00 | | 2.23E-01 | 5.91E-01 |
| | | 205.31 | | 4.70 | 1.28E+00 | | 3.76E-01 | 6.17E-01 |
| | | NP-237 | 86.50 * | | 12.60 | 7.50E-01 | 7.50E-01 | 6.21E-01 | 3.69E-01 |
| | NP-239 | 106.10 | | 22.70 | 1.64E+03 | 1.64E+03 | 6.70E+02 | 7.97E+02 |
| | | 228.18 | | 10.70 | 3.76E+03 | | -5.39E+02 | 1.81E+03 |
| | | 277.60 | | 14.10 | 2.98E+03 | | 1.81E+03 | 1.43E+03 |
| | AM-241 | 59.54 | | 35.90 | 1.66E-01 | 1.66E-01 | -6.81E-02 | 8.03E-02 |
| | AM-243 | 74.67 | | 66.00 | 1.13E-01 | 1.13E-01 | -2.91E-01 | 5.53E-02 |
| | CM-243 | 209.75 | | 3.29 | 1.96E+00 | 4.29E-01 | 9.67E-01 | 9.52E-01 |
| | | 228.14 | | 10.60 | 5.41E-01 | | -7.78E-02 | 2.61E-01 |
| | | 277.60 | | 14.00 | 4.29E-01 | | 2.60E-01 | 2.06E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

Analysis Report for 1510085-16
CP5006S12-13

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

0946A

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S12-13

Elapsed Live time: 3600
 Elapsed Real Time: 3601

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 210 |
| 9: | 691 | 1266 | 1076 | 416 | 771 | 1691 | 264 | 134 |
| 17: | 147 | 110 | 145 | 116 | 128 | 109 | 107 | 107 |
| 25: | 119 | 120 | 92 | 116 | 140 | 110 | 125 | 118 |
| 33: | 92 | 112 | 119 | 130 | 131 | 132 | 135 | 120 |
| 41: | 128 | 151 | 133 | 123 | 135 | 151 | 247 | 135 |
| 49: | 122 | 137 | 98 | 107 | 125 | 123 | 108 | 104 |
| 57: | 87 | 122 | 102 | 110 | 138 | 133 | 178 | 181 |
| 65: | 130 | 150 | 124 | 160 | 115 | 136 | 133 | 138 |
| 73: | 140 | 171 | 455 | 224 | 546 | 365 | 118 | 136 |
| 81: | 126 | 116 | 105 | 169 | 158 | 135 | 205 | 195 |
| 89: | 117 | 201 | 110 | 147 | 248 | 158 | 87 | 72 |
| 97: | 71 | 74 | 90 | 98 | 88 | 71 | 76 | 80 |
| 105: | 102 | 115 | 69 | 86 | 86 | 92 | 79 | 104 |
| 113: | 79 | 84 | 79 | 87 | 67 | 74 | 56 | 57 |
| 121: | 76 | 69 | 63 | 65 | 76 | 75 | 71 | 73 |
| 129: | 107 | 78 | 71 | 83 | 53 | 56 | 71 | 82 |
| 137: | 76 | 58 | 94 | 60 | 96 | 74 | 82 | 83 |
| 145: | 71 | 59 | 88 | 87 | 66 | 95 | 56 | 65 |
| 153: | 76 | 76 | 73 | 63 | 57 | 65 | 63 | 70 |
| 161: | 76 | 70 | 69 | 81 | 55 | 65 | 60 | 68 |
| 169: | 54 | 60 | 65 | 50 | 72 | 60 | 57 | 59 |
| 177: | 62 | 54 | 52 | 51 | 57 | 50 | 67 | 54 |
| 185: | 101 | 189 | 84 | 59 | 60 | 67 | 41 | 54 |
| 193: | 52 | 44 | 61 | 52 | 49 | 63 | 56 | 67 |
| 201: | 53 | 51 | 57 | 53 | 59 | 47 | 69 | 61 |
| 209: | 90 | 86 | 45 | 40 | 49 | 47 | 59 | 49 |
| 217: | 51 | 55 | 56 | 61 | 46 | 50 | 48 | 59 |
| 225: | 45 | 54 | 46 | 38 | 47 | 39 | 48 | 36 |
| 233: | 51 | 41 | 40 | 47 | 61 | 396 | 621 | 101 |
| 241: | 133 | 177 | 48 | 44 | 36 | 30 | 43 | 41 |
| 249: | 37 | 41 | 31 | 38 | 41 | 39 | 39 | 44 |
| 257: | 41 | 33 | 37 | 43 | 30 | 35 | 34 | 39 |
| 265: | 42 | 30 | 23 | 34 | 41 | 68 | 55 | 52 |
| 273: | 36 | 42 | 38 | 28 | 48 | 46 | 42 | 23 |
| 281: | 24 | 33 | 36 | 36 | 29 | 29 | 34 | 34 |
| 289: | 26 | 37 | 34 | 30 | 31 | 52 | 254 | 129 |
| 297: | 32 | 30 | 31 | 73 | 49 | 29 | 41 | 37 |
| 305: | 33 | 28 | 34 | 31 | 29 | 24 | 34 | 25 |
| 313: | 38 | 33 | 27 | 19 | 29 | 23 | 34 | 31 |
| 321: | 28 | 31 | 30 | 36 | 29 | 35 | 48 | 58 |
| 329: | 35 | 30 | 26 | 29 | 30 | 32 | 20 | 33 |
| 337: | 39 | 126 | 93 | 24 | 21 | 36 | 20 | 23 |
| 345: | 29 | 32 | 29 | 25 | 29 | 37 | 169 | 397 |
| 353: | 94 | 28 | 19 | 32 | 33 | 20 | 25 | 23 |
| 361: | 18 | 25 | 22 | 20 | 26 | 22 | 24 | 25 |

369: 21 28 30 16 30 26 23 26

Sample Title: CP5006S12-13

| Channel | 21 | 28 | 30 | 16 | 30 | 26 | 23 | 26 |
|---------|-----|-----|----|----|----|----|-----|----|
| 377: | 23 | 21 | 28 | 20 | 28 | 24 | 20 | 24 |
| 385: | 29 | 23 | 32 | 25 | 21 | 15 | 16 | 19 |
| 393: | 22 | 13 | 23 | 17 | 21 | 18 | 31 | 22 |
| 401: | 17 | 29 | 29 | 20 | 17 | 27 | 22 | 22 |
| 409: | 32 | 35 | 27 | 28 | 22 | 23 | 17 | 24 |
| 417: | 25 | 14 | 31 | 31 | 21 | 15 | 21 | 20 |
| 425: | 18 | 25 | 19 | 23 | 23 | 18 | 27 | 20 |
| 433: | 10 | 13 | 21 | 15 | 13 | 21 | 24 | 17 |
| 441: | 15 | 20 | 16 | 20 | 16 | 16 | 20 | 16 |
| 449: | 7 | 14 | 16 | 14 | 11 | 16 | 20 | 15 |
| 457: | 14 | 20 | 23 | 19 | 26 | 33 | 44 | 25 |
| 465: | 21 | 18 | 15 | 15 | 20 | 16 | 20 | 12 |
| 473: | 17 | 16 | 13 | 14 | 17 | 14 | 20 | 17 |
| 481: | 20 | 13 | 19 | 22 | 12 | 14 | 14 | 12 |
| 489: | 18 | 19 | 22 | 19 | 11 | 18 | 8 | 13 |
| 497: | 15 | 14 | 17 | 13 | 23 | 13 | 20 | 13 |
| 505: | 15 | 12 | 16 | 6 | 23 | 70 | 93 | 44 |
| 513: | 26 | 19 | 17 | 8 | 14 | 15 | 8 | 15 |
| 521: | 7 | 15 | 10 | 15 | 9 | 9 | 23 | 11 |
| 529: | 7 | 14 | 15 | 20 | 10 | 13 | 8 | 21 |
| 537: | 13 | 13 | 13 | 13 | 12 | 17 | 9 | 17 |
| 545: | 14 | 12 | 10 | 16 | 9 | 19 | 8 | 14 |
| 553: | 13 | 15 | 16 | 15 | 11 | 12 | 12 | 15 |
| 561: | 21 | 14 | 16 | 14 | 16 | 17 | 13 | 18 |
| 569: | 10 | 16 | 15 | 12 | 9 | 10 | 11 | 13 |
| 577: | 21 | 14 | 16 | 12 | 22 | 73 | 168 | 78 |
| 585: | 19 | 13 | 17 | 9 | 17 | 14 | 10 | 9 |
| 593: | 5 | 16 | 3 | 15 | 11 | 23 | 13 | 11 |
| 601: | 16 | 23 | 17 | 15 | 10 | 12 | 8 | 60 |
| 609: | 245 | 129 | 19 | 12 | 14 | 17 | 10 | 10 |
| 617: | 16 | 17 | 11 | 15 | 18 | 7 | 4 | 12 |
| 625: | 14 | 5 | 13 | 10 | 10 | 16 | 18 | 9 |
| 633: | 12 | 9 | 13 | 15 | 11 | 7 | 4 | 16 |
| 641: | 13 | 12 | 7 | 13 | 11 | 7 | 8 | 10 |
| 649: | 8 | 13 | 13 | 10 | 20 | 12 | 14 | 5 |
| 657: | 11 | 10 | 11 | 7 | 15 | 15 | 15 | 11 |
| 665: | 10 | 20 | 10 | 15 | 15 | 12 | 13 | 7 |
| 673: | 10 | 12 | 18 | 16 | 10 | 14 | 10 | 11 |
| 681: | 15 | 11 | 12 | 15 | 17 | 9 | 4 | 10 |
| 689: | 9 | 11 | 13 | 14 | 20 | 12 | 8 | 14 |
| 697: | 18 | 16 | 8 | 12 | 9 | 11 | 14 | 10 |
| 705: | 16 | 7 | 9 | 9 | 11 | 12 | 10 | 11 |
| 713: | 16 | 10 | 6 | 12 | 6 | 8 | 12 | 10 |
| 721: | 13 | 8 | 16 | 16 | 18 | 21 | 54 | 33 |
| 729: | 9 | 9 | 14 | 8 | 8 | 11 | 9 | 2 |
| 737: | 11 | 5 | 14 | 13 | 10 | 11 | 13 | 9 |
| 745: | 10 | 9 | 16 | 7 | 8 | 11 | 10 | 12 |
| 753: | 9 | 11 | 14 | 12 | 12 | 11 | 9 | 8 |
| 761: | 10 | 19 | 8 | 7 | 7 | 11 | 15 | 23 |
| 769: | 12 | 10 | 9 | 16 | 14 | 6 | 4 | 13 |
| 777: | 8 | 16 | 12 | 7 | 10 | 17 | 8 | 5 |
| 785: | 14 | 21 | 8 | 11 | 8 | 7 | 9 | 6 |
| 793: | 7 | 16 | 25 | 18 | 8 | 10 | 7 | 6 |

801: 8 9 8 9 7 11 9 11

Sample Title: CP5006S12-13

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|-----|----|
| 809: | 5 | 8 | 10 | 4 | 7 | 5 | 6 | 8 |
| 817: | 4 | 14 | 5 | 12 | 13 | 7 | 8 | 9 |
| 825: | 5 | 10 | 9 | 12 | 12 | 5 | 11 | 4 |
| 833: | 13 | 9 | 10 | 11 | 11 | 11 | 16 | 12 |
| 841: | 13 | 10 | 8 | 6 | 7 | 9 | 8 | 13 |
| 849: | 10 | 5 | 12 | 6 | 9 | 3 | 9 | 8 |
| 857: | 11 | 10 | 15 | 35 | 25 | 8 | 11 | 10 |
| 865: | 5 | 4 | 7 | 6 | 13 | 4 | 9 | 10 |
| 873: | 5 | 9 | 13 | 6 | 8 | 10 | 9 | 8 |
| 881: | 8 | 9 | 15 | 7 | 9 | 5 | 2 | 6 |
| 889: | 3 | 8 | 11 | 7 | 9 | 3 | 10 | 5 |
| 897: | 11 | 5 | 9 | 7 | 8 | 5 | 5 | 9 |
| 905: | 8 | 9 | 5 | 12 | 10 | 55 | 124 | 55 |
| 913: | 15 | 5 | 8 | 5 | 10 | 6 | 3 | 13 |
| 921: | 9 | 8 | 7 | 10 | 4 | 8 | 12 | 9 |
| 929: | 7 | 6 | 8 | 6 | 18 | 22 | 13 | 5 |
| 937: | 11 | 5 | 8 | 10 | 9 | 6 | 3 | 8 |
| 945: | 8 | 4 | 10 | 10 | 10 | 10 | 6 | 5 |
| 953: | 6 | 10 | 4 | 4 | 9 | 8 | 5 | 8 |
| 961: | 11 | 6 | 9 | 13 | 26 | 9 | 13 | 45 |
| 969: | 52 | 25 | 6 | 9 | 6 | 5 | 4 | 10 |
| 977: | 5 | 10 | 7 | 5 | 8 | 8 | 9 | 7 |
| 985: | 6 | 4 | 6 | 9 | 11 | 6 | 8 | 10 |
| 993: | 8 | 6 | 5 | 5 | 8 | 10 | 14 | 11 |
| 1001: | 14 | 9 | 4 | 5 | 4 | 3 | 3 | 3 |
| 1009: | 10 | 4 | 3 | 6 | 8 | 8 | 5 | 6 |
| 1017: | 3 | 8 | 7 | 5 | 10 | 10 | 7 | 10 |
| 1025: | 8 | 1 | 7 | 8 | 5 | 12 | 5 | 7 |
| 1033: | 6 | 8 | 11 | 7 | 5 | 9 | 3 | 10 |
| 1041: | 9 | 9 | 8 | 8 | 7 | 11 | 1 | 4 |
| 1049: | 5 | 4 | 7 | 6 | 7 | 7 | 5 | 7 |
| 1057: | 10 | 7 | 8 | 4 | 9 | 6 | 6 | 9 |
| 1065: | 5 | 10 | 6 | 10 | 5 | 2 | 4 | 7 |
| 1073: | 10 | 10 | 5 | 5 | 8 | 5 | 8 | 9 |
| 1081: | 8 | 9 | 7 | 7 | 7 | 7 | 6 | 13 |
| 1089: | 7 | 11 | 7 | 6 | 1 | 6 | 10 | 4 |
| 1097: | 6 | 8 | 14 | 6 | 10 | 9 | 7 | 7 |
| 1105: | 10 | 8 | 8 | 5 | 5 | 13 | 6 | 5 |
| 1113: | 8 | 7 | 8 | 11 | 9 | 16 | 31 | 36 |
| 1121: | 21 | 6 | 6 | 9 | 4 | 7 | 6 | 9 |
| 1129: | 9 | 10 | 6 | 7 | 11 | 4 | 7 | 1 |
| 1137: | 5 | 10 | 10 | 8 | 6 | 7 | 10 | 4 |
| 1145: | 6 | 4 | 10 | 3 | 7 | 4 | 9 | 10 |
| 1153: | 10 | 8 | 11 | 4 | 5 | 9 | 6 | 10 |
| 1161: | 6 | 3 | 9 | 11 | 12 | 6 | 6 | 11 |
| 1169: | 7 | 11 | 10 | 8 | 13 | 13 | 8 | 5 |
| 1177: | 9 | 7 | 10 | 8 | 12 | 5 | 4 | 10 |
| 1185: | 5 | 10 | 5 | 7 | 11 | 4 | 10 | 4 |
| 1193: | 7 | 7 | 8 | 6 | 10 | 13 | 6 | 4 |
| 1201: | 12 | 7 | 11 | 8 | 8 | 9 | 7 | 8 |
| 1209: | 8 | 11 | 11 | 10 | 4 | 7 | 3 | 11 |
| 1217: | 10 | 10 | 14 | 7 | 6 | 6 | 14 | 13 |
| 1225: | 6 | 8 | 8 | 8 | 4 | 7 | 14 | 5 |

1233: 9 12 11 8 21 29 21 9

Sample Title: CP5006S12-13

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|-----|-----|-----|----|----|----|
| 1241: | 10 | 9 | 9 | 13 | 8 | 8 | 10 | 7 |
| 1249: | 7 | 13 | 2 | 3 | 7 | 7 | 4 | 4 |
| 1257: | 4 | 5 | 5 | 6 | 10 | 4 | 4 | 7 |
| 1265: | 5 | 6 | 6 | 8 | 3 | 2 | 8 | 7 |
| 1273: | 8 | 3 | 7 | 3 | 7 | 7 | 4 | 11 |
| 1281: | 6 | 2 | 3 | 7 | 9 | 8 | 2 | 6 |
| 1289: | 4 | 7 | 3 | 7 | 1 | 8 | 7 | 7 |
| 1297: | 6 | 4 | 5 | 8 | 4 | 5 | 4 | 6 |
| 1305: | 3 | 3 | 11 | 8 | 2 | 8 | 7 | 8 |
| 1313: | 8 | 5 | 7 | 6 | 2 | 5 | 2 | 2 |
| 1321: | 5 | 3 | 2 | 2 | 3 | 6 | 3 | 9 |
| 1329: | 4 | 3 | 5 | 4 | 4 | 9 | 1 | 5 |
| 1337: | 1 | 3 | 4 | 6 | 5 | 6 | 4 | 2 |
| 1345: | 1 | 3 | 2 | 1 | 2 | 3 | 3 | 2 |
| 1353: | 7 | 3 | 3 | 3 | 3 | 5 | 1 | 2 |
| 1361: | 5 | 1 | 1 | 2 | 3 | 3 | 3 | 4 |
| 1369: | 3 | 2 | 3 | 4 | 6 | 2 | 6 | 5 |
| 1377: | 7 | 10 | 2 | 4 | 5 | 2 | 3 | 6 |
| 1385: | 5 | 3 | 3 | 3 | 7 | 2 | 4 | 1 |
| 1393: | 2 | 5 | 1 | 1 | 2 | 1 | 4 | 8 |
| 1401: | 4 | 6 | 4 | 7 | 2 | 6 | 10 | 6 |
| 1409: | 6 | 1 | 4 | 2 | 4 | 4 | 2 | 4 |
| 1417: | 0 | 4 | 3 | 1 | 1 | 3 | 2 | 3 |
| 1425: | 4 | 4 | 5 | 4 | 2 | 4 | 6 | 3 |
| 1433: | 3 | 6 | 0 | 1 | 3 | 0 | 2 | 6 |
| 1441: | 5 | 1 | 2 | 3 | 3 | 1 | 4 | 5 |
| 1449: | 2 | 3 | 3 | 4 | 2 | 2 | 2 | 2 |
| 1457: | 2 | 19 | 126 | 305 | 264 | 86 | 7 | 5 |
| 1465: | 3 | 0 | 2 | 2 | 0 | 1 | 1 | 4 |
| 1473: | 3 | 0 | 2 | 3 | 0 | 2 | 1 | 4 |
| 1481: | 2 | 2 | 1 | 3 | 0 | 5 | 2 | 3 |
| 1489: | 2 | 3 | 2 | 2 | 0 | 1 | 7 | 3 |
| 1497: | 1 | 1 | 3 | 2 | 3 | 3 | 1 | 3 |
| 1505: | 0 | 1 | 3 | 3 | 6 | 2 | 3 | 5 |
| 1513: | 4 | 4 | 3 | 3 | 2 | 4 | 3 | 3 |
| 1521: | 2 | 1 | 3 | 2 | 3 | 0 | 2 | 2 |
| 1529: | 2 | 0 | 3 | 1 | 1 | 2 | 1 | 2 |
| 1537: | 4 | 0 | 2 | 0 | 2 | 1 | 6 | 0 |
| 1545: | 0 | 1 | 0 | 0 | 2 | 4 | 2 | 1 |
| 1553: | 2 | 3 | 3 | 2 | 3 | 3 | 2 | 0 |
| 1561: | 2 | 3 | 0 | 2 | 3 | 0 | 3 | 2 |
| 1569: | 1 | 0 | 2 | 1 | 2 | 4 | 2 | 0 |
| 1577: | 2 | 0 | 4 | 3 | 3 | 5 | 3 | 4 |
| 1585: | 1 | 1 | 12 | 7 | 2 | 6 | 1 | 11 |
| 1593: | 5 | 3 | 0 | 1 | 2 | 1 | 3 | 1 |
| 1601: | 0 | 2 | 1 | 1 | 1 | 4 | 3 | 0 |
| 1609: | 3 | 1 | 0 | 1 | 4 | 2 | 3 | 2 |
| 1617: | 3 | 1 | 2 | 7 | 6 | 1 | 0 | 3 |
| 1625: | 3 | 2 | 0 | 2 | 3 | 4 | 7 | 3 |
| 1633: | 4 | 2 | 0 | 1 | 5 | 6 | 3 | 0 |
| 1641: | 1 | 2 | 4 | 1 | 0 | 2 | 2 | 1 |
| 1649: | 0 | 2 | 0 | 1 | 0 | 3 | 1 | 1 |
| 1657: | 2 | 0 | 4 | 3 | 2 | 2 | 1 | 0 |

1665: 0 2 0 1 3 0 2 1

Sample Title: CP5006S12-13

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1673: | 4 | 2 | 0 | 2 | 2 | 1 | 2 | 3 |
| 1681: | 0 | 2 | 2 | 1 | 5 | 1 | 2 | 0 |
| 1689: | 1 | 2 | 1 | 3 | 2 | 3 | 2 | 2 |
| 1697: | 1 | 1 | 2 | 0 | 2 | 0 | 0 | 0 |
| 1705: | 2 | 1 | 1 | 0 | 1 | 1 | 2 | 0 |
| 1713: | 0 | 1 | 4 | 0 | 2 | 1 | 0 | 2 |
| 1721: | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 4 |
| 1729: | 8 | 6 | 1 | 1 | 5 | 1 | 1 | 6 |
| 1737: | 1 | 0 | 0 | 2 | 2 | 4 | 2 | 1 |
| 1745: | 3 | 1 | 1 | 1 | 3 | 2 | 1 | 1 |
| 1753: | 2 | 1 | 0 | 2 | 1 | 2 | 2 | 2 |
| 1761: | 1 | 8 | 27 | 31 | 19 | 2 | 0 | 0 |
| 1769: | 2 | 2 | 1 | 2 | 0 | 1 | 2 | 1 |
| 1777: | 1 | 4 | 1 | 0 | 1 | 3 | 0 | 1 |
| 1785: | 2 | 1 | 0 | 2 | 2 | 2 | 0 | 1 |
| 1793: | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 1 |
| 1801: | 2 | 2 | 1 | 0 | 1 | 4 | 0 | 1 |
| 1809: | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 1 |
| 1817: | 4 | 1 | 3 | 2 | 0 | 3 | 1 | 3 |
| 1825: | 1 | 1 | 0 | 2 | 2 | 1 | 0 | 2 |
| 1833: | 3 | 2 | 2 | 1 | 3 | 2 | 5 | 2 |
| 1841: | 2 | 2 | 2 | 3 | 1 | 4 | 2 | 4 |
| 1849: | 0 | 2 | 0 | 1 | 0 | 2 | 2 | 2 |
| 1857: | 1 | 1 | 2 | 3 | 0 | 0 | 2 | 0 |
| 1865: | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 1873: | 4 | 2 | 4 | 1 | 4 | 0 | 2 | 2 |
| 1881: | 0 | 1 | 0 | 4 | 1 | 1 | 0 | 2 |
| 1889: | 0 | 0 | 1 | 2 | 1 | 2 | 2 | 0 |
| 1897: | 1 | 2 | 0 | 1 | 0 | 1 | 1 | 0 |
| 1905: | 0 | 0 | 2 | 2 | 0 | 1 | 0 | 2 |
| 1913: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 1921: | 0 | 2 | 0 | 1 | 2 | 1 | 2 | 0 |
| 1929: | 1 | 0 | 1 | 2 | 2 | 1 | 0 | 1 |
| 1937: | 2 | 0 | 3 | 2 | 1 | 3 | 1 | 0 |
| 1945: | 3 | 2 | 1 | 2 | 3 | 1 | 2 | 0 |
| 1953: | 2 | 0 | 1 | 2 | 0 | 0 | 0 | 1 |
| 1961: | 1 | 4 | 2 | 2 | 1 | 1 | 0 | 1 |
| 1969: | 0 | 2 | 2 | 0 | 3 | 1 | 0 | 3 |
| 1977: | 2 | 1 | 1 | 0 | 1 | 2 | 1 | 0 |
| 1985: | 3 | 0 | 2 | 1 | 1 | 2 | 4 | 2 |
| 1993: | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |
| 2001: | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 4 |
| 2009: | 0 | 0 | 1 | 2 | 1 | 2 | 0 | 0 |
| 2017: | 1 | 0 | 2 | 0 | 0 | 1 | 2 | 1 |
| 2025: | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 |
| 2033: | 2 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| 2041: | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 |
| 2049: | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 1 |
| 2057: | 1 | 1 | 1 | 0 | 3 | 0 | 2 | 0 |
| 2065: | 1 | 2 | 0 | 2 | 1 | 0 | 0 | 2 |
| 2073: | 0 | 3 | 0 | 1 | 0 | 2 | 1 | 0 |
| 2081: | 0 | 0 | 2 | 2 | 1 | 0 | 5 | 0 |
| 2089: | 3 | 0 | 0 | 1 | 1 | 1 | 2 | 2 |

2097: 2 0 0 4 5 6 5 3

Sample Title: CP5006S12-13

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2105: | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 2113: | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 1 |
| 2121: | 1 | 0 | 2 | 2 | 1 | 1 | 1 | 1 |
| 2129: | 0 | 1 | 3 | 0 | 0 | 1 | 0 | 3 |
| 2137: | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 2145: | 1 | 0 | 2 | 0 | 1 | 4 | 0 | 3 |
| 2153: | 1 | 1 | 2 | 2 | 0 | 1 | 0 | 0 |
| 2161: | 0 | 4 | 1 | 0 | 0 | 2 | 1 | 0 |
| 2169: | 1 | 2 | 1 | 2 | 1 | 0 | 0 | 0 |
| 2177: | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| 2185: | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 2 |
| 2193: | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 2201: | 1 | 2 | 7 | 4 | 1 | 1 | 2 | 4 |
| 2209: | 0 | 3 | 1 | 1 | 1 | 1 | 1 | 0 |
| 2217: | 0 | 0 | 0 | 3 | 0 | 1 | 1 | 1 |
| 2225: | 3 | 0 | 0 | 3 | 2 | 0 | 2 | 0 |
| 2233: | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 1 |
| 2241: | 3 | 0 | 0 | 2 | 1 | 1 | 0 | 0 |
| 2249: | 3 | 0 | 1 | 2 | 3 | 1 | 0 | 1 |
| 2257: | 2 | 1 | 1 | 2 | 1 | 0 | 2 | 2 |
| 2265: | 1 | 1 | 1 | 0 | 3 | 4 | 1 | 0 |
| 2273: | 3 | 3 | 0 | 0 | 0 | 0 | 3 | 1 |
| 2281: | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| 2289: | 3 | 0 | 2 | 0 | 2 | 2 | 4 | 0 |
| 2297: | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 2 |
| 2305: | 0 | 4 | 2 | 1 | 1 | 2 | 3 | 1 |
| 2313: | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 1 |
| 2321: | 0 | 1 | 1 | 1 | 1 | 4 | 1 | 0 |
| 2329: | 2 | 3 | 2 | 4 | 0 | 0 | 1 | 0 |
| 2337: | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| 2345: | 2 | 1 | 2 | 2 | 0 | 1 | 0 | 2 |
| 2353: | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 0 |
| 2361: | 2 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 2369: | 2 | 0 | 1 | 0 | 1 | 1 | 2 | 1 |
| 2377: | 1 | 2 | 2 | 1 | 2 | 0 | 0 | 0 |
| 2385: | 1 | 2 | 0 | 0 | 1 | 1 | 1 | 0 |
| 2393: | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| 2401: | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 2 |
| 2409: | 1 | 1 | 1 | 0 | 0 | 2 | 1 | 1 |
| 2417: | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 2425: | 0 | 1 | 2 | 0 | 0 | 1 | 1 | 0 |
| 2433: | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 |
| 2441: | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 1 |
| 2449: | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2457: | 2 | 2 | 2 | 1 | 1 | 0 | 2 | 0 |
| 2465: | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 |
| 2473: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 2481: | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 |
| 2489: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2497: | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 2505: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2513: | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2521: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |

2529: 0 0 0 0 1 1 0 1

Sample Title: CP5006S12-13

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|----|----|----|----|---|
| 2537: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2545: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2553: | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 |
| 2561: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2569: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2577: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2585: | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 |
| 2593: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2601: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 2609: | 0 | 0 | 8 | 20 | 43 | 29 | 17 | 8 |
| 2617: | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 2625: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2633: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2641: | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2649: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2665: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2673: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2681: | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 |
| 2689: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 2697: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2713: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2729: | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 |
| 2737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2745: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2753: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2769: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 2777: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2793: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2801: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2809: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2817: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2825: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2833: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2865: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2873: | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2881: | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 0 |
| 2889: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2897: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2905: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2913: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 2921: | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2945: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

2961: 0 0 0 0 0 1 1 1

Sample Title: CP5006S12-13

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 2969: | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | |
| 2977: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 2985: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3001: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 3009: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3025: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3033: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3049: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | |
| 3057: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 3065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3073: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 3081: | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | |
| 3089: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 3097: | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 1 | |
| 3105: | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | |
| 3113: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 3121: | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 0 | |
| 3129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3137: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | |
| 3145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3153: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | |
| 3161: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3169: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3185: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3193: | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | |
| 3201: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | |
| 3209: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3217: | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | |
| 3225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3233: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 3241: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 3249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3265: | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | |
| 3273: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3281: | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | |
| 3289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3297: | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | |
| 3305: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 3321: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3337: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 3345: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 3353: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | |
| 3361: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | |
| 3369: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | |
| 3377: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 3385: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5006S12-13

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3425: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3569: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3601: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3609: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 3617: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3657: | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 3673: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3713: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3753: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3777: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |

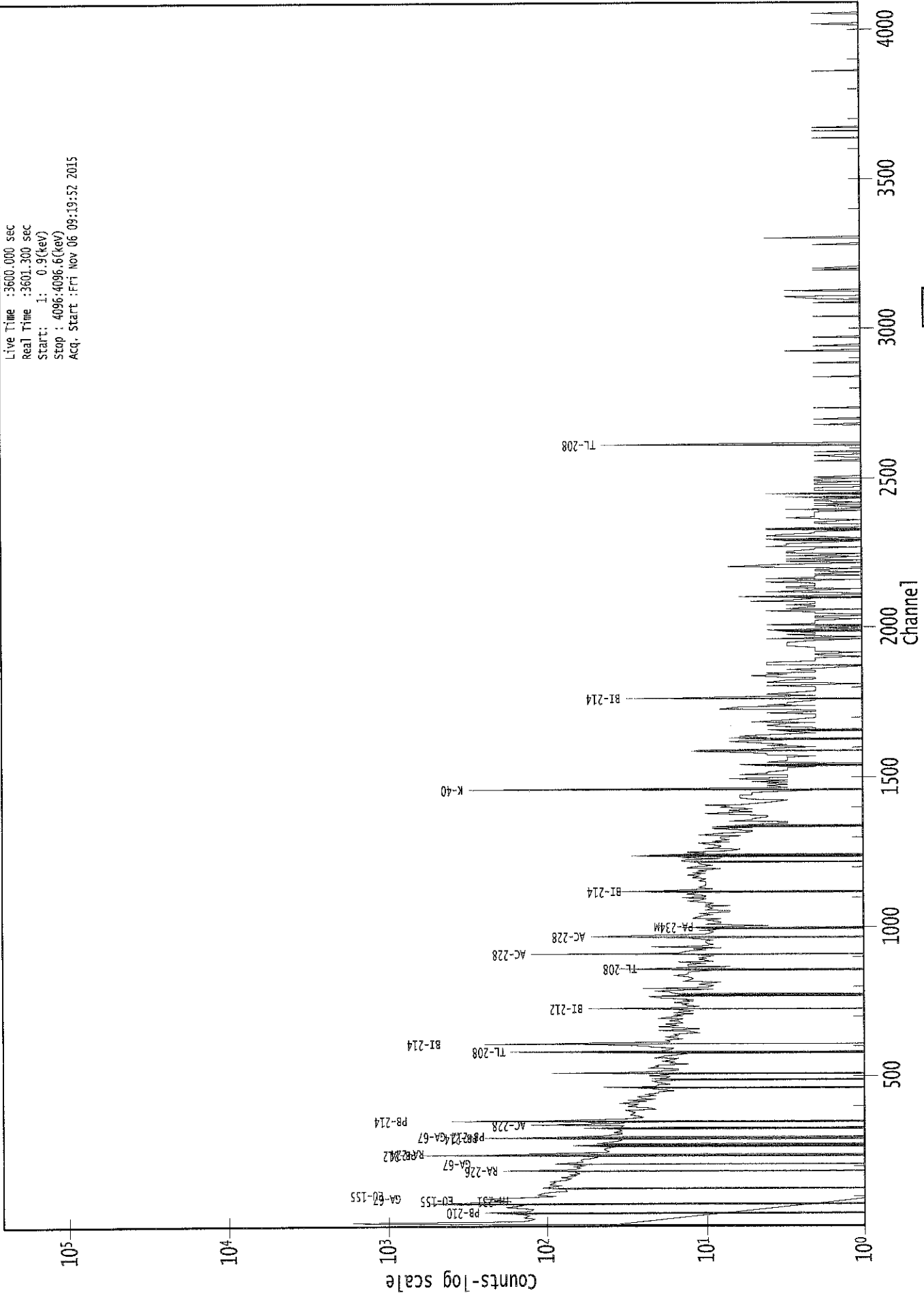
3825: 0 0 0 0 1 0 0 0

Sample Title: CP5006S12-13

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3881: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3889: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3897: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3921: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3945: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3993: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4001: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 4017: | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4049: | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |
| 4057: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4089: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |

0000029248.CNF

Live Time : 3600.000 sec
Real Time : 3601.300 sec
Start : 1: 0.9(keV)
Stop : 4096.4096.6(keV)
Acq. Start : Fri Nov 06 09:19:52 2015



Analysis Report for 1510085-17
CP5006S14-15

✓
1116

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-17
Sample Description : CP5006S14-15
Sample Type : SOIL

Sample Size : 5.501E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:43:30AM
Acquisition Started : 11/6/2015 9:20:00AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE3
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3615.6 seconds

Dead Time : 0.43 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 9 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29249

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-17
CP5006S14-15

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 10:20:25AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 46.38 | 46.61 | 0.0000 | 0.00 |
| 2 | 61.09 | 61.31 | 0.0000 | 0.00 |
| 3 | 76.16 | 76.38 | 0.0000 | 0.00 |
| 4 | 86.97 | 87.18 | 0.0000 | 0.00 |
| 5 | 89.47 | 89.68 | 0.0000 | 0.00 |
| 6 | 92.92 | 93.13 | 0.0000 | 0.00 |
| 7 | 99.18 | 99.38 | 0.0000 | 0.00 |
| 8 | 129.28 | 129.47 | 0.0000 | 0.00 |
| 9 | 153.00 | 153.18 | 0.0000 | 0.00 |
| 10 | 186.22 | 186.37 | 0.0000 | 0.00 |
| 11 | 209.06 | 209.21 | 0.0000 | 0.00 |
| 12 | 238.82 | 238.95 | 0.0000 | 0.00 |
| 13 | 241.92 | 242.05 | 0.0000 | 0.00 |
| 14 | 270.33 | 270.45 | 0.0000 | 0.00 |
| 15 | 277.59 | 277.70 | 0.0000 | 0.00 |
| 16 | 295.29 | 295.39 | 0.0000 | 0.00 |
| 17 | 300.01 | 300.11 | 0.0000 | 0.00 |
| 18 | 328.86 | 328.94 | 0.0000 | 0.00 |
| 19 | 338.67 | 338.75 | 0.0000 | 0.00 |
| 20 | 351.97 | 352.04 | 0.0000 | 0.00 |
| 21 | 463.09 | 463.10 | 0.0000 | 0.00 |
| 22 | 475.99 | 476.00 | 0.0000 | 0.00 |
| 23 | 511.56 | 511.55 | 0.0000 | 0.00 |
| 24 | 547.76 | 547.73 | 0.0000 | 0.00 |
| 25 | 583.28 | 583.24 | 0.0000 | 0.00 |
| 26 | 609.59 | 609.53 | 0.0000 | 0.00 |
| 27 | 727.82 | 727.70 | 0.0000 | 0.00 |
| 28 | 768.28 | 768.15 | 0.0000 | 0.00 |
| 29 | 795.30 | 795.15 | 0.0000 | 0.00 |
| 30 | 856.76 | 856.59 | 0.0000 | 0.00 |
| 31 | 860.62 | 860.45 | 0.0000 | 0.00 |
| 32 | 911.47 | 911.28 | 0.0000 | 0.00 |
| 33 | 916.65 | 916.46 | 0.0000 | 0.00 |
| 34 | 969.29 | 969.07 | 0.0000 | 0.00 |
| 35 | 1051.86 | 1051.61 | 0.0000 | 0.00 |
| 36 | 1120.94 | 1120.65 | 0.0000 | 0.00 |
| 37 | 1155.80 | 1155.50 | 0.0000 | 0.00 |
| 38 | 1240.20 | 1239.86 | 0.0000 | 0.00 |
| 39 | 1407.38 | 1406.98 | 0.0000 | 0.00 |
| 40 | 1456.42 | 1456.00 | 0.0000 | 0.00 |
| 41 | 1461.14 | 1460.72 | 0.0000 | 0.00 |
| 42 | 1493.99 | 1493.56 | 0.0000 | 0.00 |

Analysis Report for 1510085-17
CP5006S14-15

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1588.65 | 1588.18 | 0.0000 | 0.00 |
| 44 | 1596.47 | 1596.00 | 0.0000 | 0.00 |
| 45 | 1706.62 | 1706.11 | 0.0000 | 0.00 |
| 46 | 1728.47 | 1727.95 | 0.0000 | 0.00 |
| 47 | 1764.93 | 1764.40 | 0.0000 | 0.00 |
| 48 | 1846.98 | 1846.42 | 0.0000 | 0.00 |
| 49 | 1947.36 | 1946.77 | 0.0000 | 0.00 |
| 50 | 2001.98 | 2001.38 | 0.0000 | 0.00 |
| 51 | 2010.57 | 2009.96 | 0.0000 | 0.00 |
| 52 | 2034.56 | 2033.94 | 0.0000 | 0.00 |
| 53 | 2102.98 | 2102.34 | 0.0000 | 0.00 |
| 54 | 2414.38 | 2413.66 | 0.0000 | 0.00 |
| 55 | 2446.98 | 2446.24 | 0.0000 | 0.00 |
| 56 | 2615.00 | 2614.22 | 0.0000 | 0.00 |

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510085-17

CP5006S14-15

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 10:20:25AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| M 1 | 46.38 | 44 - | 49 | 46.61 | 1.39E+02 | 76.24 | 1.06E+03 | 1.38 |
| M 2 | 61.09 | 59 - | 70 | 61.31 | 6.73E+01 | 81.49 | 1.37E+03 | 1.79 |
| M 3 | 76.16 | 71 - | 82 | 76.38 | 1.39E+03 | 171.65 | 2.93E+03 | 3.92 |
| M 4 | 86.97 | 82 - | 97 | 87.18 | 2.68E+02 | 86.17 | 1.21E+03 | 1.85 |
| m 5 | 89.47 | 82 - | 97 | 89.68 | 1.45E+02 | 86.87 | 1.12E+03 | 1.86 |
| m 6 | 92.92 | 82 - | 97 | 93.13 | 3.20E+02 | 85.99 | 1.03E+03 | 1.86 |
| M 7 | 99.18 | 97 - | 102 | 99.38 | 6.51E+01 | 67.65 | 8.62E+02 | 1.99 |
| M 8 | 129.28 | 127 - | 133 | 129.47 | 6.86E+01 | 75.75 | 9.99E+02 | 1.61 |
| M 9 | 153.00 | 150 - | 156 | 153.18 | 1.01E+02 | 70.71 | 8.40E+02 | 4.08 |
| M 10 | 186.22 | 182 - | 189 | 186.37 | 1.98E+02 | 79.75 | 9.21E+02 | 1.85 |
| M 11 | 209.06 | 204 - | 212 | 209.21 | 1.05E+02 | 76.73 | 8.31E+02 | 1.87 |
| M 12 | 238.82 | 233 - | 246 | 238.95 | 9.11E+02 | 75.54 | 4.23E+02 | 1.62 |
| m 13 | 241.92 | 233 - | 246 | 242.05 | 2.30E+02 | 78.73 | 4.60E+02 | 2.15 |
| M 14 | 270.33 | 267 - | 274 | 270.45 | 1.07E+02 | 57.27 | 4.73E+02 | 2.25 |
| M 15 | 277.59 | 275 - | 280 | 277.70 | 4.13E+01 | 44.22 | 3.59E+02 | 3.16 |
| M 16 | 295.29 | 291 - | 303 | 295.39 | 3.20E+02 | 50.33 | 2.70E+02 | 2.09 |
| m 17 | 300.01 | 291 - | 303 | 300.11 | 7.44E+01 | 45.37 | 3.04E+02 | 2.22 |
| M 18 | 328.86 | 327 - | 331 | 328.94 | 4.46E+01 | 35.16 | 2.29E+02 | 2.73 |
| M 19 | 338.67 | 335 - | 343 | 338.75 | 1.22E+02 | 60.26 | 4.78E+02 | 1.79 |
| M 20 | 351.97 | 347 - | 356 | 352.04 | 4.14E+02 | 74.67 | 5.60E+02 | 1.61 |
| M 21 | 463.09 | 460 - | 479 | 463.10 | 5.56E+01 | 28.69 | 1.23E+02 | 2.09 |
| m 22 | 475.99 | 460 - | 479 | 476.00 | 2.19E+01 | 27.18 | 1.11E+02 | 1.91 |
| M 23 | 511.56 | 508 - | 518 | 511.55 | 1.85E+02 | 47.45 | 1.96E+02 | 2.27 |
| M 24 | 547.76 | 543 - | 551 | 547.73 | 3.10E+01 | 37.88 | 2.00E+02 | 1.47 |
| M 25 | 583.28 | 579 - | 587 | 583.24 | 2.03E+02 | 46.73 | 2.10E+02 | 1.87 |
| M 26 | 609.59 | 607 - | 614 | 609.53 | 3.31E+02 | 46.78 | 1.44E+02 | 2.18 |
| M 27 | 727.82 | 724 - | 732 | 727.70 | 6.77E+01 | 33.34 | 1.27E+02 | 2.70 |
| M 28 | 768.28 | 763 - | 772 | 768.15 | 5.28E+01 | 38.37 | 1.80E+02 | 1.40 |
| M 29 | 795.30 | 792 - | 798 | 795.15 | 3.10E+01 | 24.54 | 8.60E+01 | 1.76 |
| M 30 | 856.76 | 855 - | 869 | 856.59 | 1.22E+01 | 14.56 | 4.35E+01 | 1.89 |
| m 31 | 860.62 | 855 - | 869 | 860.45 | 4.33E+01 | 26.98 | 8.40E+01 | 2.59 |
| M 32 | 911.47 | 907 - | 920 | 911.28 | 1.73E+02 | 32.76 | 7.44E+01 | 2.36 |
| m 33 | 916.65 | 907 - | 920 | 916.46 | 1.73E+01 | 23.58 | 5.34E+01 | 2.63 |
| M 34 | 969.29 | 966 - | 974 | 969.07 | 4.93E+01 | 37.29 | 1.61E+02 | 1.89 |
| M 35 | 1051.86 | 1046 - | 1056 | 1051.61 | 2.77E+01 | 30.55 | 1.09E+02 | 2.67 |
| M 36 | 1120.94 | 1116 - | 1126 | 1120.65 | 3.67E+01 | 34.96 | 1.45E+02 | 1.95 |
| M 37 | 1155.80 | 1153 - | 1160 | 1155.50 | 2.10E+01 | 23.92 | 8.40E+01 | 2.60 |
| M 38 | 1240.20 | 1231 - | 1248 | 1239.86 | 6.50E+01 | 46.03 | 1.60E+02 | 6.29 |
| M 39 | 1407.38 | 1402 - | 1410 | 1406.98 | 1.77E+01 | 18.17 | 3.85E+01 | 1.68 |
| M 40 | 1456.42 | 1455 - | 1465 | 1456.00 | 1.15E+01 | 2.24 | 3.00E+00 | 2.41 |

Analysis Report for 1510085-17

CP5006S14-15

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|---|-----------------|---------------------|------------------|----------------|----------------------|----------------------|-----------------------------|-------------------------|-------------------|
| m | 41 | 1461.14 | 1455 - | 1465 | 1460.72 | 5.63E+02 | 48.43 | 1.43E+01 | 2.34 |
| | 42 | 1493.99 | 1491 - | 1496 | 1493.56 | 8.00E+00 | 7.87 | 6.00E+00 | 3.13 |
| M | 43 | 1588.65 | 1583 - | 1598 | 1588.18 | 2.75E+01 | 15.49 | 4.39E+01 | 2.71 |
| m | 44 | 1596.47 | 1583 - | 1598 | 1596.00 | 1.55E+01 | 14.35 | 6.78E+00 | 2.47 |
| | 45 | 1706.62 | 1702 - | 1709 | 1706.11 | 7.11E+00 | 7.21 | 3.78E+00 | 1.12 |
| | 46 | 1728.47 | 1723 - | 1732 | 1727.95 | 2.00E+01 | 12.25 | 1.00E+01 | 4.76 |
| | 47 | 1764.93 | 1761 - | 1769 | 1764.40 | 4.80E+01 | 13.86 | 0.00E+00 | 2.43 |
| | 48 | 1846.98 | 1842 - | 1850 | 1846.42 | 1.07E+01 | 10.02 | 8.67E+00 | 2.79 |
| | 49 | 1947.36 | 1943 - | 1949 | 1946.77 | 5.21E+00 | 6.34 | 3.57E+00 | 2.74 |
| | 50 | 2001.98 | 1998 - | 2004 | 2001.38 | 8.00E+00 | 5.66 | 0.00E+00 | 1.33 |
| | 51 | 2010.57 | 2006 - | 2014 | 2009.96 | 8.59E+00 | 8.02 | 4.82E+00 | 2.24 |
| | 52 | 2034.56 | 2030 - | 2036 | 2033.94 | 1.21E+01 | 8.26 | 3.79E+00 | 1.57 |
| | 53 | 2102.98 | 2097 - | 2106 | 2102.34 | 1.42E+01 | 11.22 | 9.68E+00 | 3.27 |
| | 54 | 2414.38 | 2408 - | 2418 | 2413.66 | 9.89E+00 | 12.76 | 1.62E+01 | 2.83 |
| | 55 | 2446.98 | 2442 - | 2450 | 2446.24 | 1.15E+01 | 10.22 | 9.00E+00 | 2.98 |
| | 56 | 2615.00 | 2610 - | 2618 | 2614.22 | 8.30E+01 | 18.22 | 0.00E+00 | 2.90 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 10:20:25AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| | 1 | 46.38 | 44 - | 49 | 1.39E+02 | 76.24 | 1.06E+03 | 5.96E+01 |
| M | 2 | 61.09 | 59 - | 70 | 6.73E+01 | 81.49 | 1.37E+03 | 6.08E+01 |
| | 3 | 76.16 | 71 - | 82 | 1.39E+03 | 171.65 | 2.93E+03 | 1.27E+02 |
| M | 4 | 86.97 | 82 - | 97 | 2.68E+02 | 86.17 | 1.21E+03 | 5.71E+01 |
| m | 5 | 89.47 | 82 - | 97 | 1.45E+02 | 86.87 | 1.12E+03 | 5.49E+01 |
| m | 6 | 92.92 | 82 - | 97 | 3.20E+02 | 85.99 | 1.03E+03 | 5.27E+01 |
| | 7 | 99.18 | 97 - | 102 | 6.51E+01 | 67.65 | 8.62E+02 | 5.40E+01 |
| | 8 | 129.28 | 127 - | 133 | 6.86E+01 | 75.75 | 9.99E+02 | 6.08E+01 |
| | 9 | 153.00 | 150 - | 156 | 1.01E+02 | 70.71 | 8.40E+02 | 5.57E+01 |
| | 10 | 186.22 | 182 - | 189 | 1.98E+02 | 79.75 | 9.21E+02 | 6.13E+01 |
| | 11 | 209.06 | 204 - | 212 | 1.05E+02 | 76.73 | 8.31E+02 | 6.08E+01 |
| M | 12 | 238.82 | 233 - | 246 | 9.11E+02 | 75.54 | 4.23E+02 | 3.38E+01 |

Analysis Report for 1510085-17

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| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| m | 13 | 241.92 | 233 - | 246 | 2.30E+02 | 78.73 | 4.60E+02 | 3.52E+01 |
| | 14 | 270.33 | 267 - | 274 | 1.07E+02 | 57.27 | 4.73E+02 | 4.39E+01 |
| | 15 | 277.59 | 275 - | 280 | 4.13E+01 | 44.22 | 3.59E+02 | 3.48E+01 |
| M | 16 | 295.29 | 291 - | 303 | 3.20E+02 | 50.33 | 2.70E+02 | 2.70E+01 |
| m | 17 | 300.01 | 291 - | 303 | 7.44E+01 | 45.37 | 3.04E+02 | 2.87E+01 |
| | 18 | 328.86 | 327 - | 331 | 4.46E+01 | 35.16 | 2.29E+02 | 2.67E+01 |
| | 19 | 338.67 | 335 - | 343 | 1.22E+02 | 60.26 | 4.78E+02 | 4.61E+01 |
| | 20 | 351.97 | 347 - | 356 | 4.14E+02 | 74.67 | 5.60E+02 | 5.15E+01 |
| M | 21 | 463.09 | 460 - | 479 | 5.56E+01 | 28.69 | 1.23E+02 | 1.82E+01 |
| m | 22 | 475.99 | 460 - | 479 | 2.19E+01 | 27.18 | 1.11E+02 | 1.73E+01 |
| | 23 | 511.56 | 508 - | 518 | 1.85E+02 | 47.45 | 1.96E+02 | 3.20E+01 |
| | 24 | 547.76 | 543 - | 551 | 3.10E+01 | 37.88 | 2.00E+02 | 2.98E+01 |
| | 25 | 583.28 | 579 - | 587 | 2.03E+02 | 46.73 | 2.10E+02 | 3.05E+01 |
| | 26 | 609.59 | 607 - | 614 | 3.31E+02 | 46.78 | 1.44E+02 | 2.42E+01 |
| | 27 | 727.82 | 724 - | 732 | 6.77E+01 | 33.34 | 1.27E+02 | 2.38E+01 |
| | 28 | 768.28 | 763 - | 772 | 5.28E+01 | 38.37 | 1.80E+02 | 2.92E+01 |
| | 29 | 795.30 | 792 - | 798 | 3.10E+01 | 24.54 | 8.60E+01 | 1.80E+01 |
| M | 30 | 856.76 | 855 - | 869 | 1.22E+01 | 14.56 | 4.35E+01 | 1.08E+01 |
| m | 31 | 860.62 | 855 - | 869 | 4.33E+01 | 26.98 | 8.40E+01 | 1.51E+01 |
| M | 32 | 911.47 | 907 - | 920 | 1.73E+02 | 32.76 | 7.44E+01 | 1.42E+01 |
| m | 33 | 916.65 | 907 - | 920 | 1.73E+01 | 23.58 | 5.34E+01 | 1.20E+01 |
| | 34 | 969.29 | 966 - | 974 | 4.93E+01 | 37.29 | 1.61E+02 | 2.84E+01 |
| | 35 | 1051.86 | 1046 - | 1056 | 2.77E+01 | 30.55 | 1.09E+02 | 2.36E+01 |
| | 36 | 1120.94 | 1116 - | 1126 | 3.67E+01 | 34.96 | 1.45E+02 | 2.70E+01 |
| | 37 | 1155.80 | 1153 - | 1160 | 2.10E+01 | 23.92 | 8.40E+01 | 1.82E+01 |
| | 38 | 1240.20 | 1231 - | 1248 | 6.50E+01 | 46.03 | 1.60E+02 | 1.48E+01 |
| | 39 | 1407.38 | 1402 - | 1410 | 1.77E+01 | 18.17 | 3.85E+01 | 1.32E+01 |
| M | 40 | 1456.42 | 1455 - | 1465 | 1.15E+01 | 2.24 | 3.00E+00 | 2.85E+00 |
| m | 41 | 1461.14 | 1455 - | 1465 | 5.63E+02 | 48.43 | 1.43E+01 | 6.21E+00 |
| | 42 | 1493.99 | 1491 - | 1496 | 8.00E+00 | 7.87 | 6.00E+00 | 4.50E+00 |
| M | 43 | 1588.65 | 1583 - | 1598 | 2.75E+01 | 15.49 | 4.39E+01 | 1.09E+01 |
| m | 44 | 1596.47 | 1583 - | 1598 | 1.55E+01 | 14.35 | 6.78E+00 | 4.28E+00 |
| | 45 | 1706.62 | 1702 - | 1709 | 7.11E+00 | 7.21 | 3.78E+00 | 3.99E+00 |
| | 46 | 1728.47 | 1723 - | 1732 | 2.00E+01 | 12.25 | 1.00E+01 | 6.88E+00 |
| | 47 | 1764.93 | 1761 - | 1769 | 4.80E+01 | 13.86 | 0.00E+00 | 0.00E+00 |
| | 48 | 1846.98 | 1842 - | 1850 | 1.07E+01 | 10.02 | 8.67E+00 | 6.25E+00 |
| | 49 | 1947.36 | 1943 - | 1949 | 5.21E+00 | 6.34 | 3.57E+00 | 3.62E+00 |
| | 50 | 2001.98 | 1998 - | 2004 | 8.00E+00 | 5.66 | 0.00E+00 | 0.00E+00 |
| | 51 | 2010.57 | 2006 - | 2014 | 8.59E+00 | 8.02 | 4.82E+00 | 4.49E+00 |
| | 52 | 2034.56 | 2030 - | 2036 | 1.21E+01 | 8.26 | 3.79E+00 | 3.66E+00 |
| | 53 | 2102.98 | 2097 - | 2106 | 1.42E+01 | 11.22 | 9.68E+00 | 6.85E+00 |
| | 54 | 2414.38 | 2408 - | 2418 | 9.89E+00 | 12.76 | 1.62E+01 | 9.12E+00 |
| | 55 | 2446.98 | 2442 - | 2450 | 1.15E+01 | 10.22 | 9.00E+00 | 6.29E+00 |
| | 56 | 2615.00 | 2610 - | 2618 | 8.30E+01 | 18.22 | 0.00E+00 | 0.00E+00 |

Analysis Report for 1510085-17
CP5006S14-15

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 10:20:25AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
Peak Match Tolerance : 1.000 keV

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| | 1 | 46.38 | 44 - | 49 | 46.61 | 1.39E+02 | 76.24 | 1.06E+03 | PB-210 |
| M | 2 | 61.09 | 59 - | 70 | 61.31 | 6.73E+01 | 81.49 | 1.37E+03 | ..... |
| | 3 | 76.16 | 71 - | 82 | 76.38 | 1.39E+03 | 171.65 | 2.93E+03 | ..... |
| M | 4 | 86.97 | 82 - | 97 | 87.18 | 2.68E+02 | 86.17 | 1.21E+03 | NP-237 EU-155 SN-126 |
| | 5 | 89.47 | 82 - | 97 | 89.68 | 1.45E+02 | 86.87 | 1.12E+03 | ..... |
| m | 6 | 92.92 | 82 - | 97 | 93.13 | 3.20E+02 | 85.99 | 1.03E+03 | GA-67 |
| | 7 | 99.18 | 97 - | 102 | 99.38 | 6.51E+01 | 67.65 | 8.62E+02 | ..... |
| | 8 | 129.28 | 127 - | 133 | 129.47 | 6.86E+01 | 75.75 | 9.99E+02 | ..... |
| | 9 | 153.00 | 150 - | 156 | 153.18 | 1.01E+02 | 70.71 | 8.40E+02 | CS-136 |
| | 10 | 186.22 | 182 - | 189 | 186.37 | 1.98E+02 | 79.75 | 9.21E+02 | RA-226 |
| | 11 | 209.06 | 204 - | 212 | 209.21 | 1.05E+02 | 76.73 | 8.31E+02 | GA-67 CM-243 |
| M | 12 | 238.82 | 233 - | 246 | 238.95 | 9.11E+02 | 75.54 | 4.23E+02 | PB-212 |
| m | 13 | 241.92 | 233 - | 246 | 242.05 | 2.30E+02 | 78.73 | 4.60E+02 | RA-224 |
| | 14 | 270.33 | 267 - | 274 | 270.45 | 1.07E+02 | 57.27 | 4.73E+02 | ..... |
| | 15 | 277.59 | 275 - | 280 | 277.70 | 4.13E+01 | 44.22 | 3.59E+02 | CM-243 NP-239 |
| M | 16 | 295.29 | 291 - | 303 | 295.39 | 3.20E+02 | 50.33 | 2.70E+02 | PB-214 |
| m | 17 | 300.01 | 291 - | 303 | 300.11 | 7.44E+01 | 45.37 | 3.04E+02 | BI-210M PB-212 GA-67 |
| | 18 | 328.86 | 327 - | 331 | 328.94 | 4.46E+01 | 35.16 | 2.29E+02 | LA-140 |
| | 19 | 338.67 | 335 - | 343 | 338.75 | 1.22E+02 | 60.26 | 4.78E+02 | AC-228 |
| | 20 | 351.97 | 347 - | 356 | 352.04 | 4.14E+02 | 74.67 | 5.60E+02 | PB-214 |
| M | 21 | 463.09 | 460 - | 479 | 463.10 | 5.56E+01 | 28.69 | 1.23E+02 | SB-125 |
| m | 22 | 475.99 | 460 - | 479 | 476.00 | 2.19E+01 | 27.18 | 1.11E+02 | PM-144 |
| | 23 | 511.56 | 508 - | 518 | 511.55 | 1.85E+02 | 47.45 | 1.96E+02 | ..... |
| | 24 | 547.76 | 543 - | 551 | 547.73 | 3.10E+01 | 37.88 | 2.00E+02 | ..... |

Analysis Report for 1510085-17

CP5006S14-15

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|---------------------------|
| 25 | 583.28 | 579 - | 587 | 583.24 | 2.03E+02 | 46.73 | 2.10E+02 | TL-208 |
| 26 | 609.59 | 607 - | 614 | 609.53 | 3.31E+02 | 46.78 | 1.44E+02 | BI-214 |
| 27 | 727.82 | 724 - | 732 | 727.70 | 6.77E+01 | 33.34 | 1.27E+02 | BI-212 |
| 28 | 768.28 | 763 - | 772 | 768.15 | 5.28E+01 | 38.37 | 1.80E+02 | ..... |
| 29 | 795.30 | 792 - | 798 | 795.15 | 3.10E+01 | 24.54 | 8.60E+01 | CS-134 |
| M 30 | 856.76 | 855 - | 869 | 856.59 | 1.22E+01 | 14.56 | 4.35E+01 | ..... |
| m 31 | 860.62 | 855 - | 869 | 860.45 | 4.33E+01 | 26.98 | 8.40E+01 | TL-208 |
| M 32 | 911.47 | 907 - | 920 | 911.28 | 1.73E+02 | 32.76 | 7.44E+01 | AC-228 LU-172 |
| m 33 | 916.65 | 907 - | 920 | 916.46 | 1.73E+01 | 23.58 | 5.34E+01 | ..... |
| 34 | 969.29 | 966 - | 974 | 969.07 | 4.93E+01 | 37.29 | 1.61E+02 | AC-228 |
| 35 | 1051.86 | 1046 - | 1056 | 1051.61 | 2.77E+01 | 30.55 | 1.09E+02 | ..... |
| 36 | 1120.94 | 1116 - | 1126 | 1120.65 | 3.67E+01 | 34.96 | 1.45E+02 | TA-182 SC-46 BI-214 |
| 37 | 1155.80 | 1153 - | 1160 | 1155.50 | 2.10E+01 | 23.92 | 8.40E+01 | ..... |
| 38 | 1240.20 | 1231 - | 1248 | 1239.86 | 6.50E+01 | 46.03 | 1.60E+02 | ..... |
| 39 | 1407.38 | 1402 - | 1410 | 1406.98 | 1.77E+01 | 18.17 | 3.85E+01 | EU-152 |
| M 40 | 1456.42 | 1455 - | 1465 | 1456.00 | 1.15E+01 | 2.24 | 3.00E+00 | ..... |
| m 41 | 1461.14 | 1455 - | 1465 | 1460.72 | 5.63E+02 | 48.43 | 1.43E+01 | K-40 |
| 42 | 1493.99 | 1491 - | 1496 | 1493.56 | 8.00E+00 | 7.87 | 6.00E+00 | ..... |
| M 43 | 1588.65 | 1583 - | 1598 | 1588.18 | 2.75E+01 | 15.49 | 4.39E+01 | ..... |
| m 44 | 1596.47 | 1583 - | 1598 | 1596.00 | 1.55E+01 | 14.35 | 6.78E+00 | LA-140 |
| 45 | 1706.62 | 1702 - | 1709 | 1706.11 | 7.11E+00 | 7.21 | 3.78E+00 | ..... |
| 46 | 1728.47 | 1723 - | 1732 | 1727.95 | 2.00E+01 | 12.25 | 1.00E+01 | ..... |
| 47 | 1764.93 | 1761 - | 1769 | 1764.40 | 4.80E+01 | 13.86 | 0.00E+00 | BI-214 |
| 48 | 1846.98 | 1842 - | 1850 | 1846.42 | 1.07E+01 | 10.02 | 8.67E+00 | ..... |
| 49 | 1947.36 | 1943 - | 1949 | 1946.77 | 5.21E+00 | 6.34 | 3.57E+00 | ..... |
| 50 | 2001.98 | 1998 - | 2004 | 2001.38 | 8.00E+00 | 5.66 | 0.00E+00 | ..... |
| 51 | 2010.57 | 2006 - | 2014 | 2009.96 | 8.59E+00 | 8.02 | 4.82E+00 | ..... |
| 52 | 2034.56 | 2030 - | 2036 | 2033.94 | 1.21E+01 | 8.26 | 3.79E+00 | ..... |
| 53 | 2102.98 | 2097 - | 2106 | 2102.34 | 1.42E+01 | 11.22 | 9.68E+00 | ..... |
| 54 | 2414.38 | 2408 - | 2418 | 2413.66 | 9.89E+00 | 12.76 | 1.62E+01 | ..... |
| 55 | 2446.98 | 2442 - | 2450 | 2446.24 | 1.15E+01 | 10.22 | 9.00E+00 | ..... |
| 56 | 2615.00 | 2610 - | 2618 | 2614.22 | 8.30E+01 | 18.22 | 0.00E+00 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 10:20:25AM

Analysis Report for 1510085-17

CP5006S14-15

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|----------|--------------|---------------|----------------------|-----------------|------------------------|
| | 1 | 46.38 | 1.39E+02 | 76.24 | 1.49E-02 | 1.58E-03 |
| M | 2 | 61.09 | 6.73E+01 | 81.49 | 2.10E-02 | 1.64E-03 |
| | 3 | 76.16 | 1.39E+03 | 171.65 | 2.38E-02 | 2.13E-03 |
| M | 4 | 86.97 | 2.68E+02 | 86.17 | 2.44E-02 | 2.49E-03 |
| m | 5 | 89.47 | 1.45E+02 | 86.87 | 2.44E-02 | 2.49E-03 |
| m | 6 | 92.92 | 3.20E+02 | 85.99 | 2.44E-02 | 2.41E-03 |
| | 7 | 99.18 | 6.51E+01 | 67.65 | 2.43E-02 | 2.26E-03 |
| | 8 | 129.28 | 6.86E+01 | 75.75 | 2.25E-02 | 1.70E-03 |
| | 9 | 153.00 | 1.01E+02 | 70.71 | 2.07E-02 | 1.58E-03 |
| | 10 | 186.22 | 1.98E+02 | 79.75 | 1.83E-02 | 1.42E-03 |
| | 11 | 209.06 | 1.05E+02 | 76.73 | 1.68E-02 | 1.32E-03 |
| M | 12 | 238.82 | 9.11E+02 | 75.54 | 1.52E-02 | 1.18E-03 |
| m | 13 | 241.92 | 2.30E+02 | 78.73 | 1.51E-02 | 1.17E-03 |
| | 14 | 270.33 | 1.07E+02 | 57.27 | 1.38E-02 | 1.04E-03 |
| | 15 | 277.59 | 4.13E+01 | 44.22 | 1.35E-02 | 1.00E-03 |
| M | 16 | 295.29 | 3.20E+02 | 50.33 | 1.28E-02 | 9.74E-04 |
| m | 17 | 300.01 | 7.44E+01 | 45.37 | 1.27E-02 | 9.67E-04 |
| | 18 | 328.86 | 4.46E+01 | 35.16 | 1.17E-02 | 9.26E-04 |
| | 19 | 338.67 | 1.22E+02 | 60.26 | 1.14E-02 | 9.12E-04 |
| | 20 | 351.97 | 4.14E+02 | 74.67 | 1.11E-02 | 8.94E-04 |
| M | 21 | 463.09 | 5.56E+01 | 28.69 | 8.73E-03 | 7.66E-04 |
| m | 22 | 475.99 | 2.19E+01 | 27.18 | 8.52E-03 | 7.53E-04 |
| | 23 | 511.56 | 1.85E+02 | 47.45 | 8.00E-03 | 7.18E-04 |
| | 24 | 547.76 | 3.10E+01 | 37.88 | 7.54E-03 | 6.81E-04 |
| | 25 | 583.28 | 2.03E+02 | 46.73 | 7.14E-03 | 6.46E-04 |
| | 26 | 609.59 | 3.31E+02 | 46.78 | 6.87E-03 | 6.20E-04 |
| | 27 | 727.82 | 6.77E+01 | 33.34 | 5.89E-03 | 5.14E-04 |
| | 28 | 768.28 | 5.28E+01 | 38.37 | 5.62E-03 | 4.81E-04 |
| | 29 | 795.30 | 3.10E+01 | 24.54 | 5.45E-03 | 4.59E-04 |
| M | 30 | 856.76 | 1.22E+01 | 14.56 | 5.11E-03 | 4.08E-04 |
| m | 31 | 860.62 | 4.33E+01 | 26.98 | 5.09E-03 | 4.05E-04 |
| M | 32 | 911.47 | 1.73E+02 | 32.76 | 4.85E-03 | 3.72E-04 |
| m | 33 | 916.65 | 1.73E+01 | 23.58 | 4.83E-03 | 3.71E-04 |
| | 34 | 969.29 | 4.93E+01 | 37.29 | 4.60E-03 | 3.61E-04 |
| | 35 | 1051.86 | 2.77E+01 | 30.55 | 4.30E-03 | 3.46E-04 |
| | 36 | 1120.94 | 3.67E+01 | 34.96 | 4.08E-03 | 3.33E-04 |
| | 37 | 1155.80 | 2.10E+01 | 23.92 | 3.97E-03 | 3.27E-04 |
| | 38 | 1240.20 | 6.50E+01 | 46.03 | 3.75E-03 | 3.09E-04 |
| | 39 | 1407.38 | 1.77E+01 | 18.17 | 3.39E-03 | 2.77E-04 |
| M | 40 | 1456.42 | 1.15E+01 | 2.24 | 3.30E-03 | 2.70E-04 |
| m | 41 | 1461.14 | 5.63E+02 | 48.43 | 3.29E-03 | 2.69E-04 |
| | 42 | 1493.99 | 8.00E+00 | 7.87 | 3.24E-03 | 2.64E-04 |
| M | 43 | 1588.65 | 2.75E+01 | 15.49 | 3.09E-03 | 2.50E-04 |
| m | 44 | 1596.47 | 1.55E+01 | 14.35 | 3.08E-03 | 2.49E-04 |
| | 45 | 1706.62 | 7.11E+00 | 7.21 | 2.93E-03 | 2.33E-04 |
| | 46 | 1728.47 | 2.00E+01 | 12.25 | 2.90E-03 | 2.29E-04 |
| | 47 | 1764.93 | 4.80E+01 | 13.86 | 2.86E-03 | 2.24E-04 |
| | 48 | 1846.98 | 1.07E+01 | 10.02 | 2.77E-03 | 2.13E-04 |
| | 49 | 1947.36 | 5.21E+00 | 6.34 | 2.67E-03 | 2.13E-04 |
| | 50 | 2001.98 | 8.00E+00 | 5.66 | 2.62E-03 | 2.13E-04 |
| | 51 | 2010.57 | 8.59E+00 | 8.02 | 2.61E-03 | 2.13E-04 |
| | 52 | 2034.56 | 1.21E+01 | 8.26 | 2.59E-03 | 2.13E-04 |
| | 53 | 2102.98 | 1.42E+01 | 11.22 | 2.54E-03 | 2.13E-04 |

Analysis Report for 1510085-17
CP5006S14-15

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 54 | 2414.38 | 9.89E+00 | 12.76 | 2.34E-03 | 2.13E-04 |
| 55 | 2446.98 | 1.15E+01 | 10.22 | 2.32E-03 | 2.13E-04 |
| 56 | 2615.00 | 8.30E+01 | 18.22 | 2.24E-03 | 2.13E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 10:20:25AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. | |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|----------|
| | 1 | 46.38 | 1.39E+02 | 76.24 | 5.28E+01 | 1.09E+01 | 8.64E+01 | 7.70E+01 |
| M | 2 | 61.09 | 6.73E+01 | 81.49 | | | 6.73E+01 | 8.15E+01 |
| | 3 | 76.16 | 1.39E+03 | 171.65 | | | 1.39E+03 | 1.72E+02 |
| M | 4 | 86.97 | 2.68E+02 | 86.17 | | | 2.68E+02 | 8.62E+01 |
| m | 5 | 89.47 | 1.45E+02 | 86.87 | | | 1.45E+02 | 8.69E+01 |
| m | 6 | 92.92 | 3.20E+02 | 85.99 | 9.04E+01 | 2.62E+01 | 2.29E+02 | 8.99E+01 |
| | 7 | 99.18 | 6.51E+01 | 67.65 | | | 6.51E+01 | 6.76E+01 |
| | 8 | 129.28 | 6.86E+01 | 75.75 | | | 6.86E+01 | 7.58E+01 |
| | 9 | 153.00 | 1.01E+02 | 70.71 | | | 1.01E+02 | 7.07E+01 |
| | 10 | 186.22 | 1.98E+02 | 79.75 | 3.93E+01 | 6.56E+00 | 1.58E+02 | 8.00E+01 |
| | 11 | 209.06 | 1.05E+02 | 76.73 | | | 1.05E+02 | 7.67E+01 |
| M | 12 | 238.82 | 9.11E+02 | 75.54 | 1.34E+01 | 2.14E+00 | 8.97E+02 | 7.56E+01 |
| m | 13 | 241.92 | 2.30E+02 | 78.73 | 2.69E+00 | 1.46E+00 | 2.27E+02 | 7.87E+01 |
| | 14 | 270.33 | 1.07E+02 | 57.27 | | | 1.07E+02 | 5.73E+01 |
| | 15 | 277.59 | 4.13E+01 | 44.22 | | | 4.13E+01 | 4.42E+01 |
| M | 16 | 295.29 | 3.20E+02 | 50.33 | | | 3.20E+02 | 5.03E+01 |
| m | 17 | 300.01 | 7.44E+01 | 45.37 | | | 7.44E+01 | 4.54E+01 |
| | 18 | 328.86 | 4.46E+01 | 35.16 | | | 4.46E+01 | 3.52E+01 |
| | 19 | 338.67 | 1.22E+02 | 60.26 | | | 1.22E+02 | 6.03E+01 |
| | 20 | 351.97 | 4.14E+02 | 74.67 | 3.99E+00 | 4.73E+00 | 4.10E+02 | 7.48E+01 |
| M | 21 | 463.09 | 5.56E+01 | 28.69 | | | 5.56E+01 | 2.87E+01 |
| m | 22 | 475.99 | 2.19E+01 | 27.18 | | | 2.19E+01 | 2.72E+01 |
| | 23 | 511.56 | 1.85E+02 | 47.45 | 5.78E+01 | 4.60E+00 | 1.27E+02 | 4.77E+01 |
| | 24 | 547.76 | 3.10E+01 | 37.88 | | | 3.10E+01 | 3.79E+01 |
| | 25 | 583.28 | 2.03E+02 | 46.73 | 5.96E+00 | 3.46E+00 | 1.97E+02 | 4.69E+01 |
| | 26 | 609.59 | 3.31E+02 | 46.78 | 6.71E+00 | 3.44E+00 | 3.24E+02 | 4.69E+01 |
| | 27 | 727.82 | 6.77E+01 | 33.34 | | | 6.77E+01 | 3.33E+01 |

Analysis Report for 1510085-17

CP5006S14-15

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| | 28 | 768.28 | 5.28E+01 | 38.37 | | | 5.28E+01 | 3.84E+01 |
| | 29 | 795.30 | 3.10E+01 | 24.54 | | | 3.10E+01 | 2.45E+01 |
| M | 30 | 856.76 | 1.22E+01 | 14.56 | | | 1.22E+01 | 1.46E+01 |
| m | 31 | 860.62 | 4.33E+01 | 26.98 | | | 4.33E+01 | 2.70E+01 |
| M | 32 | 911.47 | 1.73E+02 | 32.76 | 2.32E+00 | 2.73E+00 | 1.70E+02 | 3.29E+01 |
| m | 33 | 916.65 | 1.73E+01 | 23.58 | | | 1.73E+01 | 2.36E+01 |
| | 34 | 969.29 | 4.93E+01 | 37.29 | | | 4.93E+01 | 3.73E+01 |
| | 35 | 1051.86 | 2.77E+01 | 30.55 | | | 2.77E+01 | 3.05E+01 |
| | 36 | 1120.94 | 3.67E+01 | 34.96 | 2.00E+00 | 2.20E+00 | 3.47E+01 | 3.50E+01 |
| | 37 | 1155.80 | 2.10E+01 | 23.92 | | | 2.10E+01 | 2.39E+01 |
| | 38 | 1240.20 | 6.50E+01 | 46.03 | | | 6.50E+01 | 4.60E+01 |
| | 39 | 1407.38 | 1.77E+01 | 18.17 | | | 1.77E+01 | 1.82E+01 |
| M | 40 | 1456.42 | 1.15E+01 | 2.24 | | | 1.15E+01 | 2.24E+00 |
| m | 41 | 1461.14 | 5.63E+02 | 48.43 | | | 5.63E+02 | 4.84E+01 |
| | 42 | 1493.99 | 8.00E+00 | 7.87 | | | 8.00E+00 | 7.87E+00 |
| M | 43 | 1588.65 | 2.75E+01 | 15.49 | | | 2.75E+01 | 1.55E+01 |
| m | 44 | 1596.47 | 1.55E+01 | 14.35 | | | 1.55E+01 | 1.44E+01 |
| | 45 | 1706.62 | 7.11E+00 | 7.21 | | | 7.11E+00 | 7.21E+00 |
| | 46 | 1728.47 | 2.00E+01 | 12.25 | | | 2.00E+01 | 1.22E+01 |
| | 47 | 1764.93 | 4.80E+01 | 13.86 | 1.45E+00 | 1.16E+00 | 4.65E+01 | 1.39E+01 |
| | 48 | 1846.98 | 1.07E+01 | 10.02 | | | 1.07E+01 | 1.00E+01 |
| | 49 | 1947.36 | 5.21E+00 | 6.34 | | | 5.21E+00 | 6.34E+00 |
| | 50 | 2001.98 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| | 51 | 2010.57 | 8.59E+00 | 8.02 | | | 8.59E+00 | 8.02E+00 |
| | 52 | 2034.56 | 1.21E+01 | 8.26 | | | 1.21E+01 | 8.26E+00 |
| | 53 | 2102.98 | 1.42E+01 | 11.22 | | | 1.42E+01 | 1.12E+01 |
| | 54 | 2414.38 | 9.89E+00 | 12.76 | | | 9.89E+00 | 1.28E+01 |
| | 55 | 2446.98 | 1.15E+01 | 10.22 | | | 1.15E+01 | 1.02E+01 |
| | 56 | 2615.00 | 8.30E+01 | 18.22 | | | 8.30E+01 | 1.82E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 10:20:25AM
Ref. Peak Energy : 0.00 Reference Date :
Peak Ratio : 0.00 Uncertainty : 0.00
Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028943.CNF

Corrected Area is: Original * Peak Ratio - Background

Analysis Report for 1510085-17

CP5006S14-15

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|---|-----------------|---------------------|----------------------|-------------------------------|---------------------------|------------------------|-----------------------|--------------------------|
| | 1 | 46.38 | 1.39E+02 | 76.24 | 5.28E+01 | 1.09E+01 | 8.64E+01 | 7.70E+01 |
| M | 2 | 61.09 | 6.73E+01 | 81.49 | | | 6.73E+01 | 8.15E+01 |
| | 3 | 76.16 | 1.39E+03 | 171.65 | | | 1.39E+03 | 1.72E+02 |
| M | 4 | 86.97 | 2.68E+02 | 86.17 | | | 2.68E+02 | 8.62E+01 |
| m | 5 | 89.47 | 1.45E+02 | 86.87 | | | 1.45E+02 | 8.69E+01 |
| m | 6 | 92.92 | 3.20E+02 | 85.99 | 9.04E+01 | 2.62E+01 | 2.29E+02 | 8.99E+01 |
| | 7 | 99.18 | 6.51E+01 | 67.65 | | | 6.51E+01 | 6.76E+01 |
| | 8 | 129.28 | 6.86E+01 | 75.75 | | | 6.86E+01 | 7.58E+01 |
| | 9 | 153.00 | 1.01E+02 | 70.71 | | | 1.01E+02 | 7.07E+01 |
| | 10 | 186.22 | 1.98E+02 | 79.75 | 3.93E+01 | 6.56E+00 | 1.58E+02 | 8.00E+01 |
| | 11 | 209.06 | 1.05E+02 | 76.73 | | | 1.05E+02 | 7.67E+01 |
| M | 12 | 238.82 | 9.11E+02 | 75.54 | 1.34E+01 | 2.14E+00 | 8.97E+02 | 7.56E+01 |
| m | 13 | 241.92 | 2.30E+02 | 78.73 | 2.69E+00 | 1.46E+00 | 2.27E+02 | 7.87E+01 |
| | 14 | 270.33 | 1.07E+02 | 57.27 | | | 1.07E+02 | 5.73E+01 |
| | 15 | 277.59 | 4.13E+01 | 44.22 | | | 4.13E+01 | 4.42E+01 |
| M | 16 | 295.29 | 3.20E+02 | 50.33 | | | 3.20E+02 | 5.03E+01 |
| m | 17 | 300.01 | 7.44E+01 | 45.37 | | | 7.44E+01 | 4.54E+01 |
| | 18 | 328.86 | 4.46E+01 | 35.16 | | | 4.46E+01 | 3.52E+01 |
| | 19 | 338.67 | 1.22E+02 | 60.26 | | | 1.22E+02 | 6.03E+01 |
| | 20 | 351.97 | 4.14E+02 | 74.67 | 3.99E+00 | 4.73E+00 | 4.10E+02 | 7.48E+01 |
| M | 21 | 463.09 | 5.56E+01 | 28.69 | | | 5.56E+01 | 2.87E+01 |
| m | 22 | 475.99 | 2.19E+01 | 27.18 | | | 2.19E+01 | 2.72E+01 |
| | 23 | 511.56 | 1.85E+02 | 47.45 | 5.78E+01 | 4.60E+00 | 1.27E+02 | 4.77E+01 |
| | 24 | 547.76 | 3.10E+01 | 37.88 | | | 3.10E+01 | 3.79E+01 |
| | 25 | 583.28 | 2.03E+02 | 46.73 | 5.96E+00 | 3.46E+00 | 1.97E+02 | 4.69E+01 |
| | 26 | 609.59 | 3.31E+02 | 46.78 | 6.71E+00 | 3.44E+00 | 3.24E+02 | 4.69E+01 |
| | 27 | 727.82 | 6.77E+01 | 33.34 | | | 6.77E+01 | 3.33E+01 |
| | 28 | 768.28 | 5.28E+01 | 38.37 | | | 5.28E+01 | 3.84E+01 |
| | 29 | 795.30 | 3.10E+01 | 24.54 | | | 3.10E+01 | 2.45E+01 |
| M | 30 | 856.76 | 1.22E+01 | 14.56 | | | 1.22E+01 | 1.46E+01 |
| m | 31 | 860.62 | 4.33E+01 | 26.98 | | | 4.33E+01 | 2.70E+01 |
| M | 32 | 911.47 | 1.73E+02 | 32.76 | 2.32E+00 | 2.73E+00 | 1.70E+02 | 3.29E+01 |
| m | 33 | 916.65 | 1.73E+01 | 23.58 | | | 1.73E+01 | 2.36E+01 |
| | 34 | 969.29 | 4.93E+01 | 37.29 | | | 4.93E+01 | 3.73E+01 |
| | 35 | 1051.86 | 2.77E+01 | 30.55 | | | 2.77E+01 | 3.05E+01 |
| | 36 | 1120.94 | 3.67E+01 | 34.96 | 2.00E+00 | 2.20E+00 | 3.47E+01 | 3.50E+01 |
| | 37 | 1155.80 | 2.10E+01 | 23.92 | | | 2.10E+01 | 2.39E+01 |
| | 38 | 1240.20 | 6.50E+01 | 46.03 | | | 6.50E+01 | 4.60E+01 |
| | 39 | 1407.38 | 1.77E+01 | 18.17 | | | 1.77E+01 | 1.82E+01 |
| M | 40 | 1456.42 | 1.15E+01 | 2.24 | | | 1.15E+01 | 2.24E+00 |
| m | 41 | 1461.14 | 5.63E+02 | 48.43 | | | 5.63E+02 | 4.84E+01 |
| | 42 | 1493.99 | 8.00E+00 | 7.87 | | | 8.00E+00 | 7.87E+00 |
| M | 43 | 1588.65 | 2.75E+01 | 15.49 | | | 2.75E+01 | 1.55E+01 |
| m | 44 | 1596.47 | 1.55E+01 | 14.35 | | | 1.55E+01 | 1.44E+01 |
| | 45 | 1706.62 | 7.11E+00 | 7.21 | | | 7.11E+00 | 7.21E+00 |
| | 46 | 1728.47 | 2.00E+01 | 12.25 | | | 2.00E+01 | 1.22E+01 |
| | 47 | 1764.93 | 4.80E+01 | 13.86 | 1.45E+00 | 1.16E+00 | 4.65E+01 | 1.39E+01 |
| | 48 | 1846.98 | 1.07E+01 | 10.02 | | | 1.07E+01 | 1.00E+01 |
| | 49 | 1947.36 | 5.21E+00 | 6.34 | | | 5.21E+00 | 6.34E+00 |
| | 50 | 2001.98 | 8.00E+00 | 5.66 | | | 8.00E+00 | 5.66E+00 |
| | 51 | 2010.57 | 8.59E+00 | 8.02 | | | 8.59E+00 | 8.02E+00 |
| | 52 | 2034.56 | 1.21E+01 | 8.26 | | | 1.21E+01 | 8.26E+00 |
| | 53 | 2102.98 | 1.42E+01 | 11.22 | | | 1.42E+01 | 1.12E+01 |
| | 54 | 2414.38 | 9.89E+00 | 12.76 | | | 9.89E+00 | 1.28E+01 |

Analysis Report for 1510085-17
CP5006S14-15

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 55 | 2446.98 | 1.15E+01 | 10.22 | | | 1.15E+01 | 1.02E+01 |
| 56 | 2615.00 | 8.30E+01 | 18.22 | | | 8.30E+01 | 1.82E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.983 | 1460.81 * | 10.67 | 2.19E+01 | 2.64E+00 |
| GA-67 | 0.642 | 93.31 * | 35.70 | 2.15E+02 | 8.81E+02 |
| | | 208.95 * | 2.24 | 2.27E+03 | 9.06E+03 |
| | | 300.22 * | 16.00 | 3.00E+02 | 1.24E+03 |
| SN-126 | 0.945 | 87.57 * | 37.00 | 4.05E-01 | 1.37E-01 |
| EU-155 | 0.339 | 86.50 * | 30.90 | 4.91E-01 | 1.66E-01 |
| | | 105.30 | 20.70 | | |
| TL-208 | 0.989 | 583.14 * | 30.22 | 1.25E+00 | 3.17E-01 |
| | | 860.37 * | 4.48 | 2.59E+00 | 1.63E+00 |
| | | 2614.66 * | 35.85 | 1.41E+00 | 3.38E-01 |
| PB-210 | 0.998 | 46.50 * | 4.25 | 1.86E+00 | 1.67E+00 |
| BI-212 | 0.718 | 727.17 * | 11.80 | 1.33E+00 | 6.65E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.995 | 238.63 * | 44.60 | 1.80E+00 | 2.07E-01 |
| | | 300.09 * | 3.41 | 2.35E+00 | 1.45E+00 |
| BI-214 | 0.908 | 609.31 * | 46.30 | 1.39E+00 | 2.37E-01 |
| | | 1120.29 * | 15.10 | 7.69E-01 | 7.80E-01 |
| | | 1764.49 * | 15.80 | 1.41E+00 | 4.35E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.999 | 295.21 * | 19.19 | 1.78E+00 | 3.10E-01 |
| | | 351.92 * | 37.19 | 1.36E+00 | 2.72E-01 |
| RA-224 | 0.868 | 240.98 * | 3.95 | 5.22E+00 | 1.85E+00 |
| RA-226 | 1.000 | 186.21 * | 3.28 | 3.61E+00 | 6.85E+00 |
| AC-228 | 0.982 | 338.32 * | 11.40 | 1.28E+00 | 6.39E-01 |
| | | 911.07 * | 27.70 | 1.73E+00 | 3.59E-01 |
| | | 969.11 * | 16.60 | 8.81E-01 | 6.70E-01 |
| NP-237 | 0.965 | 86.50 * | 12.60 | 1.19E+00 | 4.02E-01 |
| CM-243 | 0.362 | 209.75 * | 3.29 | 2.59E+00 | 1.91E+00 |
| | | 228.14 | 10.60 | | |

Analysis Report for 1510085-17
 CP5006S14-15

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| CM-243 | 0.362 | 277.60 * | 14.00 | 2.99E-01 | 3.21E-01 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 10:20:25AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|--------------------------|-----------|-------------------|
| M | 2 | 61.09 | 1.86899E-02 | 60.56 | |
| | 3 | 76.16 | 3.86918E-01 | 6.16 | |
| m | 5 | 89.47 | 4.03546E-02 | 29.90 | |
| | 7 | 99.18 | 1.80791E-02 | 51.97 | D-Esc |
| | 8 | 129.28 | 1.90444E-02 | 55.25 | |
| | 9 | 153.00 | 2.80334E-02 | 35.03 | Tol. CS-136 |
| | 14 | 270.33 | 2.98361E-02 | 26.66 | |
| | 18 | 328.86 | 1.23821E-02 | 39.44 | Sum |
| M | 21 | 463.09 | 1.54472E-02 | 25.79 | Sum |
| m | 22 | 475.99 | 6.08276E-03 | 62.07 | Tol. PM-144 |
| | 23 | 511.56 | 3.53536E-02 | 18.73 | |
| | 24 | 547.76 | 8.60051E-03 | 61.18 | Sum |
| | 28 | 768.28 | 1.46717E-02 | 36.32 | |
| | 29 | 795.30 | 8.61674E-03 | 39.56 | Sum |
| M | 30 | 856.76 | 3.39404E-03 | 59.58 | |
| m | 33 | 916.65 | 4.79508E-03 | 68.30 | |
| | 35 | 1051.86 | 7.69648E-03 | 55.12 | |
| | 37 | 1155.80 | 5.83333E-03 | 56.94 | Sum |
| | 38 | 1240.20 | 1.80623E-02 | 35.40 | |
| | 39 | 1407.38 | 4.92492E-03 | 51.25 | Tol. EU-152 |
| M | 40 | 1456.42 | 3.20469E-03 | 9.69 | Sum |
| | 42 | 1493.99 | 2.22222E-03 | 49.21 | Sum |
| M | 43 | 1588.65 | 7.63571E-03 | 28.18 | Sum |
| m | 44 | 1596.47 | 4.31078E-03 | 46.24 | Tol. LA-140 |
| | 45 | 1706.62 | 1.97531E-03 | 50.70 | |
| | 46 | 1728.47 | 5.55556E-03 | 30.62 | |
| | 48 | 1846.98 | 2.96296E-03 | 46.99 | |
| | 49 | 1947.36 | 1.44841E-03 | 60.84 | |

Analysis Report for 1510085-17
CP5006S14-15

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| 50 | 2001.98 | 2.22222E-03 | 35.36 | | |
| 51 | 2010.57 | 2.38636E-03 | 46.65 | | |
| 52 | 2034.56 | 3.36310E-03 | 34.12 | | |
| 53 | 2102.98 | 3.93275E-03 | 39.64 | Sum | |
| 54 | 2414.38 | 2.74691E-03 | 64.50 | | |
| 55 | 2446.98 | 3.19444E-03 | 44.45 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|-----------------|------------------|-----------------|----------|-------------------------|-------------------------|
| K-40 | 0.98 | 1460.81 * | 10.67 | 2.19E+01 | 2.64E+00 |
| GA-67 | 0.64 | 93.31 * | 35.70 | 2.15E+02 | 8.81E+02 |
| | | 208.95 * | 2.24 | 2.27E+03 | 9.06E+03 |
| | | 300.22 * | 16.00 | 3.00E+02 | 1.24E+03 |
| SN-126 | 0.94 | 87.57 * | 37.00 | 4.05E-01 | 1.37E-01 |
| EU-155 | 0.33 | 86.50 * | 30.90 | 4.91E-01 | 1.66E-01 |
| | | 105.30 | 20.70 | | |
| TL-208 | 0.98 | 583.14 * | 30.22 | 1.25E+00 | 3.17E-01 |
| | | 860.37 * | 4.48 | 2.59E+00 | 1.63E+00 |
| | | 2614.66 * | 35.85 | 1.41E+00 | 3.38E-01 |
| PB-210 | 0.99 | 46.50 * | 4.25 | 1.86E+00 | 1.67E+00 |
| BI-212 | 0.71 | 727.17 * | 11.80 | 1.33E+00 | 6.65E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.99 | 238.63 * | 44.60 | 1.80E+00 | 2.07E-01 |
| | | 300.09 * | 3.41 | 2.35E+00 | 1.45E+00 |
| BI-214 | 0.90 | 609.31 * | 46.30 | 1.39E+00 | 2.37E-01 |
| | | 1120.29 * | 15.10 | 7.69E-01 | 7.80E-01 |
| | | 1764.49 * | 15.80 | 1.41E+00 | 4.35E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.99 | 295.21 * | 19.19 | 1.78E+00 | 3.10E-01 |
| | | 351.92 * | 37.19 | 1.36E+00 | 2.72E-01 |
| RA-224 | 0.86 | 240.98 * | 3.95 | 5.22E+00 | 1.85E+00 |

Analysis Report for 1510085-17
CP5006S14-15

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| RA-226 | 1.00 | 186.21 * | 3.28 | 3.61E+00 | 6.85E+00 |
| AC-228 | 0.98 | 338.32 * | 11.40 | 1.28E+00 | 6.39E-01 |
| | | 911.07 * | 27.70 | 1.73E+00 | 3.59E-01 |
| | | 969.11 * | 16.60 | 8.81E-01 | 6.70E-01 |
| NP-237 | 0.96 | 86.50 * | 12.60 | 1.19E+00 | 4.02E-01 |
| CM-243 | 0.36 | 209.75 * | 3.29 | 2.59E+00 | 1.91E+00 |
| | | 228.14 | 10.60 | | |
| | | 277.60 * | 14.00 | 2.99E-01 | 3.21E-01 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | 0.983 | 2.19E+01 | 2.64E+00 | |
| GA-67 | 0.642 | 1.93E+02 | 7.61E+02 | |
| ? SN-126 | 0.945 | 4.05E-01 | 1.37E-01 | |
| ? EU-155 | 0.339 | 4.91E-01 | 1.66E-01 | |
| TL-208 | 0.989 | 1.35E+00 | 2.29E-01 | |
| PB-210 | 0.998 | 1.86E+00 | 1.67E+00 | |
| BI-212 | 0.718 | 1.33E+00 | 6.65E-01 | |
| PB-212 | 0.995 | 1.79E+00 | 2.05E-01 | |
| BI-214 | 0.908 | 1.35E+00 | 2.01E-01 | |
| PB-214 | 0.999 | 1.54E+00 | 2.04E-01 | |
| RA-224 | 0.868 | 5.22E+00 | 1.85E+00 | |
| RA-226 | 1.000 | 3.61E+00 | 6.85E+00 | |
| AC-228 | 0.982 | 1.49E+00 | 2.84E-01 | |
| ? NP-237 | 0.965 | 1.19E+00 | 4.02E-01 | |
| CM-243 | 0.362 | 3.56E-01 | 3.17E-01 | |

Analysis Report for 1510085-17

CP5006S14-15

- ? = nuclide is part of an undetermined solution
- X = nuclide rejected by the interference analysis
- @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-17
CP5006S14-15

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 10:20:25AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide | |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|--------|
| M | 2 | 61.09 | 1.86899E-02 | 60.56 | | |
| | 3 | 76.16 | 3.86918E-01 | 6.16 | | |
| m | 5 | 89.47 | 4.03546E-02 | 29.90 | | |
| | 7 | 99.18 | 1.80791E-02 | 51.97 | D-Esc | |
| | 8 | 129.28 | 1.90444E-02 | 55.25 | | |
| | 9 | 153.00 | 2.80334E-02 | 35.03 | Tol. | CS-136 |
| | 14 | 270.33 | 2.98361E-02 | 26.66 | | |
| | 18 | 328.86 | 1.23821E-02 | 39.44 | Sum | |
| M | 21 | 463.09 | 1.54472E-02 | 25.79 | Sum | |
| m | 22 | 475.99 | 6.08276E-03 | 62.07 | Tol. | PM-144 |
| | 23 | 511.56 | 3.53536E-02 | 18.73 | | |
| | 24 | 547.76 | 8.60051E-03 | 61.18 | Sum | |
| | 28 | 768.28 | 1.46717E-02 | 36.32 | | |
| | 29 | 795.30 | 8.61674E-03 | 39.56 | Sum | |
| M | 30 | 856.76 | 3.39404E-03 | 59.58 | | |
| m | 33 | 916.65 | 4.79508E-03 | 68.30 | | |
| | 35 | 1051.86 | 7.69648E-03 | 55.12 | | |
| | 37 | 1155.80 | 5.83333E-03 | 56.94 | Sum | |
| | 38 | 1240.20 | 1.80623E-02 | 35.40 | | |
| | 39 | 1407.38 | 4.92492E-03 | 51.25 | Tol. | EU-152 |
| M | 40 | 1456.42 | 3.20469E-03 | 9.69 | Sum | |
| | 42 | 1493.99 | 2.22222E-03 | 49.21 | Sum | |
| M | 43 | 1588.65 | 7.63571E-03 | 28.18 | Sum | |
| m | 44 | 1596.47 | 4.31078E-03 | 46.24 | Tol. | LA-140 |
| | 45 | 1706.62 | 1.97531E-03 | 50.70 | | |
| | 46 | 1728.47 | 5.55556E-03 | 30.62 | | |
| | 48 | 1846.98 | 2.96296E-03 | 46.99 | | |
| | 49 | 1947.36 | 1.44841E-03 | 60.84 | | |
| | 50 | 2001.98 | 2.22222E-03 | 35.36 | | |
| | 51 | 2010.57 | 2.38636E-03 | 46.65 | | |
| | 52 | 2034.56 | 3.36310E-03 | 34.12 | | |
| | 53 | 2102.98 | 3.93275E-03 | 39.64 | Sum | |
| | 54 | 2414.38 | 2.74691E-03 | 64.50 | | |
| | 55 | 2446.98 | 3.19444E-03 | 44.45 | | |

Analysis Report for 1510085-17
CP5006S14-15

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | BE-7 | 477.59 | 10.42 | -1.89E-01 | 1.10E+00 | 1.10E+00 |
| + | NA-22 | 1274.54 | 99.94 | -1.67E-02 | 1.22E-01 | 1.22E-01 |
| + | NA-24 | 1368.53 | 99.99 | 2.23E+12 | 2.09E+13 | 3.23E+13 |
| | | 2754.09 | 99.86 | 5.82E+12 | | 2.09E+13 |
| + | AL-26 | 1808.65 | 99.76 | 1.26E-02 | 7.73E-02 | 7.73E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.19E+01 | 8.87E-01 | 8.87E-01 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -1.99E-02 | 8.29E-02 | 8.29E-02 |
| | | 78.34 | 96.00 | 2.77E-01 | | 1.01E-01 |
| + | SC-46 | 889.25 | 99.98 | -1.77E-03 | 1.20E-01 | 1.20E-01 |
| | | 1120.51 | 99.99 | 1.37E-01 | | 1.88E-01 |
| + | V-48 | 983.52 | 99.98 | 4.99E-02 | 3.68E-01 | 3.68E-01 |
| | | 1312.10 | 97.50 | 1.93E-01 | | 5.23E-01 |
| + | CR-51 | 320.08 | 9.83 | -1.63E-01 | 1.75E+00 | 1.75E+00 |
| + | MN-54 | 834.83 | 99.97 | -1.65E-02 | 1.04E-01 | 1.04E-01 |
| + | CO-56 | 846.75 | 99.96 | -6.15E-02 | 1.17E-01 | 1.17E-01 |
| | | 1037.75 | 14.03 | -2.19E-01 | | 9.16E-01 |
| | | 1238.25 | 67.00 | 2.48E-01 | | 3.19E-01 |
| | | 1771.40 | 15.51 | -1.68E-02 | | 7.30E-01 |
| | | 2598.48 | 16.90 | -4.68E-02 | | 4.35E-01 |
| + | CO-57 | 122.06 | 85.51 | 1.53E-03 | 7.16E-02 | 7.16E-02 |
| | | 136.48 | 10.60 | -6.55E-02 | | 5.94E-01 |
| + | CO-58 | 810.76 | 99.40 | 6.49E-03 | 1.31E-01 | 1.31E-01 |
| + | FE-59 | 1099.22 | 56.50 | 1.77E-01 | 3.58E-01 | 3.58E-01 |
| | | 1291.56 | 43.20 | 9.38E-02 | | 4.14E-01 |
| + | CO-60 | 1173.22 | 100.00 | -1.21E-03 | 1.23E-01 | 1.23E-01 |
| | | 1332.49 | 100.00 | -1.42E-02 | | 1.34E-01 |
| + | ZN-65 | 1115.52 | 50.75 | 1.49E-02 | 2.35E-01 | 2.35E-01 |
| + | GA-67 | 93.31 | * 35.70 | 2.15E+02 | 2.57E+02 | 2.57E+02 |
| | | 208.95 | * 2.24 | 2.27E+03 | | 2.70E+03 |
| | | 300.22 | * 16.00 | 3.00E+02 | | 4.50E+02 |
| + | SE-75 | 121.11 | 16.70 | -1.94E-01 | 1.17E-01 | 3.93E-01 |

Analysis Report for 1510085-17
CP5006S14-15

| Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|----------|
| | SE-75 | 136.00 | 59.20 | -3.46E-02 | 1.17E-01 | 1.17E-01 |
| | | 264.65 | 59.80 | -1.92E-02 | | 1.43E-01 |
| | | 279.53 | 25.20 | -1.55E-02 | | 3.76E-01 |
| | | 400.65 | 11.40 | 1.38E-01 | | 8.57E-01 |
| + | RB-82 | 776.52 | 13.00 | 2.14E-01 | 1.68E+00 | 1.68E+00 |
| + | RB-83 | 520.41 | 46.00 | -6.70E-02 | 2.06E-01 | 2.06E-01 |
| | | 529.64 | 30.30 | -2.72E-01 | | 3.35E-01 |
| | | 552.65 | 16.40 | -1.26E-01 | | 6.32E-01 |
| + | KR-85 | 513.99 | 0.43 | 3.40E+01 | 2.64E+01 | 2.64E+01 |
| + | SR-85 | 513.99 | 99.27 | 2.04E-01 | 1.59E-01 | 1.59E-01 |
| + | Y-88 | 898.02 | 93.40 | -9.04E-03 | 6.47E-02 | 1.20E-01 |
| | | 1836.01 | 99.38 | -1.60E-02 | | 6.47E-02 |
| + | NB-93M | 16.57 | 9.43 | 2.31E+01 | 9.18E+01 | 9.18E+01 |
| + | NB-94 | 702.63 | 100.00 | 4.95E-02 | 9.46E-02 | 9.85E-02 |
| | | 871.10 | 100.00 | 2.89E-03 | | 9.46E-02 |
| + | NB-95 | 765.79 | 99.81 | 1.62E-01 | 2.22E-01 | 2.22E-01 |
| + | NB-95M | 235.69 | 25.00 | 5.81E+02 | 1.77E+02 | 1.77E+02 |
| + | ZR-95 | 724.18 | 43.70 | 5.00E-02 | 2.61E-01 | 3.60E-01 |
| | | 756.72 | 55.30 | 9.89E-02 | | 2.61E-01 |
| + | MO-99 | 181.06 | 6.20 | -4.40E+02 | 1.37E+03 | 1.90E+03 |
| | | 739.58 | 12.80 | -6.42E+02 | | 1.37E+03 |
| | | 778.00 | 4.50 | -2.21E+03 | | 3.98E+03 |
| + | RU-103 | 497.08 | 89.00 | 4.57E-02 | 1.56E-01 | 1.56E-01 |
| + | RU-106 | 621.84 | 9.80 | -4.90E-01 | 8.59E-01 | 8.59E-01 |
| + | AG-108M | 433.93 | 89.90 | 1.05E-02 | 8.93E-02 | 8.93E-02 |
| | | 614.37 | 90.40 | 2.53E-02 | | 1.11E-01 |
| | | 722.95 | 90.50 | 2.04E-02 | | 1.16E-01 |
| + | CD-109 | 88.03 | 3.72 | 3.25E+00 | 2.23E+00 | 2.23E+00 |
| + | AG-110M | 657.75 | 93.14 | -5.25E-03 | 1.10E-01 | 1.10E-01 |
| | | 677.61 | 10.53 | -3.17E-02 | | 9.11E-01 |
| | | 706.67 | 16.46 | 2.73E-03 | | 6.25E-01 |
| | | 763.93 | 21.98 | -5.94E-02 | | 5.04E-01 |
| | | 884.67 | 71.63 | -3.38E-02 | | 1.50E-01 |
| | | 1384.27 | 23.94 | -5.21E-02 | | 5.73E-01 |
| + | CD-113M | 263.70 | 0.02 | -9.86E+01 | 3.14E+02 | 3.14E+02 |
| + | SN-113 | 255.12 | 1.93 | 2.28E-01 | 1.45E-01 | 4.72E+00 |
| | | 391.69 | 64.90 | -4.55E-02 | | 1.45E-01 |
| + | TE123M | 159.00 | 84.10 | -1.87E-02 | 8.48E-02 | 8.48E-02 |
| + | SB-124 | 602.71 | 97.87 | -7.60E-02 | 1.45E-01 | 1.45E-01 |
| | | 645.85 | 7.26 | 1.87E-01 | | 1.75E+00 |
| | | 722.78 | 11.10 | 2.35E-01 | | 1.33E+00 |
| | | 1691.02 | 49.00 | -2.75E-02 | | 2.42E-01 |
| + | I-125 | 35.49 | 6.49 | -2.61E+00 | 3.35E+00 | 3.35E+00 |
| + | SB-125 | 176.33 | 6.89 | 5.41E-01 | 2.87E-01 | 9.09E-01 |
| | | 427.89 | 29.33 | 1.83E-01 | | 2.87E-01 |
| | | 463.38 | 10.35 | 1.85E-01 | | 8.57E-01 |
| | | 600.56 | 17.80 | 3.62E-01 | | 5.69E-01 |
| | | 635.90 | 11.32 | -2.26E-01 | | 7.94E-01 |

Analysis Report for 1510085-17
CP5006S14-15

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SB-126 | 414.70 | 83.30 | 7.27E-02 | 5.11E-01 | 5.54E-01 |
| | | 666.33 | 99.60 | -4.31E-02 | | 5.11E-01 |
| | | 695.00 | 99.60 | 4.70E-02 | | 5.27E-01 |
| | | 720.50 | 53.80 | -1.15E-01 | | 9.69E-01 |
| + | SN-126 | 87.57 | * 37.00 | 4.05E-01 | 4.10E-01 | 4.10E-01 |
| + | SB-127 | 473.00 | 25.00 | -1.63E+01 | 6.26E+01 | 7.52E+01 |
| | | 685.20 | 35.70 | 4.19E+01 | | 6.26E+01 |
| | | 783.80 | 14.70 | 8.02E+01 | | 1.64E+02 |
| + | I-129 | 29.78 | 57.00 | -1.74E-01 | 4.81E-01 | 4.81E-01 |
| | | 33.60 | 13.20 | 1.29E-01 | | 1.41E+00 |
| | | 39.58 | 7.52 | -1.49E-01 | | 1.64E+00 |
| + | I-131 | 284.30 | 6.05 | -4.95E+00 | 1.20E+00 | 1.69E+01 |
| | | 364.48 | 81.20 | -5.03E-01 | | 1.20E+00 |
| | | 636.97 | 7.26 | -2.26E+00 | | 1.63E+01 |
| | | 722.89 | 1.80 | 1.37E+01 | | 7.77E+01 |
| + | TE-132 | 49.72 | 13.10 | -1.87E+02 | 5.29E+01 | 3.96E+02 |
| | | 228.16 | 88.00 | 7.21E+00 | | 5.29E+01 |
| + | BA-133 | 81.00 | 33.00 | -1.39E+00 | 1.68E-01 | 1.93E-01 |
| | | 302.84 | 17.80 | 5.10E-02 | | 4.41E-01 |
| | | 356.01 | 60.00 | -2.15E-02 | | 1.68E-01 |
| + | I-133 | 529.87 | 86.30 | -2.12E+09 | 2.61E+09 | 2.61E+09 |
| + | XE-133 | 81.00 | 38.00 | -6.40E+01 | 8.91E+00 | 8.91E+00 |
| + | CS-134 | 563.23 | 8.38 | 3.57E-01 | 1.13E-01 | 1.10E+00 |
| | | 569.32 | 15.43 | 6.95E-02 | | 5.78E-01 |
| | | 604.70 | 97.60 | -7.54E-02 | | 1.13E-01 |
| | | 795.84 | 85.40 | 3.52E-02 | | 1.29E-01 |
| | | 801.93 | 8.73 | 5.80E-01 | | 1.16E+00 |
| + | CS-135 | 268.24 | 16.00 | -5.44E-02 | 5.14E-01 | 5.14E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 4.51E+00 | 4.55E-01 | 4.17E+00 |
| | | 163.89 | 4.61 | 6.39E-01 | | 6.30E+00 |
| | | 176.55 | 13.56 | 3.58E-02 | | 2.17E+00 |
| | | 273.65 | 12.66 | -1.63E+00 | | 3.12E+00 |
| | | 340.57 | 48.50 | 1.47E+00 | | 1.02E+00 |
| | | 818.50 | 99.70 | -1.68E-01 | | 4.55E-01 |
| | | 1048.07 | 79.60 | 6.41E-02 | | 6.97E-01 |
| | | 1235.34 | 19.70 | 2.34E-01 | | 3.69E+00 |
| + | CS-137 | 661.65 | 85.12 | -8.79E-03 | 1.14E-01 | 1.14E-01 |
| + | LA-138 | 788.74 | 34.00 | 7.26E-02 | 1.46E-01 | 2.94E-01 |
| | | 1435.80 | 66.00 | -5.93E-02 | | 1.46E-01 |
| + | CE-139 | 165.85 | 80.35 | -2.10E-02 | 8.33E-02 | 8.33E-02 |
| + | BA-140 | 162.64 | 6.70 | 4.00E-01 | 1.78E+00 | 4.55E+00 |
| | | 304.84 | 4.50 | 1.11E+00 | | 7.88E+00 |
| | | 423.70 | 3.20 | 1.53E+00 | | 1.30E+01 |
| | | 437.55 | 2.00 | 1.04E+00 | | 2.11E+01 |
| | | 537.32 | 25.00 | -8.10E-02 | | 1.78E+00 |
| + | LA-140 | 328.77 | 20.50 | 2.81E-01 | 6.48E-01 | 2.04E+00 |

Analysis Report for 1510085-17
CP5006S14-15

| Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|
| LA-140 | 487.03 | 45.50 | 5.10E-01 | 6.48E-01 | 9.84E-01 |
| | 815.85 | 23.50 | -5.36E-02 | | |
| | 1596.49 | 95.49 | 0.00E+00 | | |
| + CE-141 | 145.44 | 48.40 | 1.86E-01 | 2.39E-01 | 2.39E-01 |
| + CE-143 | 57.36 | 11.80 | -1.91E+05 | 9.72E+05 | 2.74E+06 |
| | 293.26 | 42.00 | 1.70E+06 | | |
| | 664.55 | 5.20 | 3.84E+06 | | |
| + CE-144 | 133.54 | 10.80 | 1.04E-01 | 5.78E-01 | 5.78E-01 |
| + PM-144 | 476.78 | 42.00 | -6.29E-02 | 8.81E-02 | 1.95E-01 |
| | 618.01 | 98.60 | -8.08E-03 | | |
| | 696.49 | 99.49 | -1.87E-02 | | |
| + PM-145 | 36.85 | 21.70 | -4.66E-01 | 3.59E-01 | 6.59E-01 |
| | 37.36 | 39.70 | -4.22E-02 | | |
| | 42.30 | 15.10 | -3.04E-02 | | |
| | 72.40 | 2.31 | -4.43E+00 | | |
| + PM-146 | 453.90 | 39.94 | 5.23E-02 | 1.99E-01 | 1.99E-01 |
| | 735.90 | 14.01 | -2.26E-01 | | |
| | 747.13 | 13.10 | -1.90E-01 | | |
| + ND-147 | 91.11 | 28.90 | -9.69E-01 | 1.78E+00 | 1.78E+00 |
| | 531.02 | 13.10 | -1.57E+00 | | |
| + PM-149 | 285.90 | 3.10 | 7.78E+03 | 3.06E+04 | 3.06E+04 |
| + EU-152 | 121.78 | 20.50 | 5.92E-03 | 2.77E-01 | 2.77E-01 |
| | 244.69 | 5.40 | 7.42E-02 | | |
| | 344.27 | 19.13 | 5.85E-02 | | |
| | 778.89 | 9.20 | -4.04E-01 | | |
| | 964.01 | 10.40 | 2.44E-01 | | |
| | 1085.78 | 7.22 | -2.17E-01 | | |
| | 1112.02 | 9.60 | 5.22E-01 | | |
| | 1407.95 | 14.94 | -5.41E-02 | | |
| | 97.43 | 31.30 | -1.88E-01 | | |
| | 103.18 | 22.20 | -2.50E-02 | | |
| + EU-154 | 123.07 | 40.50 | 1.31E-01 | 1.46E-01 | 1.46E-01 |
| | 723.30 | 19.70 | 9.41E-02 | | |
| | 873.19 | 11.50 | 2.34E-01 | | |
| | 996.32 | 10.30 | -8.90E-02 | | |
| + EU-155 | 1004.76 | 17.90 | -2.54E-01 | 2.75E-01 | 4.96E-01 |
| | 1274.45 | 35.50 | -4.64E-02 | | |
| | 86.50 | 30.90 | 4.91E-01 | | |
| | 105.30 | 20.70 | 1.38E-01 | | |
| | 1153.47 | 7.20 | -8.46E-01 | | |
| + EU-156 | 811.77 | 10.40 | 1.31E+00 | 3.78E+00 | 3.78E+00 |
| | 1230.71 | 8.90 | 3.90E-01 | | |
| | 1153.47 | 7.20 | -8.46E-01 | | |
| + HO-166M | 184.41 | 72.60 | 1.76E-01 | 1.07E-01 | 1.07E-01 |
| | 280.45 | 29.60 | 8.71E-02 | | |
| | 410.94 | 11.10 | -3.40E-03 | | |
| | 711.69 | 54.10 | 7.99E-02 | | |
| + TM-171 | 66.72 | 0.14 | -6.61E+01 | 5.86E+01 | 5.86E+01 |
| + HF-172 | 81.75 | 4.52 | -5.14E+00 | 5.15E-01 | 1.47E+00 |
| | 125.81 | 11.30 | 2.46E-01 | | |

Analysis Report for 1510085-17
CP5006S14-15

| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | LU-172 | 181.53 | 20.60 | 5.49E-01 | 3.88E+00 | 6.77E+00 |
| | | 810.06 | 16.63 | -2.93E-01 | | 1.30E+01 |
| | | 912.12 | 15.25 | 5.92E+01 | | 2.86E+01 |
| | | 1093.66 | 62.50 | -1.44E+00 | | 3.88E+00 |
| + | LU-173 | 100.72 | 5.24 | -1.56E-01 | 4.11E-01 | 1.08E+00 |
| | | 272.11 | 21.20 | 2.08E-01 | | 4.11E-01 |
| + | HF-175 | 343.40 | 84.00 | 1.78E-02 | 1.28E-01 | 1.28E-01 |
| + | LU-176 | 88.34 | 13.30 | 4.96E-02 | 7.63E-02 | 5.97E-01 |
| | | 201.83 | 86.00 | -3.07E-02 | | 8.63E-02 |
| | | 306.78 | 94.00 | 2.33E-02 | | 7.63E-02 |
| + | TA-182 | 67.75 | 41.20 | -5.46E-02 | 2.28E-01 | 2.28E-01 |
| | | 1121.30 | 34.90 | 3.69E-01 | | 5.16E-01 |
| | | 1189.05 | 16.23 | -1.15E-02 | | 9.51E-01 |
| | | 1221.41 | 26.98 | -1.63E-01 | | 5.74E-01 |
| | | 1231.02 | 11.44 | 9.94E-03 | | 1.30E+00 |
| + | IR-192 | 308.46 | 29.68 | 6.56E-02 | 2.27E-01 | 3.21E-01 |
| | | 468.07 | 48.10 | -2.38E-01 | | 2.27E-01 |
| + | HG-203 | 279.19 | 77.30 | 2.21E-02 | 1.63E-01 | 1.63E-01 |
| + | BI-207 | 569.67 | 97.72 | -2.11E-02 | 8.71E-02 | 8.71E-02 |
| | | 1063.62 | 74.90 | -6.50E-02 | | 1.39E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.25E+00 | 4.60E-02 | 4.08E-01 |
| | | 860.37 | * 4.48 | 2.59E+00 | | 3.77E+00 |
| | | 2614.66 | * 35.85 | 1.41E+00 | | 4.60E-02 |
| + | BI-210M | 262.00 | 45.00 | 1.74E-02 | 1.66E-01 | 1.66E-01 |
| | | 300.00 | 23.00 | -1.24E+00 | | 3.52E-01 |
| + | PB-210 | 46.50 | * 4.25 | 1.86E+00 | 2.71E+00 | 2.71E+00 |
| + | PB-211 | 404.84 | 2.90 | -1.50E+00 | 2.74E+00 | 2.74E+00 |
| | | 831.96 | 2.90 | 2.59E+00 | | 3.53E+00 |
| + | BI-212 | 727.17 | * 11.80 | 1.33E+00 | 9.90E-01 | 9.90E-01 |
| | | 1620.62 | 2.75 | 1.94E+00 | | 3.75E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.80E+00 | 3.23E-01 | 3.23E-01 |
| | | 300.09 | * 3.41 | 2.35E+00 | | 3.52E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.39E+00 | 2.15E-01 | 2.24E-01 |
| | | 1120.29 | * 15.10 | 7.69E-01 | | 1.26E+00 |
| | | 1764.49 | * 15.80 | 1.41E+00 | | 2.15E-01 |
| | | 2204.22 | 4.98 | 7.55E-01 | | 2.56E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.78E+00 | 3.52E-01 | 6.13E-01 |
| | | 351.92 | * 37.19 | 1.36E+00 | | 3.52E-01 |
| + | RN-219 | 401.80 | 6.50 | -6.34E-02 | 1.24E+00 | 1.24E+00 |
| + | RA-223 | 323.87 | 3.88 | 2.36E-01 | 2.13E+00 | 2.13E+00 |
| + | RA-224 | 240.98 | * 3.95 | 5.22E+00 | 3.69E+00 | 3.69E+00 |
| + | RA-225 | 40.00 | 31.00 | -1.44E-01 | 1.59E+00 | 1.59E+00 |
| + | RA-226 | 186.21 | * 3.28 | 3.61E+00 | 2.91E+00 | 2.91E+00 |
| + | TH-227 | 50.10 | 8.40 | -4.79E-01 | 1.01E+00 | 1.01E+00 |
| | | 236.00 | 11.50 | 3.91E+00 | | 1.19E+00 |
| | | 256.20 | 6.30 | 1.01E+00 | | 1.25E+00 |
| + | AC-228 | 338.32 | * 11.40 | 1.28E+00 | 6.05E-01 | 9.95E-01 |
| | | 911.07 | * 27.70 | 1.73E+00 | | 6.05E-01 |

Analysis Report for 1510085-17
CP5006S14-15

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | AC-228 | 969.11 | * | 16.60 | 8.81E-01 | 6.05E-01 | 1.06E+00 |
| + | TH-230 | 48.44 | | 16.90 | 5.01E-04 | 5.73E-01 | 5.73E-01 |
| | | 62.85 | | 4.60 | 2.41E+00 | | 1.96E+00 |
| | | 67.67 | | 0.37 | -5.07E+00 | | 2.12E+01 |
| + | PA-231 | 283.67 | | 1.60 | -1.40E+00 | 3.40E+00 | 4.78E+00 |
| | | 302.67 | | 2.30 | 3.92E-01 | | 3.40E+00 |
| + | TH-231 | 25.64 | | 14.70 | 9.17E-01 | 1.04E+00 | 3.54E+00 |
| | | 84.21 | | 6.40 | -2.43E+00 | | 1.04E+00 |
| + | PA-233 | 311.98 | | 38.60 | -1.25E-02 | 4.08E-01 | 4.08E-01 |
| + | PA-234 | 131.20 | | 20.40 | 2.05E-01 | 2.99E-01 | 2.99E-01 |
| | | 733.99 | | 8.80 | 2.34E-01 | | 1.02E+00 |
| | | 946.00 | | 12.00 | 4.66E-01 | | 8.93E-01 |
| + | PA-234M | 1001.03 | | 0.92 | 2.23E+00 | 1.11E+01 | 1.11E+01 |
| + | TH-234 | 63.29 | | 3.80 | 4.73E-01 | 2.31E+00 | 2.31E+00 |
| + | U-235 | 143.76 | | 10.50 | 2.86E-01 | 5.93E-01 | 5.93E-01 |
| | | 163.35 | | 4.70 | 1.28E-01 | | 1.26E+00 |
| | | 205.31 | | 4.70 | 7.48E-02 | | 1.59E+00 |
| + | NP-237 | 86.50 | * | 12.60 | 1.19E+00 | 1.20E+00 | 1.20E+00 |
| + | NP-239 | 106.10 | | 22.70 | 6.65E+02 | 1.77E+03 | 1.77E+03 |
| | | 228.18 | | 10.70 | 6.91E+02 | | 5.07E+03 |
| | | 277.60 | | 14.10 | 1.24E+03 | | 3.89E+03 |
| + | AM-241 | 59.54 | | 35.90 | -7.33E-02 | 2.38E-01 | 2.38E-01 |
| + | AM-243 | 74.67 | | 66.00 | 5.12E-01 | 1.69E-01 | 1.69E-01 |
| + | CM-243 | 209.75 | * | 3.29 | 2.59E+00 | 5.24E-01 | 3.07E+00 |
| | | 228.14 | | 10.60 | 9.96E-02 | | 7.31E-01 |
| | | 277.60 | * | 14.00 | 2.99E-01 | | 5.24E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510085-17
CP5006S14-15

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|----------|
| BE-7 | 477.59 | 10.42 | 1.10E+00 | 1.10E+00 | -1.89E-01 | 5.19E-01 | |
| NA-22 | 1274.54 | 99.94 | 1.22E-01 | 1.22E-01 | -1.67E-02 | 5.60E-02 | |
| NA-24 | 1368.53 | 99.99 | 3.23E+13 | 2.09E+13 | 2.23E+12 | 1.45E+13 | |
| | 2754.09 | 99.86 | 2.09E+13 | | 5.82E+12 | 7.82E+12 | |
| AL-26 | 1808.65 | 99.76 | 7.73E-02 | 7.73E-02 | 1.26E-02 | 3.21E-02 | |
| + K-40 | 1460.81 | * | 10.67 | 8.87E-01 | 8.87E-01 | 2.19E+01 | 3.91E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 | |
| TI-44 | 67.88 | 94.40 | 8.29E-02 | 8.29E-02 | -1.99E-02 | 4.06E-02 | |
| | 78.34 | 96.00 | 1.01E-01 | | 2.77E-01 | 4.97E-02 | |
| SC-46 | 889.25 | 99.98 | 1.20E-01 | 1.20E-01 | -1.77E-03 | 5.51E-02 | |
| | 1120.51 | 99.99 | 1.88E-01 | | 1.37E-01 | 8.82E-02 | |
| V-48 | 983.52 | 99.98 | 3.68E-01 | 3.68E-01 | 4.99E-02 | 1.69E-01 | |
| | 1312.10 | 97.50 | 5.23E-01 | | 1.93E-01 | 2.42E-01 | |
| CR-51 | 320.08 | 9.83 | 1.75E+00 | 1.75E+00 | -1.63E-01 | 8.43E-01 | |
| MN-54 | 834.83 | 99.97 | 1.04E-01 | 1.04E-01 | -1.65E-02 | 4.81E-02 | |
| CO-56 | 846.75 | 99.96 | 1.17E-01 | 1.17E-01 | -6.15E-02 | 5.37E-02 | |
| | 1037.75 | 14.03 | 9.16E-01 | | -2.19E-01 | 4.18E-01 | |
| | 1238.25 | 67.00 | 3.19E-01 | | 2.48E-01 | 1.50E-01 | |
| | 1771.40 | 15.51 | 7.30E-01 | | -1.68E-02 | 3.10E-01 | |
| | 2598.48 | 16.90 | 4.35E-01 | | -4.68E-02 | 1.54E-01 | |
| CO-57 | 122.06 | 85.51 | 7.16E-02 | 7.16E-02 | 1.53E-03 | 3.48E-02 | |
| | 136.48 | 10.60 | 5.94E-01 | | -6.55E-02 | 2.89E-01 | |
| CO-58 | 810.76 | 99.40 | 1.31E-01 | 1.31E-01 | 6.49E-03 | 6.09E-02 | |
| FE-59 | 1099.22 | 56.50 | 3.58E-01 | 3.58E-01 | 1.77E-01 | 1.66E-01 | |
| | 1291.56 | 43.20 | 4.14E-01 | | 9.38E-02 | 1.88E-01 | |
| CO-60 | 1173.22 | 100.00 | 1.23E-01 | 1.23E-01 | -1.21E-03 | 5.67E-02 | |
| | 1332.49 | 100.00 | 1.34E-01 | | -1.42E-02 | 6.15E-02 | |
| ZN-65 | 1115.52 | 50.75 | 2.35E-01 | 2.35E-01 | 1.49E-02 | 1.08E-01 | |
| + GA-67 | 93.31 | * | 35.70 | 2.57E+02 | 2.57E+02 | 2.15E+02 | 1.27E+02 |
| | 208.95 | * | 2.24 | 2.70E+03 | | 2.27E+03 | 1.32E+03 |
| | 300.22 | * | 16.00 | 4.50E+02 | | 3.00E+02 | 2.20E+02 |
| SE-75 | 121.11 | 16.70 | 3.93E-01 | 1.17E-01 | -1.94E-01 | 1.91E-01 | |
| | 136.00 | 59.20 | 1.17E-01 | | -3.46E-02 | 5.67E-02 | |
| | 264.65 | 59.80 | 1.43E-01 | | -1.92E-02 | 6.86E-02 | |
| | 279.53 | 25.20 | 3.76E-01 | | -1.55E-02 | 1.82E-01 | |
| | 400.65 | 11.40 | 8.57E-01 | | 1.38E-01 | 4.09E-01 | |
| RB-82 | 776.52 | 13.00 | 1.68E+00 | 1.68E+00 | 2.14E-01 | 7.82E-01 | |
| RB-83 | 520.41 | 46.00 | 2.06E-01 | 2.06E-01 | -6.70E-02 | 9.66E-02 | |
| | 529.64 | 30.30 | 3.35E-01 | | -2.72E-01 | 1.58E-01 | |
| | 552.65 | 16.40 | 6.32E-01 | | -1.26E-01 | 2.97E-01 | |
| KR-85 | 513.99 | 0.43 | 2.64E+01 | 2.64E+01 | 3.40E+01 | 1.27E+01 | |
| SR-85 | 513.99 | 99.27 | 1.59E-01 | 1.59E-01 | 2.04E-01 | 7.61E-02 | |
| Y-88 | 898.02 | 93.40 | 1.20E-01 | 6.47E-02 | -9.04E-03 | 5.52E-02 | |
| | 1836.01 | 99.38 | 6.47E-02 | | -1.60E-02 | 2.42E-02 | |
| NB-93M | 16.57 | 9.43 | 9.18E+01 | 9.18E+01 | 2.31E+01 | 4.48E+01 | |
| NB-94 | 702.63 | 100.00 | 9.85E-02 | 9.46E-02 | 4.95E-02 | 4.62E-02 | |
| | 871.10 | 100.00 | 9.46E-02 | | 2.89E-03 | 4.36E-02 | |
| NB-95 | 765.79 | 99.81 | 2.22E-01 | 2.22E-01 | 1.62E-01 | 1.05E-01 | |
| NB-95M | 235.69 | 25.00 | 1.77E+02 | 1.77E+02 | 5.81E+02 | 8.68E+01 | |
| ZR-95 | 724.18 | 43.70 | 3.60E-01 | 2.61E-01 | 5.00E-02 | 1.70E-01 | |
| | 756.72 | 55.30 | 2.61E-01 | | 9.89E-02 | 1.23E-01 | |

Analysis Report for 1510085-17
CP5006S14-15

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|----------|
| MO-99 | 181.06 | 6.20 | 1.90E+03 | 1.37E+03 | -4.40E+02 | 9.17E+02 | |
| | 739.58 | 12.80 | 1.37E+03 | | -6.42E+02 | 6.38E+02 | |
| | 778.00 | 4.50 | 3.98E+03 | | -2.21E+03 | 1.85E+03 | |
| RU-103 | 497.08 | 89.00 | 1.56E-01 | 1.56E-01 | 4.57E-02 | 7.39E-02 | |
| RU-106 | 621.84 | 9.80 | 8.59E-01 | 8.59E-01 | -4.90E-01 | 4.00E-01 | |
| AG-108M | 433.93 | 89.90 | 8.93E-02 | 8.93E-02 | 1.05E-02 | 4.24E-02 | |
| | 614.37 | 90.40 | 1.11E-01 | | 2.53E-02 | 5.25E-02 | |
| | 722.95 | 90.50 | 1.16E-01 | | 2.04E-02 | 5.43E-02 | |
| CD-109 | 88.03 | 3.72 | 2.23E+00 | 2.23E+00 | 3.25E+00 | 1.09E+00 | |
| AG-110M | 657.75 | 93.14 | 1.10E-01 | 1.10E-01 | -5.25E-03 | 5.16E-02 | |
| | 677.61 | 10.53 | 9.11E-01 | | -3.17E-02 | 4.25E-01 | |
| | 706.67 | 16.46 | 6.25E-01 | | 2.73E-03 | 2.93E-01 | |
| | 763.93 | 21.98 | 5.04E-01 | | -5.94E-02 | 2.36E-01 | |
| | 884.67 | 71.63 | 1.50E-01 | | -3.38E-02 | 6.92E-02 | |
| CD-113M | 1384.27 | 23.94 | 5.73E-01 | | -5.21E-02 | 2.62E-01 | |
| SN-113 | 263.70 | 0.02 | 3.14E+02 | 3.14E+02 | -9.86E+01 | 1.51E+02 | |
| TE123M | 255.12 | 1.93 | 4.72E+00 | 1.45E-01 | 2.28E-01 | 2.28E+00 | |
| | 391.69 | 64.90 | 1.45E-01 | | -4.55E-02 | 6.92E-02 | |
| SB-124 | 159.00 | 84.10 | 8.48E-02 | 8.48E-02 | -1.87E-02 | 4.11E-02 | |
| | 602.71 | 97.87 | 1.45E-01 | | 1.45E-01 | -7.60E-02 | 6.87E-02 |
| | 645.85 | 7.26 | 1.75E+00 | | | 1.87E-01 | 8.20E-01 |
| I-125 | 722.78 | 11.10 | 1.33E+00 | | 2.35E-01 | 6.26E-01 | |
| | 1691.02 | 49.00 | 2.42E-01 | | -2.75E-02 | 1.03E-01 | |
| | 35.49 | 6.49 | 3.35E+00 | 3.35E+00 | -2.61E+00 | 1.63E+00 | |
| | 176.33 | 6.89 | 9.09E-01 | 2.87E-01 | 5.41E-01 | 4.40E-01 | |
| | 427.89 | 29.33 | 2.87E-01 | | 1.83E-01 | 1.37E-01 | |
| SB-125 | 463.38 | 10.35 | 8.57E-01 | | 1.85E-01 | 4.08E-01 | |
| | 600.56 | 17.80 | 5.69E-01 | | 3.62E-01 | 2.69E-01 | |
| | 635.90 | 11.32 | 7.94E-01 | | -2.26E-01 | 3.72E-01 | |
| | 414.70 | 83.30 | 5.54E-01 | 5.11E-01 | 7.27E-02 | 2.65E-01 | |
| SB-126 | 666.33 | 99.60 | 5.11E-01 | | -4.31E-02 | 2.40E-01 | |
| | 695.00 | 99.60 | 5.27E-01 | | 4.70E-02 | 2.47E-01 | |
| | 720.50 | 53.80 | 9.69E-01 | | -1.15E-01 | 4.53E-01 | |
| SN-126 | 87.57 | 37.00 | 4.10E-01 | 4.10E-01 | 4.05E-01 | 2.03E-01 | |
| SB-127 | 473.00 | 25.00 | 7.52E+01 | 6.26E+01 | -1.63E+01 | 3.56E+01 | |
| | 685.20 | 35.70 | 6.26E+01 | | 4.19E+01 | 2.94E+01 | |
| | 783.80 | 14.70 | 1.64E+02 | | 8.02E+01 | 7.68E+01 | |
| I-129 | 29.78 | 57.00 | 4.81E-01 | 4.81E-01 | -1.74E-01 | 2.34E-01 | |
| | 33.60 | 13.20 | 1.41E+00 | | 1.29E-01 | 6.86E-01 | |
| | 39.58 | 7.52 | 1.64E+00 | | -1.49E-01 | 7.97E-01 | |
| I-131 | 284.30 | 6.05 | 1.69E+01 | 1.20E+00 | -4.95E+00 | 8.16E+00 | |
| | 364.48 | 81.20 | 1.20E+00 | | -5.03E-01 | 5.71E-01 | |
| | 636.97 | 7.26 | 1.63E+01 | | -2.26E+00 | 7.62E+00 | |
| | 722.89 | 1.80 | 7.77E+01 | | 1.37E+01 | 3.65E+01 | |
| TE-132 | 49.72 | 13.10 | 3.96E+02 | 5.29E+01 | -1.87E+02 | 1.93E+02 | |
| | 228.16 | 88.00 | 5.29E+01 | | 7.21E+00 | 2.56E+01 | |
| BA-133 | 81.00 | 33.00 | 1.93E-01 | 1.68E-01 | -1.39E+00 | 9.43E-02 | |
| | 302.84 | 17.80 | 4.41E-01 | | 5.10E-02 | 2.12E-01 | |
| | 356.01 | 60.00 | 1.68E-01 | | -2.15E-02 | 8.13E-02 | |
| I-133 | 529.87 | 86.30 | 2.61E+09 | 2.61E+09 | -2.12E+09 | 1.23E+09 | |
| XE-133 | 81.00 | 38.00 | 8.91E+00 | 8.91E+00 | -6.40E+01 | 4.35E+00 | |
| CS-134 | 563.23 | 8.38 | 1.10E+00 | 1.13E-01 | 3.57E-01 | 5.21E-01 | |
| | 569.32 | 15.43 | 5.78E-01 | | 6.95E-02 | 2.72E-01 | |

Analysis Report for 1510085-17

CP5006S14-15

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| CS-134 | 604.70 | 97.60 | 1.13E-01 | 1.13E-01 | -7.54E-02 | 5.38E-02 |
| | 795.84 | 85.40 | 1.29E-01 | | 3.52E-02 | 6.03E-02 |
| | 801.93 | 8.73 | 1.16E+00 | | 5.80E-01 | 5.39E-01 |
| CS-135 | 268.24 | 16.00 | 5.14E-01 | 5.14E-01 | -5.44E-02 | 2.49E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 4.17E+00 | 4.55E-01 | 4.51E+00 | 2.02E+00 |
| | 163.89 | 4.61 | 6.30E+00 | | 6.39E-01 | 3.05E+00 |
| | 176.55 | 13.56 | 2.17E+00 | | 3.58E-02 | 1.05E+00 |
| | 273.65 | 12.66 | 3.12E+00 | | -1.63E+00 | 1.51E+00 |
| | 340.57 | 48.50 | 1.02E+00 | | 1.47E+00 | 4.94E-01 |
| | 818.50 | 99.70 | 4.55E-01 | | -1.68E-01 | 2.11E-01 |
| | 1048.07 | 79.60 | 6.97E-01 | | 6.41E-02 | 3.22E-01 |
| | 1235.34 | 19.70 | 3.69E+00 | | 2.34E-01 | 1.72E+00 |
| CS-137 | 661.65 | 85.12 | 1.14E-01 | 1.14E-01 | -8.79E-03 | 5.36E-02 |
| LA-138 | 788.74 | 34.00 | 2.94E-01 | 1.46E-01 | 7.26E-02 | 1.37E-01 |
| | 1435.80 | 66.00 | 1.46E-01 | | -5.93E-02 | 6.45E-02 |
| CE-139 | 165.85 | 80.35 | 8.33E-02 | 8.33E-02 | -2.10E-02 | 4.03E-02 |
| BA-140 | 162.64 | 6.70 | 4.55E+00 | 1.78E+00 | 4.00E-01 | 2.20E+00 |
| | 304.84 | 4.50 | 7.88E+00 | | 1.11E+00 | 3.77E+00 |
| | 423.70 | 3.20 | 1.30E+01 | | 1.53E+00 | 6.20E+00 |
| | 437.55 | 2.00 | 2.11E+01 | | 1.04E+00 | 1.00E+01 |
| | 537.32 | 25.00 | 1.78E+00 | | -8.10E-02 | 8.42E-01 |
| LA-140 | 328.77 | 20.50 | 2.04E+00 | 6.48E-01 | 2.81E-01 | 9.81E-01 |
| | 487.03 | 45.50 | 9.84E-01 | | 5.10E-01 | 4.67E-01 |
| | 815.85 | 23.50 | 2.07E+00 | | -5.36E-02 | 9.59E-01 |
| | 1596.49 | 95.49 | 6.48E-01 | | 0.00E+00 | 2.92E-01 |
| CE-141 | 145.44 | 48.40 | 2.39E-01 | 2.39E-01 | 1.86E-01 | 1.16E-01 |
| CE-143 | 57.36 | 11.80 | 2.74E+06 | 9.72E+05 | -1.91E+05 | 1.34E+06 |
| | 293.26 | 42.00 | 9.72E+05 | | 1.70E+06 | 4.73E+05 |
| | 664.55 | 5.20 | 7.34E+06 | | 3.84E+06 | 3.46E+06 |
| CE-144 | 133.54 | 10.80 | 5.78E-01 | 5.78E-01 | 1.04E-01 | 2.81E-01 |
| PM-144 | 476.78 | 42.00 | 1.95E-01 | 8.81E-02 | -6.29E-02 | 9.22E-02 |
| | 618.01 | 98.60 | 8.81E-02 | | -8.08E-03 | 4.11E-02 |
| | 696.49 | 99.49 | 1.02E-01 | | -1.87E-02 | 4.75E-02 |
| PM-145 | 36.85 | 21.70 | 6.59E-01 | 3.59E-01 | -4.66E-01 | 3.20E-01 |
| | 37.36 | 39.70 | 3.59E-01 | | -4.22E-02 | 1.74E-01 |
| | 42.30 | 15.10 | 7.04E-01 | | -3.04E-02 | 3.42E-01 |
| | 72.40 | 2.31 | 4.12E+00 | | -4.43E+00 | 2.03E+00 |
| PM-146 | 453.90 | 39.94 | 1.99E-01 | 1.99E-01 | 5.23E-02 | 9.44E-02 |
| | 735.90 | 14.01 | 6.28E-01 | | -2.26E-01 | 2.91E-01 |
| | 747.13 | 13.10 | 7.14E-01 | | -1.90E-01 | 3.32E-01 |
| ND-147 | 91.11 | 28.90 | 1.78E+00 | 1.78E+00 | -9.69E-01 | 8.72E-01 |
| | 531.02 | 13.10 | 4.17E+00 | | -1.57E+00 | 1.96E+00 |
| PM-149 | 285.90 | 3.10 | 3.06E+04 | 3.06E+04 | 7.78E+03 | 1.48E+04 |
| EU-152 | 121.78 | 20.50 | 2.77E-01 | 2.77E-01 | 5.92E-03 | 1.35E-01 |
| | 244.69 | 5.40 | 1.67E+00 | | 7.42E-02 | 8.13E-01 |
| | 344.27 | 19.13 | 4.13E-01 | | 5.85E-02 | 1.98E-01 |
| | 778.89 | 9.20 | 1.02E+00 | | -4.04E-01 | 4.76E-01 |
| | 964.01 | 10.40 | 1.23E+00 | | 2.44E-01 | 5.74E-01 |
| | 1085.78 | 7.22 | 1.37E+00 | | -2.17E-01 | 6.24E-01 |
| | 1112.02 | 9.60 | 1.24E+00 | | 5.22E-01 | 5.72E-01 |

Analysis Report for 1510085-17

CP5006S14-15

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| EU-152 | 1407.95 | 14.94 | 8.19E-01 | 2.77E-01 | -5.41E-02 | 3.73E-01 |
| GD-153 | 97.43 | 31.30 | 1.93E-01 | 1.93E-01 | -1.88E-01 | 9.38E-02 |
| | 103.18 | 22.20 | 2.61E-01 | | -2.50E-02 | 1.27E-01 |
| EU-154 | 123.07 | 40.50 | 1.46E-01 | 1.46E-01 | 1.31E-01 | 7.08E-02 |
| | 723.30 | 19.70 | 5.34E-01 | | 9.41E-02 | 2.51E-01 |
| | 873.19 | 11.50 | 8.76E-01 | | 2.34E-01 | 4.06E-01 |
| | 996.32 | 10.30 | 9.64E-01 | | -8.90E-02 | 4.42E-01 |
| | 1004.76 | 17.90 | 5.33E-01 | | -2.54E-01 | 2.43E-01 |
| | 1274.45 | 35.50 | 3.39E-01 | | -4.64E-02 | 1.55E-01 |
| + EU-155 | 86.50 * | 30.90 | 4.96E-01 | 2.75E-01 | 4.91E-01 | 2.46E-01 |
| | 105.30 | 20.70 | 2.75E-01 | | 1.38E-01 | 1.34E-01 |
| EU-156 | 811.77 | 10.40 | 3.78E+00 | 3.78E+00 | 1.31E+00 | 1.76E+00 |
| | 1153.47 | 7.20 | 6.94E+00 | | -8.46E-01 | 3.21E+00 |
| | 1230.71 | 8.90 | 5.66E+00 | | 3.90E-01 | 2.61E+00 |
| HO-166M | 184.41 | 72.60 | 1.07E-01 | 1.07E-01 | 1.76E-01 | 5.23E-02 |
| | 280.45 | 29.60 | 2.69E-01 | | 8.71E-02 | 1.30E-01 |
| | 410.94 | 11.10 | 8.00E-01 | | -3.40E-03 | 3.83E-01 |
| | 711.69 | 54.10 | 1.87E-01 | | 7.99E-02 | 8.80E-02 |
| TM-171 | 66.72 | 0.14 | 5.86E+01 | 5.86E+01 | -6.61E+01 | 2.87E+01 |
| HF-172 | 81.75 | 4.52 | 1.47E+00 | 5.15E-01 | -5.14E+00 | 7.18E-01 |
| | 125.81 | 11.30 | 5.15E-01 | | 2.46E-01 | 2.50E-01 |
| LU-172 | 181.53 | 20.60 | 6.77E+00 | 3.88E+00 | 5.49E-01 | 3.28E+00 |
| | 810.06 | 16.63 | 1.30E+01 | | -2.93E-01 | 6.04E+00 |
| | 912.12 | 15.25 | 2.86E+01 | | 5.92E+01 | 1.37E+01 |
| | 1093.66 | 62.50 | 3.88E+00 | | -1.44E+00 | 1.78E+00 |
| LU-173 | 100.72 | 5.24 | 1.08E+00 | 4.11E-01 | -1.56E-01 | 5.27E-01 |
| | 272.11 | 21.20 | 4.11E-01 | | 2.08E-01 | 1.99E-01 |
| HF-175 | 343.40 | 84.00 | 1.28E-01 | 1.28E-01 | 1.78E-02 | 6.12E-02 |
| LU-176 | 88.34 | 13.30 | 5.97E-01 | 7.63E-02 | 4.96E-02 | 2.93E-01 |
| | 201.83 | 86.00 | 8.63E-02 | | -3.07E-02 | 4.19E-02 |
| | 306.78 | 94.00 | 7.63E-02 | | 2.33E-02 | 3.66E-02 |
| TA-182 | 67.75 | 41.20 | 2.28E-01 | 2.28E-01 | -5.46E-02 | 1.12E-01 |
| | 1121.30 | 34.90 | 5.16E-01 | | 3.69E-01 | 2.43E-01 |
| | 1189.05 | 16.23 | 9.51E-01 | | -1.15E-02 | 4.40E-01 |
| | 1221.41 | 26.98 | 5.74E-01 | | -1.63E-01 | 2.66E-01 |
| | 1231.02 | 11.44 | 1.30E+00 | | 9.94E-03 | 5.99E-01 |
| IR-192 | 308.46 | 29.68 | 3.21E-01 | 2.27E-01 | 6.56E-02 | 1.54E-01 |
| | 468.07 | 48.10 | 2.27E-01 | | -2.38E-01 | 1.08E-01 |
| HG-203 | 279.19 | 77.30 | 1.63E-01 | 1.63E-01 | 2.21E-02 | 7.89E-02 |
| BI-207 | 569.67 | 97.72 | 8.71E-02 | 8.71E-02 | -2.11E-02 | 4.09E-02 |
| | 1063.62 | 74.90 | 1.39E-01 | | -6.50E-02 | 6.39E-02 |
| + TL-208 | 583.14 * | 30.22 | 4.08E-01 | 4.60E-02 | 1.25E+00 | 1.95E-01 |
| | 860.37 * | 4.48 | 3.77E+00 | | 2.59E+00 | 1.81E+00 |
| | 2614.66 * | 35.85 | 4.60E-02 | | 1.41E+00 | 0.00E+00 |
| BI-210M | 262.00 | 45.00 | 1.66E-01 | 1.66E-01 | 1.74E-02 | 8.00E-02 |
| | 300.00 | 23.00 | 3.52E-01 | | -1.24E+00 | 1.70E-01 |
| + PB-210 | 46.50 * | 4.25 | 2.71E+00 | 2.71E+00 | 1.86E+00 | 1.32E+00 |
| PB-211 | 404.84 | 2.90 | 2.74E+00 | 2.74E+00 | -1.50E+00 | 1.31E+00 |
| | 831.96 | 2.90 | 3.53E+00 | | 2.59E+00 | 1.64E+00 |
| + BI-212 | 727.17 * | 11.80 | 9.90E-01 | 9.90E-01 | 1.33E+00 | 4.68E-01 |
| | 1620.62 | 2.75 | 3.75E+00 | | 1.94E+00 | 1.65E+00 |
| + PB-212 | 238.63 * | 44.60 | 3.23E-01 | 3.23E-01 | 1.80E+00 | 1.59E-01 |
| | 300.09 * | 3.41 | 3.52E+00 | | 2.35E+00 | 1.72E+00 |

Analysis Report for 1510085-17
CP5006S14-15

| | Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | | |
|---------|---------------------|---------------------|--------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|-----------|----------|
| + | BI-214 | 609.31 | * | 46.30 | 2.24E-01 | 2.15E-01 | 1.39E+00 | 1.06E-01 | | |
| | | 1120.29 | * | 15.10 | 1.26E+00 | | 7.69E-01 | 6.02E-01 | | |
| | | 1764.49 | * | 15.80 | 2.15E-01 | | 1.41E+00 | 6.66E-02 | | |
| | | 2204.22 | | 4.98 | 2.56E+00 | | 7.55E-01 | 1.13E+00 | | |
| + | PB-214 | 295.21 | * | 19.19 | 6.13E-01 | 3.52E-01 | 1.78E+00 | 2.99E-01 | | |
| | | 351.92 | * | 37.19 | 3.52E-01 | | 1.36E+00 | 1.72E-01 | | |
| | RN-219 | 401.80 | | 6.50 | 1.24E+00 | 1.24E+00 | -6.34E-02 | 5.92E-01 | | |
| | RA-223 | 323.87 | | 3.88 | 2.13E+00 | 2.13E+00 | 2.36E-01 | 1.02E+00 | | |
| + | RA-224 | 240.98 | * | 3.95 | 3.69E+00 | 3.69E+00 | 5.22E+00 | 1.82E+00 | | |
| | | 40.00 | | 31.00 | 1.59E+00 | | 1.59E+00 | -1.44E-01 | 7.73E-01 | |
| + | RA-226 | 186.21 | * | 3.28 | 2.91E+00 | 2.91E+00 | 3.61E+00 | 1.42E+00 | | |
| | | TH-227 | 50.10 | | 8.40 | | 1.01E+00 | 1.01E+00 | -4.79E-01 | 4.94E-01 |
| | | | 236.00 | | 11.50 | | 1.19E+00 | | 3.91E+00 | 5.85E-01 |
| | | 256.20 | | 6.30 | 1.25E+00 | | 1.01E+00 | 6.04E-01 | | |
| + | AC-228 | 338.32 | * | 11.40 | 9.95E-01 | 6.05E-01 | 1.28E+00 | 4.83E-01 | | |
| | | 911.07 | * | 27.70 | 6.05E-01 | | 1.73E+00 | 2.89E-01 | | |
| | | 969.11 | * | 16.60 | 1.06E+00 | | 8.81E-01 | 5.07E-01 | | |
| TH-230 | | 48.44 | | 16.90 | 5.73E-01 | 5.73E-01 | 5.01E-04 | 2.80E-01 | | |
| | | 62.85 | | 4.60 | 1.96E+00 | | 2.41E+00 | 9.60E-01 | | |
| | | 67.67 | | 0.37 | 2.12E+01 | | -5.07E+00 | 1.04E+01 | | |
| PA-231 | | 283.67 | | 1.60 | 4.78E+00 | 3.40E+00 | -1.40E+00 | 2.30E+00 | | |
| | | 302.67 | | 2.30 | 3.40E+00 | | 3.92E-01 | 1.63E+00 | | |
| TH-231 | | 25.64 | | 14.70 | 3.54E+00 | 1.04E+00 | 9.17E-01 | 1.72E+00 | | |
| | | 84.21 | | 6.40 | 1.04E+00 | | -2.43E+00 | 5.06E-01 | | |
| PA-233 | | 311.98 | | 38.60 | 4.08E-01 | 4.08E-01 | -1.25E-02 | 1.96E-01 | | |
| PA-234 | | 131.20 | | 20.40 | 2.99E-01 | 2.99E-01 | 2.05E-01 | 1.45E-01 | | |
| | | 733.99 | | 8.80 | 1.02E+00 | | 2.34E-01 | 4.74E-01 | | |
| | | 946.00 | | 12.00 | 8.93E-01 | | 4.66E-01 | 4.14E-01 | | |
| PA-234M | | 1001.03 | | 0.92 | 1.11E+01 | 1.11E+01 | 2.23E+00 | 5.11E+00 | | |
| TH-234 | | 63.29 | | 3.80 | 2.31E+00 | 2.31E+00 | 4.73E-01 | 1.13E+00 | | |
| U-235 | | 143.76 | | 10.50 | 5.93E-01 | 5.93E-01 | 2.86E-01 | 2.88E-01 | | |
| | | 163.35 | | 4.70 | 1.26E+00 | | 1.28E-01 | 6.12E-01 | | |
| | | 205.31 | | 4.70 | 1.59E+00 | | 7.48E-02 | 7.72E-01 | | |
| + | NP-237 | 86.50 | * | 12.60 | 1.20E+00 | 1.20E+00 | 1.19E+00 | 5.96E-01 | | |
| | | NP-239 | 106.10 | | 22.70 | | 1.77E+03 | 1.77E+03 | 6.65E+02 | 8.60E+02 |
| | | | 228.18 | | 10.70 | | 5.07E+03 | 6.91E+02 | 2.46E+03 | |
| | | | 277.60 | | 14.10 | | 3.89E+03 | 1.24E+03 | 1.88E+03 | |
| AM-241 | | 59.54 | | 35.90 | 2.38E-01 | 2.38E-01 | -7.33E-02 | 1.17E-01 | | |
| AM-243 | | 74.67 | | 66.00 | 1.69E-01 | 1.69E-01 | 5.12E-01 | 8.33E-02 | | |
| + | CM-243 | 209.75 | * | 3.29 | 3.07E+00 | 5.24E-01 | 2.59E+00 | 1.50E+00 | | |
| | | 228.14 | | 10.60 | 7.31E-01 | | 9.96E-02 | 3.54E-01 | | |
| | | 277.60 | * | 14.00 | 5.24E-01 | | 2.99E-01 | 2.52E-01 | | |

+ = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

Analysis Report for 1510085-17
CP5006S14-15

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

0986A

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S14-15

Elapsed Live time: 3600
 Elapsed Real Time: 3616

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 18 | 167 | 159 | 152 | 108 | 97 | 103 | 110 |
| 17: | 115 | 94 | 87 | 96 | 89 | 81 | 87 | 83 |
| 25: | 75 | 74 | 87 | 88 | 69 | 71 | 70 | 91 |
| 33: | 83 | 75 | 79 | 77 | 85 | 63 | 95 | 106 |
| 41: | 94 | 67 | 88 | 74 | 95 | 130 | 191 | 95 |
| 49: | 83 | 104 | 97 | 106 | 137 | 118 | 118 | 120 |
| 57: | 119 | 134 | 132 | 147 | 175 | 145 | 180 | 228 |
| 65: | 164 | 141 | 160 | 148 | 142 | 150 | 148 | 160 |
| 73: | 184 | 216 | 466 | 295 | 510 | 435 | 120 | 100 |
| 81: | 131 | 92 | 111 | 142 | 145 | 125 | 233 | 220 |
| 89: | 141 | 175 | 128 | 139 | 259 | 192 | 105 | 72 |
| 97: | 74 | 81 | 100 | 100 | 67 | 74 | 68 | 82 |
| 105: | 95 | 104 | 82 | 80 | 81 | 94 | 76 | 77 |
| 113: | 84 | 81 | 104 | 76 | 79 | 75 | 64 | 73 |
| 121: | 86 | 90 | 67 | 83 | 99 | 73 | 60 | 72 |
| 129: | 116 | 97 | 73 | 79 | 71 | 79 | 76 | 82 |
| 137: | 64 | 81 | 81 | 92 | 71 | 76 | 84 | 90 |
| 145: | 83 | 83 | 75 | 62 | 58 | 51 | 77 | 63 |
| 153: | 97 | 86 | 83 | 64 | 65 | 71 | 63 | 64 |
| 161: | 79 | 75 | 68 | 57 | 51 | 74 | 56 | 60 |
| 169: | 63 | 54 | 53 | 65 | 58 | 54 | 70 | 63 |
| 177: | 60 | 67 | 42 | 51 | 74 | 59 | 63 | 62 |
| 185: | 79 | 160 | 119 | 66 | 50 | 50 | 65 | 60 |
| 193: | 48 | 59 | 42 | 61 | 62 | 78 | 54 | 60 |
| 201: | 45 | 61 | 53 | 57 | 54 | 50 | 53 | 52 |
| 209: | 78 | 91 | 48 | 37 | 41 | 51 | 44 | 55 |
| 217: | 46 | 57 | 46 | 53 | 57 | 50 | 57 | 35 |
| 225: | 47 | 42 | 55 | 49 | 58 | 44 | 51 | 53 |
| 233: | 45 | 40 | 49 | 49 | 64 | 207 | 605 | 192 |
| 241: | 93 | 144 | 90 | 43 | 32 | 35 | 37 | 41 |
| 249: | 32 | 44 | 29 | 28 | 45 | 43 | 46 | 33 |
| 257: | 47 | 37 | 46 | 37 | 35 | 26 | 41 | 36 |
| 265: | 36 | 25 | 37 | 31 | 41 | 61 | 71 | 44 |
| 273: | 31 | 28 | 29 | 36 | 43 | 43 | 44 | 26 |
| 281: | 36 | 44 | 28 | 41 | 35 | 22 | 30 | 39 |
| 289: | 37 | 25 | 21 | 31 | 32 | 32 | 152 | 142 |
| 297: | 44 | 28 | 28 | 55 | 45 | 22 | 20 | 23 |
| 305: | 27 | 29 | 29 | 21 | 30 | 22 | 31 | 18 |
| 313: | 29 | 17 | 34 | 31 | 23 | 37 | 25 | 32 |
| 321: | 36 | 32 | 32 | 33 | 30 | 32 | 25 | 41 |
| 329: | 40 | 34 | 19 | 20 | 23 | 31 | 29 | 19 |
| 337: | 29 | 83 | 99 | 27 | 22 | 31 | 22 | 26 |
| 345: | 23 | 33 | 22 | 24 | 33 | 44 | 89 | 262 |
| 353: | 137 | 34 | 19 | 30 | 27 | 15 | 18 | 28 |
| 361: | 18 | 17 | 18 | 15 | 26 | 24 | 14 | 23 |

369: 25 21 24 25 21 31 11 19

Sample Title: CP5006S14-15

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 23 | 27 | 21 | 16 | 13 | 26 | 18 | 23 |
| 385: | 18 | 19 | 18 | 22 | 19 | 18 | 27 | 18 |
| 393: | 22 | 22 | 16 | 21 | 29 | 23 | 30 | 21 |
| 401: | 16 | 17 | 21 | 21 | 17 | 16 | 19 | 26 |
| 409: | 23 | 34 | 18 | 24 | 22 | 21 | 29 | 28 |
| 417: | 16 | 14 | 22 | 13 | 20 | 15 | 24 | 12 |
| 425: | 16 | 22 | 24 | 19 | 18 | 9 | 26 | 10 |
| 433: | 12 | 20 | 18 | 22 | 15 | 21 | 17 | 22 |
| 441: | 14 | 28 | 11 | 18 | 14 | 12 | 17 | 18 |
| 449: | 14 | 11 | 17 | 13 | 20 | 12 | 13 | 21 |
| 457: | 13 | 15 | 14 | 7 | 13 | 22 | 38 | 24 |
| 465: | 14 | 11 | 16 | 21 | 16 | 18 | 17 | 17 |
| 473: | 19 | 15 | 8 | 20 | 11 | 24 | 9 | 9 |
| 481: | 15 | 14 | 18 | 13 | 18 | 16 | 18 | 29 |
| 489: | 11 | 15 | 9 | 13 | 12 | 11 | 11 | 17 |
| 497: | 13 | 19 | 16 | 13 | 9 | 15 | 17 | 11 |
| 505: | 16 | 9 | 12 | 9 | 21 | 52 | 76 | 42 |
| 513: | 15 | 16 | 17 | 13 | 10 | 12 | 4 | 10 |
| 521: | 15 | 12 | 12 | 13 | 18 | 9 | 16 | 11 |
| 529: | 4 | 17 | 13 | 12 | 11 | 20 | 20 | 15 |
| 537: | 13 | 13 | 12 | 6 | 20 | 12 | 13 | 11 |
| 545: | 16 | 13 | 16 | 24 | 14 | 16 | 8 | 12 |
| 553: | 6 | 15 | 15 | 9 | 13 | 15 | 7 | 21 |
| 561: | 16 | 12 | 12 | 10 | 13 | 13 | 9 | 15 |
| 569: | 11 | 10 | 16 | 14 | 9 | 15 | 13 | 14 |
| 577: | 14 | 17 | 8 | 16 | 17 | 29 | 118 | 87 |
| 585: | 17 | 10 | 6 | 16 | 11 | 15 | 10 | 14 |
| 593: | 19 | 11 | 13 | 7 | 12 | 10 | 11 | 18 |
| 601: | 16 | 13 | 19 | 19 | 13 | 10 | 8 | 42 |
| 609: | 138 | 145 | 41 | 10 | 11 | 8 | 10 | 13 |
| 617: | 11 | 8 | 5 | 14 | 6 | 12 | 9 | 7 |
| 625: | 9 | 16 | 12 | 7 | 9 | 12 | 10 | 14 |
| 633: | 15 | 12 | 7 | 9 | 17 | 8 | 6 | 15 |
| 641: | 10 | 8 | 9 | 9 | 6 | 17 | 9 | 11 |
| 649: | 14 | 14 | 8 | 18 | 14 | 10 | 12 | 6 |
| 657: | 10 | 15 | 12 | 10 | 15 | 8 | 15 | 12 |
| 665: | 12 | 14 | 11 | 9 | 6 | 12 | 12 | 6 |
| 673: | 7 | 11 | 11 | 10 | 14 | 11 | 6 | 8 |
| 681: | 6 | 11 | 9 | 9 | 14 | 17 | 10 | 13 |
| 689: | 5 | 11 | 9 | 12 | 11 | 10 | 11 | 15 |
| 697: | 11 | 8 | 8 | 14 | 11 | 11 | 12 | 11 |
| 705: | 7 | 12 | 9 | 7 | 14 | 11 | 11 | 7 |
| 713: | 14 | 11 | 13 | 9 | 10 | 10 | 5 | 10 |
| 721: | 15 | 14 | 8 | 9 | 13 | 15 | 26 | 25 |
| 729: | 16 | 11 | 10 | 6 | 6 | 11 | 9 | 7 |
| 737: | 10 | 4 | 8 | 13 | 9 | 7 | 14 | 9 |
| 745: | 14 | 7 | 5 | 10 | 7 | 9 | 7 | 13 |
| 753: | 9 | 13 | 12 | 11 | 11 | 9 | 7 | 14 |
| 761: | 5 | 9 | 7 | 11 | 10 | 16 | 14 | 16 |
| 769: | 31 | 15 | 11 | 12 | 8 | 10 | 6 | 9 |
| 777: | 11 | 10 | 8 | 5 | 6 | 9 | 15 | 9 |
| 785: | 13 | 13 | 11 | 9 | 9 | 9 | 8 | 6 |
| 793: | 7 | 13 | 22 | 13 | 8 | 5 | 6 | 12 |

801: 8 14 6 4 11 5 6 7

Sample Title: CP5006S14-15

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 809: | 10 | 8 | 7 | 5 | 14 | 7 | 10 | 10 |
| 817: | 4 | 4 | 6 | 9 | 9 | 7 | 10 | 8 |
| 825: | 6 | 12 | 4 | 2 | 9 | 11 | 7 | 7 |
| 833: | 10 | 10 | 8 | 7 | 5 | 8 | 10 | 7 |
| 841: | 8 | 7 | 7 | 7 | 4 | 6 | 7 | 9 |
| 849: | 8 | 4 | 11 | 10 | 8 | 7 | 4 | 8 |
| 857: | 13 | 7 | 11 | 22 | 20 | 12 | 8 | 5 |
| 865: | 3 | 8 | 8 | 7 | 4 | 6 | 6 | 9 |
| 873: | 7 | 9 | 8 | 9 | 6 | 8 | 8 | 12 |
| 881: | 7 | 7 | 13 | 10 | 3 | 6 | 5 | 9 |
| 889: | 6 | 10 | 3 | 6 | 6 | 7 | 2 | 7 |
| 897: | 2 | 7 | 9 | 9 | 7 | 5 | 8 | 13 |
| 905: | 6 | 7 | 8 | 7 | 12 | 30 | 73 | 62 |
| 913: | 14 | 6 | 5 | 11 | 7 | 4 | 5 | 3 |
| 921: | 3 | 5 | 6 | 4 | 5 | 5 | 8 | 5 |
| 929: | 5 | 6 | 7 | 9 | 15 | 16 | 13 | 3 |
| 937: | 4 | 5 | 11 | 9 | 2 | 9 | 5 | 6 |
| 945: | 6 | 10 | 13 | 9 | 5 | 5 | 4 | 7 |
| 953: | 4 | 6 | 5 | 3 | 3 | 7 | 7 | 7 |
| 961: | 4 | 8 | 12 | 8 | 21 | 11 | 11 | 26 |
| 969: | 42 | 24 | 5 | 3 | 6 | 2 | 9 | 5 |
| 977: | 7 | 8 | 3 | 8 | 4 | 6 | 4 | 5 |
| 985: | 10 | 6 | 6 | 5 | 7 | 3 | 6 | 2 |
| 993: | 6 | 5 | 6 | 7 | 6 | 5 | 6 | 6 |
| 1001: | 10 | 10 | 3 | 4 | 4 | 5 | 6 | 5 |
| 1009: | 6 | 8 | 11 | 6 | 10 | 7 | 4 | 10 |
| 1017: | 10 | 4 | 9 | 7 | 5 | 9 | 6 | 6 |
| 1025: | 6 | 6 | 9 | 6 | 7 | 9 | 5 | 5 |
| 1033: | 7 | 6 | 5 | 4 | 9 | 7 | 7 | 3 |
| 1041: | 3 | 7 | 6 | 1 | 8 | 4 | 4 | 7 |
| 1049: | 7 | 12 | 9 | 16 | 4 | 9 | 6 | 4 |
| 1057: | 4 | 4 | 9 | 6 | 6 | 8 | 5 | 8 |
| 1065: | 5 | 3 | 8 | 10 | 3 | 7 | 6 | 12 |
| 1073: | 5 | 10 | 3 | 10 | 7 | 9 | 9 | 9 |
| 1081: | 7 | 5 | 8 | 8 | 2 | 4 | 4 | 4 |
| 1089: | 5 | 4 | 7 | 6 | 6 | 4 | 8 | 7 |
| 1097: | 13 | 8 | 5 | 9 | 11 | 6 | 4 | 7 |
| 1105: | 7 | 5 | 4 | 6 | 8 | 8 | 8 | 9 |
| 1113: | 5 | 7 | 5 | 6 | 4 | 6 | 12 | 24 |
| 1121: | 17 | 10 | 5 | 8 | 7 | 10 | 5 | 6 |
| 1129: | 3 | 11 | 8 | 4 | 10 | 3 | 6 | 10 |
| 1137: | 10 | 4 | 9 | 7 | 9 | 5 | 3 | 8 |
| 1145: | 6 | 6 | 8 | 6 | 6 | 11 | 2 | 3 |
| 1153: | 4 | 10 | 8 | 16 | 6 | 7 | 7 | 5 |
| 1161: | 8 | 6 | 8 | 10 | 3 | 7 | 11 | 10 |
| 1169: | 10 | 7 | 7 | 7 | 7 | 4 | 7 | 9 |
| 1177: | 7 | 2 | 5 | 8 | 8 | 10 | 7 | 11 |
| 1185: | 9 | 4 | 8 | 9 | 7 | 7 | 7 | 11 |
| 1193: | 7 | 4 | 9 | 8 | 6 | 8 | 3 | 8 |
| 1201: | 8 | 8 | 4 | 10 | 8 | 5 | 7 | 6 |
| 1209: | 8 | 11 | 12 | 10 | 7 | 6 | 8 | 9 |
| 1217: | 11 | 7 | 5 | 5 | 7 | 5 | 11 | 11 |
| 1225: | 9 | 6 | 9 | 3 | 10 | 8 | 6 | 7 |

1233: 6 6 11 6 14 18 13 11

Sample Title: CP5006S14-15

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|---|----|-----|-----|-----|----|---|
| 1241: | 10 | 5 | 10 | 5 | 4 | 3 | 8 | 2 |
| 1249: | 3 | 5 | 1 | 5 | 8 | 9 | 3 | 6 |
| 1257: | 6 | 8 | 6 | 2 | 5 | 3 | 4 | 3 |
| 1265: | 7 | 3 | 1 | 4 | 2 | 3 | 4 | 3 |
| 1273: | 1 | 8 | 4 | 5 | 5 | 7 | 10 | 4 |
| 1281: | 8 | 6 | 4 | 8 | 1 | 2 | 5 | 6 |
| 1289: | 3 | 5 | 1 | 5 | 3 | 3 | 3 | 0 |
| 1297: | 8 | 2 | 2 | 5 | 3 | 3 | 2 | 4 |
| 1305: | 4 | 4 | 4 | 9 | 2 | 8 | 5 | 9 |
| 1313: | 7 | 1 | 3 | 8 | 5 | 4 | 4 | 3 |
| 1321: | 1 | 4 | 5 | 6 | 7 | 6 | 2 | 5 |
| 1329: | 2 | 4 | 5 | 5 | 6 | 8 | 6 | 5 |
| 1337: | 8 | 6 | 6 | 5 | 7 | 8 | 6 | 1 |
| 1345: | 2 | 4 | 2 | 3 | 1 | 6 | 5 | 2 |
| 1353: | 3 | 1 | 4 | 3 | 0 | 2 | 3 | 2 |
| 1361: | 3 | 4 | 2 | 5 | 4 | 3 | 3 | 3 |
| 1369: | 2 | 0 | 2 | 4 | 1 | 4 | 2 | 4 |
| 1377: | 5 | 9 | 5 | 3 | 5 | 5 | 3 | 4 |
| 1385: | 2 | 5 | 8 | 4 | 2 | 3 | 1 | 5 |
| 1393: | 6 | 2 | 4 | 3 | 0 | 2 | 2 | 3 |
| 1401: | 5 | 2 | 7 | 4 | 3 | 2 | 3 | 7 |
| 1409: | 9 | 0 | 2 | 5 | 4 | 5 | 1 | 3 |
| 1417: | 2 | 1 | 1 | 4 | 3 | 3 | 1 | 7 |
| 1425: | 3 | 8 | 1 | 1 | 2 | 5 | 0 | 0 |
| 1433: | 3 | 1 | 2 | 6 | 3 | 2 | 3 | 3 |
| 1441: | 3 | 1 | 3 | 2 | 0 | 2 | 3 | 2 |
| 1449: | 3 | 1 | 3 | 4 | 4 | 2 | 1 | 6 |
| 1457: | 4 | 8 | 54 | 174 | 216 | 104 | 14 | 1 |
| 1465: | 0 | 1 | 4 | 1 | 3 | 2 | 0 | 1 |
| 1473: | 0 | 3 | 3 | 1 | 3 | 2 | 2 | 2 |
| 1481: | 4 | 4 | 0 | 1 | 2 | 1 | 2 | 4 |
| 1489: | 2 | 1 | 0 | 2 | 4 | 2 | 3 | 0 |
| 1497: | 1 | 0 | 2 | 2 | 2 | 2 | 1 | 2 |
| 1505: | 5 | 2 | 1 | 5 | 6 | 3 | 4 | 1 |
| 1513: | 2 | 3 | 2 | 0 | 1 | 0 | 1 | 2 |
| 1521: | 2 | 1 | 0 | 3 | 1 | 3 | 1 | 1 |
| 1529: | 1 | 4 | 1 | 1 | 2 | 0 | 3 | 2 |
| 1537: | 3 | 4 | 0 | 2 | 4 | 3 | 0 | 1 |
| 1545: | 1 | 2 | 0 | 1 | 1 | 1 | 1 | 2 |
| 1553: | 2 | 1 | 2 | 2 | 0 | 4 | 1 | 1 |
| 1561: | 2 | 2 | 1 | 1 | 2 | 1 | 0 | 1 |
| 1569: | 2 | 0 | 1 | 1 | 2 | 0 | 2 | 2 |
| 1577: | 2 | 1 | 3 | 3 | 2 | 4 | 4 | 4 |
| 1585: | 0 | 0 | 3 | 13 | 4 | 1 | 3 | 6 |
| 1593: | 8 | 5 | 1 | 6 | 1 | 0 | 0 | 1 |
| 1601: | 0 | 1 | 0 | 4 | 2 | 1 | 1 | 3 |
| 1609: | 2 | 2 | 0 | 2 | 3 | 0 | 0 | 2 |
| 1617: | 0 | 3 | 2 | 3 | 3 | 2 | 2 | 2 |
| 1625: | 1 | 2 | 0 | 0 | 1 | 2 | 3 | 2 |
| 1633: | 1 | 1 | 1 | 1 | 1 | 0 | 5 | 0 |
| 1641: | 1 | 0 | 1 | 1 | 0 | 3 | 0 | 2 |
| 1649: | 2 | 2 | 0 | 1 | 1 | 2 | 1 | 0 |
| 1657: | 1 | 2 | 2 | 0 | 3 | 1 | 4 | 3 |

1665: 0 5 2 1 1 3 0 0

Sample Title: CP5006S14-15

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|----|----|---|---|---|
| 1673: | 1 | 0 | 1 | 2 | 4 | 0 | 2 | 3 |
| 1681: | 1 | 0 | 2 | 1 | 3 | 1 | 3 | 1 |
| 1689: | 0 | 1 | 2 | 2 | 1 | 1 | 0 | 1 |
| 1697: | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1705: | 4 | 1 | 2 | 2 | 0 | 1 | 0 | 0 |
| 1713: | 0 | 0 | 1 | 2 | 2 | 0 | 0 | 3 |
| 1721: | 1 | 1 | 0 | 2 | 1 | 4 | 3 | 4 |
| 1729: | 4 | 6 | 1 | 0 | 1 | 1 | 2 | 1 |
| 1737: | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 3 |
| 1745: | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 1753: | 1 | 3 | 0 | 3 | 1 | 0 | 0 | 0 |
| 1761: | 0 | 2 | 8 | 17 | 15 | 3 | 2 | 1 |
| 1769: | 0 | 0 | 3 | 2 | 1 | 1 | 1 | 1 |
| 1777: | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 3 |
| 1785: | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 0 |
| 1793: | 0 | 0 | 2 | 1 | 3 | 1 | 1 | 2 |
| 1801: | 2 | 0 | 1 | 0 | 1 | 1 | 2 | 2 |
| 1809: | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 1817: | 0 | 1 | 2 | 0 | 2 | 0 | 1 | 1 |
| 1825: | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 1 |
| 1833: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 1841: | 0 | 0 | 1 | 1 | 0 | 4 | 4 | 4 |
| 1849: | 1 | 0 | 2 | 2 | 2 | 1 | 1 | 1 |
| 1857: | 1 | 1 | 3 | 1 | 2 | 2 | 0 | 1 |
| 1865: | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 1873: | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 1 |
| 1881: | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 3 |
| 1889: | 0 | 2 | 0 | 2 | 0 | 5 | 2 | 0 |
| 1897: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| 1905: | 0 | 1 | 2 | 0 | 3 | 0 | 1 | 1 |
| 1913: | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 3 |
| 1921: | 1 | 3 | 2 | 0 | 1 | 3 | 0 | 1 |
| 1929: | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 |
| 1937: | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 1945: | 0 | 2 | 2 | 2 | 0 | 0 | 1 | 0 |
| 1953: | 0 | 2 | 1 | 0 | 2 | 0 | 2 | 0 |
| 1961: | 0 | 2 | 2 | 0 | 1 | 1 | 0 | 0 |
| 1969: | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 2 |
| 1977: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985: | 0 | 0 | 0 | 1 | 4 | 0 | 1 | 2 |
| 1993: | 0 | 3 | 1 | 1 | 0 | 0 | 1 | 1 |
| 2001: | 1 | 4 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2009: | 1 | 3 | 3 | 1 | 1 | 0 | 1 | 1 |
| 2017: | 2 | 1 | 0 | 0 | 4 | 1 | 1 | 1 |
| 2025: | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 2 |
| 2033: | 0 | 7 | 4 | 0 | 0 | 1 | 1 | 1 |
| 2041: | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 |
| 2049: | 1 | 2 | 0 | 0 | 1 | 3 | 2 | 0 |
| 2057: | 0 | 2 | 0 | 1 | 3 | 0 | 0 | 1 |
| 2065: | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 2 |
| 2073: | 0 | 0 | 3 | 1 | 0 | 1 | 1 | 0 |
| 2081: | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 |
| 2089: | 2 | 2 | 1 | 0 | 0 | 1 | 0 | 2 |

2097: 0 1 1 2 5 3 3 2

Sample Title: CP5006S14-15

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2105: | 2 | 0 | 0 | 2 | 1 | 1 | 1 | 0 |
| 2113: | 1 | 1 | 0 | 1 | 1 | 3 | 2 | 1 |
| 2121: | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 1 |
| 2129: | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 3 |
| 2137: | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 |
| 2145: | 1 | 1 | 2 | 0 | 1 | 3 | 1 | 1 |
| 2153: | 0 | 2 | 3 | 1 | 1 | 1 | 2 | 2 |
| 2161: | 0 | 0 | 2 | 0 | 1 | 0 | 2 | 2 |
| 2169: | 1 | 0 | 1 | 2 | 0 | 0 | 2 | 1 |
| 2177: | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 1 |
| 2185: | 0 | 2 | 1 | 1 | 1 | 1 | 0 | 0 |
| 2193: | 0 | 3 | 0 | 1 | 3 | 2 | 1 | 1 |
| 2201: | 0 | 3 | 9 | 3 | 2 | 1 | 0 | 0 |
| 2209: | 2 | 0 | 1 | 0 | 3 | 1 | 1 | 1 |
| 2217: | 2 | 2 | 1 | 0 | 1 | 2 | 0 | 0 |
| 2225: | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 |
| 2233: | 1 | 1 | 4 | 2 | 0 | 2 | 1 | 0 |
| 2241: | 1 | 1 | 1 | 2 | 1 | 0 | 1 | 1 |
| 2249: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 2257: | 0 | 0 | 2 | 3 | 2 | 0 | 3 | 1 |
| 2265: | 0 | 2 | 0 | 0 | 3 | 1 | 2 | 0 |
| 2273: | 1 | 1 | 0 | 0 | 1 | 3 | 0 | 0 |
| 2281: | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 1 |
| 2289: | 2 | 0 | 2 | 0 | 0 | 1 | 1 | 0 |
| 2297: | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 2 |
| 2305: | 0 | 1 | 3 | 0 | 2 | 1 | 1 | 2 |
| 2313: | 2 | 0 | 0 | 1 | 1 | 2 | 2 | 1 |
| 2321: | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 0 |
| 2329: | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 3 |
| 2337: | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 1 |
| 2345: | 2 | 2 | 3 | 0 | 3 | 2 | 0 | 1 |
| 2353: | 1 | 0 | 3 | 1 | 1 | 1 | 2 | 1 |
| 2361: | 0 | 0 | 3 | 0 | 1 | 0 | 2 | 2 |
| 2369: | 0 | 0 | 2 | 0 | 1 | 3 | 2 | 2 |
| 2377: | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 2385: | 3 | 2 | 0 | 2 | 0 | 0 | 1 | 0 |
| 2393: | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 1 |
| 2401: | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 |
| 2409: | 2 | 2 | 1 | 1 | 3 | 2 | 4 | 1 |
| 2417: | 2 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 2425: | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2433: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 2441: | 1 | 0 | 2 | 2 | 1 | 4 | 1 | 5 |
| 2449: | 1 | 0 | 1 | 0 | 3 | 1 | 2 | 1 |
| 2457: | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 1 |
| 2465: | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 |
| 2473: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2481: | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 1 |
| 2489: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2497: | 2 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| 2505: | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 1 |
| 2513: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

2529: 0 1 0 0 0 0 1 0

Sample Title: CP5006S14-15

| | | | | | | | | |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 2537: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2545: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 2553: | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| 2561: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2569: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2585: | 1 | 0 | 2 | 0 | 1 | 0 | 1 | 0 |
| 2593: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2601: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2609: | 0 | 0 | 2 | 6 | 16 | 20 | 28 | 9 |
| 2617: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2625: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2633: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 2641: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 2649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2657: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2665: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2673: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2681: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2689: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2697: | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 0 |
| 2705: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2713: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2729: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2737: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2745: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2753: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2769: | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2793: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2801: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2817: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2825: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2833: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2841: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2849: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 2 |
| 2865: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2873: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2881: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2913: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2921: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2929: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2937: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2945: | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 2953: | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |

2961: 1 0 0 0 1 0 0 0

Sample Title: CP5006S14-15

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2969: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2977: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2993: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3033: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3049: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3089: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3097: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 3129: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3137: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3153: | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3217: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3233: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3257: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3297: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3321: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3329: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| 3377: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

3393: 0 0 0 0 0 0 0 0 0

Sample Title: CP5006S14-15

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 3401: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3425: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3497: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3561: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3609: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3641: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3785: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3809: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

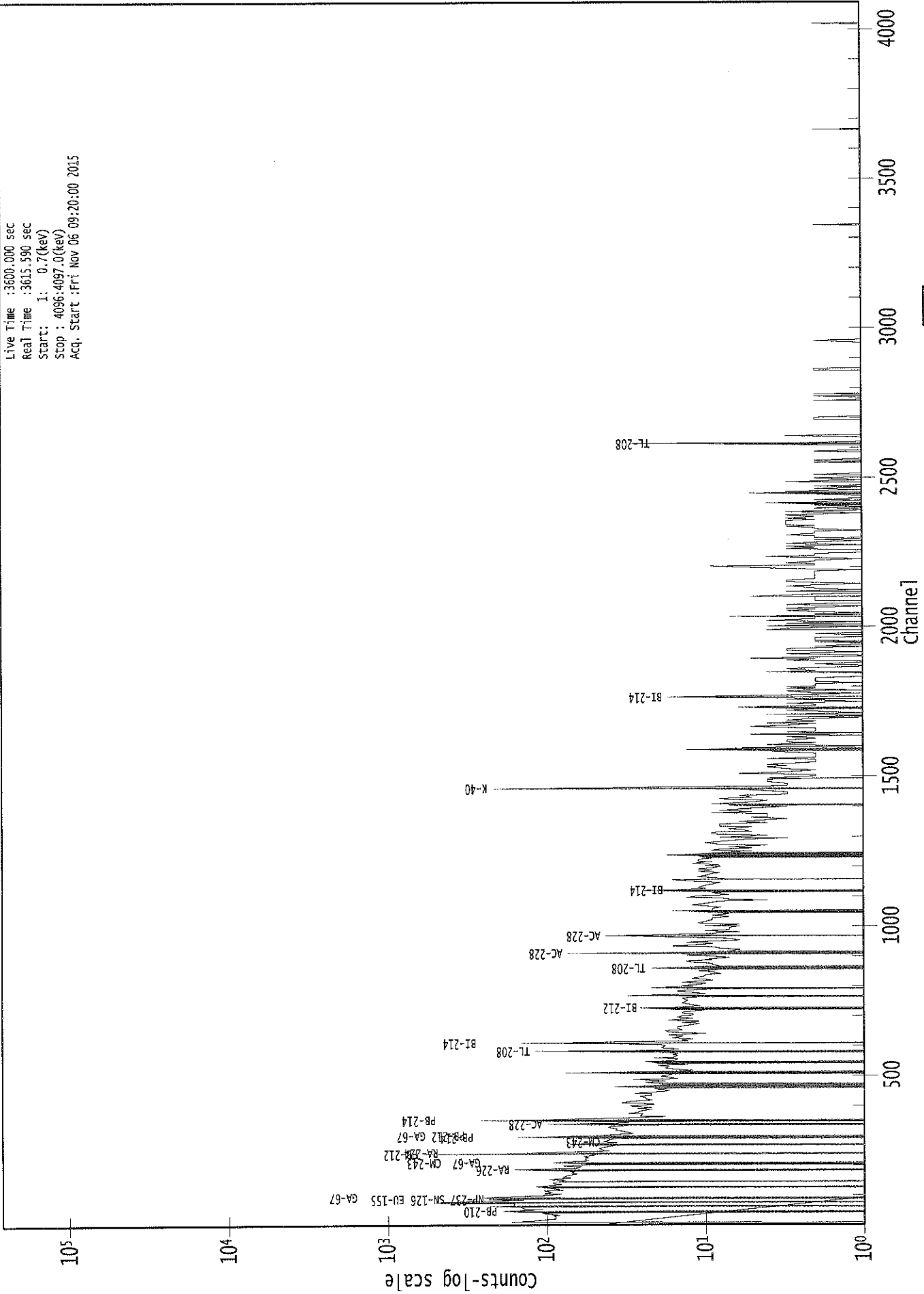
3825: 0 0 0 0 0 0 0 0

Sample Title: CP5006S14-15

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3873: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3913: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 3929: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3977: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4009: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 4089: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029249.CNF

Live Time : 3600.000 sec
Real Time : 3615.590 sec
Start : 1: 0.7 (keV)
Stop : 4096: 4097.0 (keV)
Acq. Start : Fri Nov 06 09:20:00 2015



Analysis Report for 1510085-18
CP5006S17-18

1006

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-18
Sample Description : CP5006S17-18
Sample Type : SOIL

Sample Size : 5.435E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:44:00AM
Acquisition Started : 11/6/2015 9:20:06AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE4
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3639.0 seconds

Dead Time : 1.07 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 15 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 11/8/2014
Efficiency Calibration Description :

Sample Number : 29250

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-18
CP5006S17-18

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 10:20:46AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 63.03 | 62.30 | 0.0000 | 0.00 |
| 2 | 75.79 | 75.06 | 0.0000 | 0.00 |
| 3 | 88.07 | 87.34 | 0.0000 | 0.00 |
| 4 | 105.65 | 104.93 | 0.0000 | 0.00 |
| 5 | 128.47 | 127.76 | 0.0000 | 0.00 |
| 6 | 186.28 | 185.60 | 0.0000 | 0.00 |
| 7 | 210.37 | 209.69 | 0.0000 | 0.00 |
| 8 | 224.17 | 223.50 | 0.0000 | 0.00 |
| 9 | 239.33 | 238.67 | 0.0000 | 0.00 |
| 10 | 270.12 | 269.47 | 0.0000 | 0.00 |
| 11 | 294.85 | 294.21 | 0.0000 | 0.00 |
| 12 | 328.80 | 328.17 | 0.0000 | 0.00 |
| 13 | 338.40 | 337.78 | 0.0000 | 0.00 |
| 14 | 351.68 | 351.07 | 0.0000 | 0.00 |
| 15 | 463.63 | 463.07 | 0.0000 | 0.00 |
| 16 | 511.12 | 510.58 | 0.0000 | 0.00 |
| 17 | 583.35 | 582.84 | 0.0000 | 0.00 |
| 18 | 609.30 | 608.81 | 0.0000 | 0.00 |
| 19 | 728.89 | 728.46 | 0.0000 | 0.00 |
| 20 | 794.23 | 793.83 | 0.0000 | 0.00 |
| 21 | 806.86 | 806.46 | 0.0000 | 0.00 |
| 22 | 911.66 | 911.32 | 0.0000 | 0.00 |
| 23 | 967.70 | 967.39 | 0.0000 | 0.00 |
| 24 | 991.80 | 991.50 | 0.0000 | 0.00 |
| 25 | 1120.16 | 1119.94 | 0.0000 | 0.00 |
| 26 | 1240.13 | 1239.97 | 0.0000 | 0.00 |
| 27 | 1325.16 | 1325.05 | 0.0000 | 0.00 |
| 28 | 1349.83 | 1349.74 | 0.0000 | 0.00 |
| 29 | 1415.19 | 1415.14 | 0.0000 | 0.00 |
| 30 | 1426.92 | 1426.87 | 0.0000 | 0.00 |
| 31 | 1461.24 | 1461.22 | 0.0000 | 0.00 |
| 32 | 1597.81 | 1597.86 | 0.0000 | 0.00 |
| 33 | 1649.82 | 1649.91 | 0.0000 | 0.00 |
| 34 | 1728.86 | 1729.00 | 0.0000 | 0.00 |
| 35 | 1765.21 | 1765.38 | 0.0000 | 0.00 |
| 36 | 2033.45 | 2033.80 | 0.0000 | 0.00 |
| 37 | 2073.67 | 2074.04 | 0.0000 | 0.00 |
| 38 | 2202.62 | 2203.08 | 0.0000 | 0.00 |
| 39 | 2400.79 | 2401.40 | 0.0000 | 0.00 |
| 40 | 2614.86 | 2615.63 | 0.0000 | 0.00 |

Analysis Report for 1510085-18

CP5006S17-18

? = Adjacent peak noted
Errors quoted at 2.00sigma

Analysis Report for 1510085-18
CP5006S17-18

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 10:20:46AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 1 | 63.03 | 56 - | 68 | 62.30 | 2.46E+02 | 140.08 | 2.20E+03 | 6.14 |
| 2 | 75.79 | 69 - | 80 | 75.06 | 8.69E+02 | 143.72 | 2.15E+03 | 4.13 |
| M 3 | 88.07 | 81 - | 109 | 87.34 | 4.04E+02 | 126.52 | 1.86E+03 | 6.09 |
| m 4 | 105.65 | 81 - | 109 | 104.93 | 7.26E+01 | 89.32 | 1.00E+03 | 3.08 |
| 5 | 128.47 | 125 - | 131 | 127.76 | 5.72E+01 | 66.99 | 7.70E+02 | 1.91 |
| 6 | 186.28 | 180 - | 189 | 185.60 | 8.53E+01 | 85.41 | 9.89E+02 | 1.81 |
| 7 | 210.37 | 206 - | 213 | 209.69 | 5.09E+01 | 60.30 | 5.64E+02 | 1.78 |
| 8 | 224.17 | 219 - | 228 | 223.50 | 6.05E+01 | 69.71 | 6.59E+02 | 5.54 |
| 9 | 239.33 | 232 - | 245 | 238.67 | 6.62E+02 | 97.41 | 7.49E+02 | 2.85 |
| 10 | 270.12 | 265 - | 273 | 269.47 | 4.83E+01 | 54.81 | 4.33E+02 | 3.45 |
| 11 | 294.85 | 289 - | 297 | 294.21 | 1.52E+02 | 60.15 | 4.63E+02 | 2.29 |
| M 12 | 328.80 | 320 - | 342 | 328.17 | 5.94E+01 | 48.52 | 3.44E+02 | 2.97 |
| m 13 | 338.40 | 320 - | 342 | 337.78 | 1.23E+02 | 45.96 | 2.62E+02 | 2.80 |
| 14 | 351.68 | 344 - | 355 | 351.07 | 2.84E+02 | 66.39 | 4.13E+02 | 2.35 |
| 15 | 463.63 | 458 - | 467 | 463.07 | 2.96E+01 | 37.59 | 1.85E+02 | 3.38 |
| 16 | 511.12 | 507 - | 515 | 510.58 | 7.97E+01 | 40.84 | 2.09E+02 | 1.71 |
| 17 | 583.35 | 576 - | 587 | 582.84 | 1.20E+02 | 46.00 | 2.05E+02 | 2.81 |
| 18 | 609.30 | 603 - | 613 | 608.81 | 1.60E+02 | 42.86 | 1.59E+02 | 2.72 |
| 19 | 728.89 | 722 - | 737 | 728.46 | 4.76E+01 | 45.08 | 1.85E+02 | 7.63 |
| 20 | 794.23 | 789 - | 797 | 793.83 | 3.15E+01 | 25.54 | 8.10E+01 | 1.38 |
| 21 | 806.86 | 801 - | 812 | 806.46 | 4.43E+01 | 28.28 | 7.74E+01 | 6.09 |
| 22 | 911.66 | 905 - | 916 | 911.32 | 8.82E+01 | 36.88 | 1.26E+02 | 2.44 |
| 23 | 967.70 | 960 - | 973 | 967.39 | 8.43E+01 | 36.66 | 1.11E+02 | 4.40 |
| 24 | 991.80 | 988 - | 995 | 991.50 | 2.40E+01 | 16.97 | 3.20E+01 | 3.25 |
| 25 | 1120.16 | 1114 - | 1124 | 1119.94 | 3.86E+01 | 32.58 | 1.21E+02 | 2.07 |
| 26 | 1240.13 | 1235 - | 1247 | 1239.97 | 3.24E+01 | 34.94 | 1.23E+02 | 5.68 |
| 27 | 1325.16 | 1321 - | 1330 | 1325.05 | 1.61E+01 | 17.64 | 3.59E+01 | 5.98 |
| 28 | 1349.83 | 1344 - | 1355 | 1349.74 | 1.85E+01 | 17.55 | 2.71E+01 | 6.38 |
| 29 | 1415.19 | 1412 - | 1418 | 1415.14 | 1.05E+01 | 7.76 | 2.92E+00 | 2.92 |
| 30 | 1426.92 | 1422 - | 1432 | 1426.87 | 2.50E+01 | 11.93 | 6.00E+00 | 6.62 |
| 31 | 1461.24 | 1454 - | 1467 | 1461.22 | 2.85E+02 | 37.31 | 2.82E+01 | 3.00 |
| 32 | 1597.81 | 1588 - | 1608 | 1597.86 | 3.07E+01 | 19.51 | 1.86E+01 | 13.47 |
| 33 | 1649.82 | 1645 - | 1654 | 1649.91 | 1.10E+01 | 6.63 | 0.00E+00 | 3.50 |
| 34 | 1728.86 | 1725 - | 1732 | 1729.00 | 1.00E+01 | 6.32 | 0.00E+00 | 5.70 |
| 35 | 1765.21 | 1761 - | 1768 | 1765.38 | 2.99E+01 | 13.86 | 1.23E+01 | 3.47 |
| 36 | 2033.45 | 2029 - | 2036 | 2033.80 | 5.43E+00 | 6.63 | 3.14E+00 | 1.82 |
| 37 | 2073.67 | 2069 - | 2078 | 2074.04 | 1.26E+01 | 9.22 | 4.80E+00 | 2.63 |
| 38 | 2202.62 | 2197 - | 2208 | 2203.08 | 1.41E+01 | 10.20 | 5.71E+00 | 4.32 |
| 39 | 2400.79 | 2396 - | 2407 | 2401.40 | 1.04E+01 | 9.38 | 5.23E+00 | 2.20 |
| 40 | 2614.86 | 2609 - | 2620 | 2615.63 | 4.28E+01 | 14.83 | 6.48E+00 | 2.47 |

Analysis Report for 1510085-18
CP5006S17-18

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 10:20:46AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 1 | 63.03 | 56 - | 68 | 2.46E+02 | 140.08 | 2.20E+03 | 1.12E+02 |
| 2 | 75.79 | 69 - | 80 | 8.69E+02 | 143.72 | 2.15E+03 | 1.08E+02 |
| M 3 | 88.07 | 81 - | 109 | 4.04E+02 | 126.52 | 1.86E+03 | 7.10E+01 |
| m 4 | 105.65 | 81 - | 109 | 7.26E+01 | 89.32 | 1.00E+03 | 5.20E+01 |
| 5 | 128.47 | 125 - | 131 | 5.72E+01 | 66.99 | 7.70E+02 | 5.36E+01 |
| 6 | 186.28 | 180 - | 189 | 8.53E+01 | 85.41 | 9.89E+02 | 6.85E+01 |
| 7 | 210.37 | 206 - | 213 | 5.09E+01 | 60.30 | 5.64E+02 | 4.82E+01 |
| 8 | 224.17 | 219 - | 228 | 6.05E+01 | 69.71 | 6.59E+02 | 5.59E+01 |
| 9 | 239.33 | 232 - | 245 | 6.62E+02 | 97.41 | 7.49E+02 | 6.80E+01 |
| 10 | 270.12 | 265 - | 273 | 4.83E+01 | 54.81 | 4.33E+02 | 4.36E+01 |
| 11 | 294.85 | 289 - | 297 | 1.52E+02 | 60.15 | 4.63E+02 | 4.51E+01 |
| M 12 | 328.80 | 320 - | 342 | 5.94E+01 | 48.52 | 3.44E+02 | 3.05E+01 |
| m 13 | 338.40 | 320 - | 342 | 1.23E+02 | 45.96 | 2.62E+02 | 2.66E+01 |
| 14 | 351.68 | 344 - | 355 | 2.84E+02 | 66.39 | 4.13E+02 | 4.70E+01 |
| 15 | 463.63 | 458 - | 467 | 2.96E+01 | 37.59 | 1.85E+02 | 2.96E+01 |
| 16 | 511.12 | 507 - | 515 | 7.97E+01 | 40.84 | 2.09E+02 | 3.02E+01 |
| 17 | 583.35 | 576 - | 587 | 1.20E+02 | 46.00 | 2.05E+02 | 3.32E+01 |
| 18 | 609.30 | 603 - | 613 | 1.60E+02 | 42.86 | 1.59E+02 | 2.84E+01 |
| 19 | 728.89 | 722 - | 737 | 4.76E+01 | 45.08 | 1.85E+02 | 3.53E+01 |
| 20 | 794.23 | 789 - | 797 | 3.15E+01 | 25.54 | 8.10E+01 | 1.89E+01 |
| 21 | 806.86 | 801 - | 812 | 4.43E+01 | 28.28 | 7.74E+01 | 2.05E+01 |
| 22 | 911.66 | 905 - | 916 | 8.82E+01 | 36.88 | 1.26E+02 | 2.61E+01 |
| 23 | 967.70 | 960 - | 973 | 8.43E+01 | 36.66 | 1.11E+02 | 2.61E+01 |
| 24 | 991.80 | 988 - | 995 | 2.40E+01 | 16.97 | 3.20E+01 | 1.14E+01 |
| 25 | 1120.16 | 1114 - | 1124 | 3.86E+01 | 32.58 | 1.21E+02 | 2.48E+01 |
| 26 | 1240.13 | 1235 - | 1247 | 3.24E+01 | 34.94 | 1.23E+02 | 2.72E+01 |
| 27 | 1325.16 | 1321 - | 1330 | 1.61E+01 | 17.64 | 3.59E+01 | 1.29E+01 |
| 28 | 1349.83 | 1344 - | 1355 | 1.85E+01 | 17.55 | 2.71E+01 | 1.26E+01 |
| 29 | 1415.19 | 1412 - | 1418 | 1.05E+01 | 7.76 | 2.92E+00 | 3.50E+00 |
| 30 | 1426.92 | 1422 - | 1432 | 2.50E+01 | 11.93 | 6.00E+00 | 5.34E+00 |
| 31 | 1461.24 | 1454 - | 1467 | 2.85E+02 | 37.31 | 2.82E+01 | 1.31E+01 |

Analysis Report for 1510085-18

CP5006S17-18

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 32 | 1597.81 | 1588 - | 1608 | 3.07E+01 | 19.51 | 1.86E+01 | 1.32E+01 |
| 33 | 1649.82 | 1645 - | 1654 | 1.10E+01 | 6.63 | 0.00E+00 | 0.00E+00 |
| 34 | 1728.86 | 1725 - | 1732 | 1.00E+01 | 6.32 | 0.00E+00 | 0.00E+00 |
| 35 | 1765.21 | 1761 - | 1768 | 2.99E+01 | 13.86 | 1.23E+01 | 7.00E+00 |
| 36 | 2033.45 | 2029 - | 2036 | 5.43E+00 | 6.63 | 3.14E+00 | 3.88E+00 |
| 37 | 2073.67 | 2069 - | 2078 | 1.26E+01 | 9.22 | 4.80E+00 | 4.84E+00 |
| 38 | 2202.62 | 2197 - | 2208 | 1.41E+01 | 10.20 | 5.71E+00 | 5.66E+00 |
| 39 | 2400.79 | 2396 - | 2407 | 1.04E+01 | 9.38 | 5.23E+00 | 5.60E+00 |
| 40 | 2614.86 | 2609 - | 2620 | 4.28E+01 | 14.83 | 6.48E+00 | 5.75E+00 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 10:20:46AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 1 | 63.03 | 56 - | 68 | 62.30 | 2.46E+02 | 140.08 | 2.20E+03 | TH-230 |
| | | | | | | | | TH-234 |
| | | | | | | | | |
| M 3 | 75.79 | 69 - | 80 | 75.06 | 8.69E+02 | 143.72 | 2.15E+03 | CD-109 |
| | 88.07 | 81 - | 109 | 87.34 | 4.04E+02 | 126.52 | 1.86E+03 | LU-176 |
| | | | | | | | | SN-126 |
| m 4 | 105.65 | 81 - | 109 | 104.93 | 7.26E+01 | 89.32 | 1.00E+03 | EU-155 |
| | | | | | | | | NP-239 |
| | | | | | | | | |
| | 128.47 | 125 - | 131 | 127.76 | 5.72E+01 | 66.99 | 7.70E+02 | RA-226 |
| | 186.28 | 180 - | 189 | 185.60 | 8.53E+01 | 85.41 | 9.89E+02 | CM-243 |
| | 210.37 | 206 - | 213 | 209.69 | 5.09E+01 | 60.30 | 5.64E+02 | ..... |
| | 224.17 | 219 - | 228 | 223.50 | 6.05E+01 | 69.71 | 6.59E+02 | ..... |
| | 239.33 | 232 - | 245 | 238.67 | 6.62E+02 | 97.41 | 7.49E+02 | PB-212 |
| | 270.12 | 265 - | 273 | 269.47 | 4.83E+01 | 54.81 | 4.33E+02 | ..... |
| | 294.85 | 289 - | 297 | 294.21 | 1.52E+02 | 60.15 | 4.63E+02 | PB-214 |
| M 12 | 328.80 | 320 - | 342 | 328.17 | 5.94E+01 | 48.52 | 3.44E+02 | LA-140 |
| m 13 | 338.40 | 320 - | 342 | 337.78 | 1.23E+02 | 45.96 | 2.62E+02 | AC-228 |

Analysis Report for 1510085-18

CP5006S17-18

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| 14 | 351.68 | 344 - | 355 | 351.07 | 2.84E+02 | 66.39 | 4.13E+02 | PB-214 |
| 15 | 463.63 | 458 - | 467 | 463.07 | 2.96E+01 | 37.59 | 1.85E+02 | SB-125 |
| 16 | 511.12 | 507 - | 515 | 510.58 | 7.97E+01 | 40.84 | 2.09E+02 | ..... |
| 17 | 583.35 | 576 - | 587 | 582.84 | 1.20E+02 | 46.00 | 2.05E+02 | TL-208 |
| 18 | 609.30 | 603 - | 613 | 608.81 | 1.60E+02 | 42.86 | 1.59E+02 | BI-214 |
| 19 | 728.89 | 722 - | 737 | 728.46 | 4.76E+01 | 45.08 | 1.85E+02 | ..... |
| 20 | 794.23 | 789 - | 797 | 793.83 | 3.15E+01 | 25.54 | 8.10E+01 | ..... |
| 21 | 806.86 | 801 - | 812 | 806.46 | 4.43E+01 | 28.28 | 7.74E+01 | ..... |
| 22 | 911.66 | 905 - | 916 | 911.32 | 8.82E+01 | 36.88 | 1.26E+02 | LU-172 AC-228 |
| 23 | 967.70 | 960 - | 973 | 967.39 | 8.43E+01 | 36.66 | 1.11E+02 | ..... |
| 24 | 991.80 | 988 - | 995 | 991.50 | 2.40E+01 | 16.97 | 3.20E+01 | ..... |
| 25 | 1120.16 | 1114 - | 1124 | 1119.94 | 3.86E+01 | 32.58 | 1.21E+02 | BI-214 SC-46 |
| 26 | 1240.13 | 1235 - | 1247 | 1239.97 | 3.24E+01 | 34.94 | 1.23E+02 | ..... |
| 27 | 1325.16 | 1321 - | 1330 | 1325.05 | 1.61E+01 | 17.64 | 3.59E+01 | ..... |
| 28 | 1349.83 | 1344 - | 1355 | 1349.74 | 1.85E+01 | 17.55 | 2.71E+01 | ..... |
| 29 | 1415.19 | 1412 - | 1418 | 1415.14 | 1.05E+01 | 7.76 | 2.92E+00 | ..... |
| 30 | 1426.92 | 1422 - | 1432 | 1426.87 | 2.50E+01 | 11.93 | 6.00E+00 | ..... |
| 31 | 1461.24 | 1454 - | 1467 | 1461.22 | 2.85E+02 | 37.31 | 2.82E+01 | K-40 |
| 32 | 1597.81 | 1588 - | 1608 | 1597.86 | 3.07E+01 | 19.51 | 1.86E+01 | ..... |
| 33 | 1649.82 | 1645 - | 1654 | 1649.91 | 1.10E+01 | 6.63 | 0.00E+00 | ..... |
| 34 | 1728.86 | 1725 - | 1732 | 1729.00 | 1.00E+01 | 6.32 | 0.00E+00 | ..... |
| 35 | 1765.21 | 1761 - | 1768 | 1765.38 | 2.99E+01 | 13.86 | 1.23E+01 | BI-214 |
| 36 | 2033.45 | 2029 - | 2036 | 2033.80 | 5.43E+00 | 6.63 | 3.14E+00 | ..... |
| 37 | 2073.67 | 2069 - | 2078 | 2074.04 | 1.26E+01 | 9.22 | 4.80E+00 | ..... |
| 38 | 2202.62 | 2197 - | 2208 | 2203.08 | 1.41E+01 | 10.20 | 5.71E+00 | ..... |
| 39 | 2400.79 | 2396 - | 2407 | 2401.40 | 1.04E+01 | 9.38 | 5.23E+00 | ..... |
| 40 | 2614.86 | 2609 - | 2620 | 2615.63 | 4.28E+01 | 14.83 | 6.48E+00 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 10:20:46AM

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 1 | 63.03 | 2.46E+02 | 140.08 | 2.33E-02 | 1.76E-03 |

Analysis Report for 1510085-18
CP5006S17-18

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 2 | 75.79 | 8.69E+02 | 143.72 | 2.13E-02 | 1.70E-03 |
| M | 3 | 88.07 | 4.04E+02 | 126.52 | 1.96E-02 | 1.63E-03 |
| m | 4 | 105.65 | 7.26E+01 | 89.32 | 1.76E-02 | 1.58E-03 |
| | 5 | 128.47 | 5.72E+01 | 66.99 | 1.54E-02 | 1.48E-03 |
| | 6 | 186.28 | 8.53E+01 | 85.41 | 1.16E-02 | 1.15E-03 |
| | 7 | 210.37 | 5.09E+01 | 60.30 | 1.05E-02 | 1.07E-03 |
| | 8 | 224.17 | 6.05E+01 | 69.71 | 9.94E-03 | 1.03E-03 |
| | 9 | 239.33 | 6.62E+02 | 97.41 | 9.39E-03 | 9.85E-04 |
| | 10 | 270.12 | 4.83E+01 | 54.81 | 8.44E-03 | 8.89E-04 |
| | 11 | 294.85 | 1.52E+02 | 60.15 | 7.79E-03 | 8.44E-04 |
| M | 12 | 328.80 | 5.94E+01 | 48.52 | 7.05E-03 | 8.06E-04 |
| m | 13 | 338.40 | 1.23E+02 | 45.96 | 6.86E-03 | 7.95E-04 |
| | 14 | 351.68 | 2.84E+02 | 66.39 | 6.61E-03 | 7.80E-04 |
| | 15 | 463.63 | 2.96E+01 | 37.59 | 5.07E-03 | 6.31E-04 |
| | 16 | 511.12 | 7.97E+01 | 40.84 | 4.61E-03 | 5.61E-04 |
| | 17 | 583.35 | 1.20E+02 | 46.00 | 4.05E-03 | 4.55E-04 |
| | 18 | 609.30 | 1.60E+02 | 42.86 | 3.88E-03 | 4.17E-04 |
| | 19 | 728.89 | 4.76E+01 | 45.08 | 3.25E-03 | 3.03E-04 |
| | 20 | 794.23 | 3.15E+01 | 25.54 | 2.98E-03 | 2.66E-04 |
| | 21 | 806.86 | 4.43E+01 | 28.28 | 2.94E-03 | 2.59E-04 |
| | 22 | 911.66 | 8.82E+01 | 36.88 | 2.61E-03 | 2.06E-04 |
| | 23 | 967.70 | 8.43E+01 | 36.66 | 2.46E-03 | 1.99E-04 |
| | 24 | 991.80 | 2.40E+01 | 16.97 | 2.41E-03 | 1.96E-04 |
| | 25 | 1120.16 | 3.86E+01 | 32.58 | 2.14E-03 | 1.79E-04 |
| | 26 | 1240.13 | 3.24E+01 | 34.94 | 1.95E-03 | 1.91E-04 |
| | 27 | 1325.16 | 1.61E+01 | 17.64 | 1.84E-03 | 2.14E-04 |
| | 28 | 1349.83 | 1.85E+01 | 17.55 | 1.81E-03 | 2.12E-04 |
| | 29 | 1415.19 | 1.05E+01 | 7.76 | 1.73E-03 | 1.98E-04 |
| | 30 | 1426.92 | 2.50E+01 | 11.93 | 1.72E-03 | 1.96E-04 |
| | 31 | 1461.24 | 2.85E+02 | 37.31 | 1.68E-03 | 1.89E-04 |
| | 32 | 1597.81 | 3.07E+01 | 19.51 | 1.56E-03 | 1.61E-04 |
| | 33 | 1649.82 | 1.10E+01 | 6.63 | 1.52E-03 | 1.50E-04 |
| | 34 | 1728.86 | 1.00E+01 | 6.32 | 1.46E-03 | 1.33E-04 |
| | 35 | 1765.21 | 2.99E+01 | 13.86 | 1.43E-03 | 1.26E-04 |
| | 36 | 2033.45 | 5.43E+00 | 6.63 | 1.28E-03 | 1.11E-04 |
| | 37 | 2073.67 | 1.26E+01 | 9.22 | 1.26E-03 | 1.11E-04 |
| | 38 | 2202.62 | 1.41E+01 | 10.20 | 1.21E-03 | 1.11E-04 |
| | 39 | 2400.79 | 1.04E+01 | 9.38 | 1.14E-03 | 1.11E-04 |
| | 40 | 2614.86 | 4.28E+01 | 14.83 | 1.07E-03 | 1.11E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 10:20:46AM

: 01005

Analysis Report for 1510085-18

CP5006S17-18

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| | 1 | 63.03 | 2.46E+02 | 140.08 | 5.38E+01 | 9.34E+00 | 1.93E+02 | 1.40E+02 |
| | 2 | 75.79 | 8.69E+02 | 143.72 | | | 8.69E+02 | 1.44E+02 |
| M | 3 | 88.07 | 4.04E+02 | 126.52 | | | 4.04E+02 | 1.27E+02 |
| m | 4 | 105.65 | 7.26E+01 | 89.32 | | | 7.26E+01 | 8.93E+01 |
| | 5 | 128.47 | 5.72E+01 | 66.99 | | | 5.72E+01 | 6.70E+01 |
| | 6 | 186.28 | 8.53E+01 | 85.41 | 1.43E+01 | 7.33E+00 | 7.09E+01 | 8.57E+01 |
| | 7 | 210.37 | 5.09E+01 | 60.30 | | | 5.09E+01 | 6.03E+01 |
| | 8 | 224.17 | 6.05E+01 | 69.71 | | | 6.05E+01 | 6.97E+01 |
| | 9 | 239.33 | 6.62E+02 | 97.41 | 1.09E+01 | 6.39E+00 | 6.51E+02 | 9.76E+01 |
| | 10 | 270.12 | 4.83E+01 | 54.81 | | | 4.83E+01 | 5.48E+01 |
| | 11 | 294.85 | 1.52E+02 | 60.15 | | | 1.52E+02 | 6.01E+01 |
| M | 12 | 328.80 | 5.94E+01 | 48.52 | | | 5.94E+01 | 4.85E+01 |
| m | 13 | 338.40 | 1.23E+02 | 45.96 | | | 1.23E+02 | 4.60E+01 |
| | 14 | 351.68 | 2.84E+02 | 66.39 | 8.07E+00 | 5.01E+00 | 2.76E+02 | 6.66E+01 |
| | 15 | 463.63 | 2.96E+01 | 37.59 | | | 2.96E+01 | 3.76E+01 |
| | 16 | 511.12 | 7.97E+01 | 40.84 | 4.21E+01 | 4.92E+00 | 3.76E+01 | 4.11E+01 |
| | 17 | 583.35 | 1.20E+02 | 46.00 | | | 1.20E+02 | 4.60E+01 |
| | 18 | 609.30 | 1.60E+02 | 42.86 | 5.16E+00 | 1.63E+00 | 1.55E+02 | 4.29E+01 |
| | 19 | 728.89 | 4.76E+01 | 45.08 | | | 4.76E+01 | 4.51E+01 |
| | 20 | 794.23 | 3.15E+01 | 25.54 | | | 3.15E+01 | 2.55E+01 |
| | 21 | 806.86 | 4.43E+01 | 28.28 | | | 4.43E+01 | 2.83E+01 |
| | 22 | 911.66 | 8.82E+01 | 36.88 | 1.01E+00 | 2.85E+00 | 8.72E+01 | 3.70E+01 |
| | 23 | 967.70 | 8.43E+01 | 36.66 | | | 8.43E+01 | 3.67E+01 |
| | 24 | 991.80 | 2.40E+01 | 16.97 | | | 2.40E+01 | 1.70E+01 |
| | 25 | 1120.16 | 3.86E+01 | 32.58 | | | 3.86E+01 | 3.26E+01 |
| | 26 | 1240.13 | 3.24E+01 | 34.94 | | | 3.24E+01 | 3.49E+01 |
| | 27 | 1325.16 | 1.61E+01 | 17.64 | | | 1.61E+01 | 1.76E+01 |
| | 28 | 1349.83 | 1.85E+01 | 17.55 | | | 1.85E+01 | 1.75E+01 |
| | 29 | 1415.19 | 1.05E+01 | 7.76 | | | 1.05E+01 | 7.76E+00 |
| | 30 | 1426.92 | 2.50E+01 | 11.93 | | | 2.50E+01 | 1.19E+01 |
| | 31 | 1461.24 | 2.85E+02 | 37.31 | | | 2.85E+02 | 3.73E+01 |
| | 32 | 1597.81 | 3.07E+01 | 19.51 | | | 3.07E+01 | 1.95E+01 |
| | 33 | 1649.82 | 1.10E+01 | 6.63 | | | 1.10E+01 | 6.63E+00 |
| | 34 | 1728.86 | 1.00E+01 | 6.32 | | | 1.00E+01 | 6.32E+00 |
| | 35 | 1765.21 | 2.99E+01 | 13.86 | 1.11E-01 | 9.77E-01 | 2.98E+01 | 1.39E+01 |
| | 36 | 2033.45 | 5.43E+00 | 6.63 | | | 5.43E+00 | 6.63E+00 |
| | 37 | 2073.67 | 1.26E+01 | 9.22 | | | 1.26E+01 | 9.22E+00 |
| | 38 | 2202.62 | 1.41E+01 | 10.20 | | | 1.41E+01 | 1.02E+01 |
| | 39 | 2400.79 | 1.04E+01 | 9.38 | | | 1.04E+01 | 9.38E+00 |
| | 40 | 2614.86 | 4.28E+01 | 14.83 | 1.20E+00 | 1.02E+00 | 4.16E+01 | 1.49E+01 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510085-18
CP5006S17-18

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 10:20:46AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028944.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. | |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|----------|
| | 1 | 63.03 | 2.46E+02 | 140.08 | 5.38E+01 | 9.34E+00 | 1.93E+02 | 1.40E+02 |
| | 2 | 75.79 | 8.69E+02 | 143.72 | | | 8.69E+02 | 1.44E+02 |
| M | 3 | 88.07 | 4.04E+02 | 126.52 | | | 4.04E+02 | 1.27E+02 |
| m | 4 | 105.65 | 7.26E+01 | 89.32 | | | 7.26E+01 | 8.93E+01 |
| | 5 | 128.47 | 5.72E+01 | 66.99 | | | 5.72E+01 | 6.70E+01 |
| | 6 | 186.28 | 8.53E+01 | 85.41 | 1.43E+01 | 7.33E+00 | 7.09E+01 | 8.57E+01 |
| | 7 | 210.37 | 5.09E+01 | 60.30 | | | 5.09E+01 | 6.03E+01 |
| | 8 | 224.17 | 6.05E+01 | 69.71 | | | 6.05E+01 | 6.97E+01 |
| | 9 | 239.33 | 6.62E+02 | 97.41 | 1.09E+01 | 6.39E+00 | 6.51E+02 | 9.76E+01 |
| | 10 | 270.12 | 4.83E+01 | 54.81 | | | 4.83E+01 | 5.48E+01 |
| | 11 | 294.85 | 1.52E+02 | 60.15 | | | 1.52E+02 | 6.01E+01 |
| M | 12 | 328.80 | 5.94E+01 | 48.52 | | | 5.94E+01 | 4.85E+01 |
| m | 13 | 338.40 | 1.23E+02 | 45.96 | | | 1.23E+02 | 4.60E+01 |
| | 14 | 351.68 | 2.84E+02 | 66.39 | 8.07E+00 | 5.01E+00 | 2.76E+02 | 6.66E+01 |
| | 15 | 463.63 | 2.96E+01 | 37.59 | | | 2.96E+01 | 3.76E+01 |
| | 16 | 511.12 | 7.97E+01 | 40.84 | 4.21E+01 | 4.92E+00 | 3.76E+01 | 4.11E+01 |
| | 17 | 583.35 | 1.20E+02 | 46.00 | | | 1.20E+02 | 4.60E+01 |
| | 18 | 609.30 | 1.60E+02 | 42.86 | 5.16E+00 | 1.63E+00 | 1.55E+02 | 4.29E+01 |
| | 19 | 728.89 | 4.76E+01 | 45.08 | | | 4.76E+01 | 4.51E+01 |
| | 20 | 794.23 | 3.15E+01 | 25.54 | | | 3.15E+01 | 2.55E+01 |
| | 21 | 806.86 | 4.43E+01 | 28.28 | | | 4.43E+01 | 2.83E+01 |
| | 22 | 911.66 | 8.82E+01 | 36.88 | 1.01E+00 | 2.85E+00 | 8.72E+01 | 3.70E+01 |
| | 23 | 967.70 | 8.43E+01 | 36.66 | | | 8.43E+01 | 3.67E+01 |
| | 24 | 991.80 | 2.40E+01 | 16.97 | | | 2.40E+01 | 1.70E+01 |
| | 25 | 1120.16 | 3.86E+01 | 32.58 | | | 3.86E+01 | 3.26E+01 |
| | 26 | 1240.13 | 3.24E+01 | 34.94 | | | 3.24E+01 | 3.49E+01 |
| | 27 | 1325.16 | 1.61E+01 | 17.64 | | | 1.61E+01 | 1.76E+01 |
| | 28 | 1349.83 | 1.85E+01 | 17.55 | | | 1.85E+01 | 1.75E+01 |
| | 29 | 1415.19 | 1.05E+01 | 7.76 | | | 1.05E+01 | 7.76E+00 |
| | 30 | 1426.92 | 2.50E+01 | 11.93 | | | 2.50E+01 | 1.19E+01 |
| | 31 | 1461.24 | 2.85E+02 | 37.31 | | | 2.85E+02 | 3.73E+01 |
| | 32 | 1597.81 | 3.07E+01 | 19.51 | | | 3.07E+01 | 1.95E+01 |
| | 33 | 1649.82 | 1.10E+01 | 6.63 | | | 1.10E+01 | 6.63E+00 |
| | 34 | 1728.86 | 1.00E+01 | 6.32 | | | 1.00E+01 | 6.32E+00 |
| | 35 | 1765.21 | 2.99E+01 | 13.86 | 1.11E-01 | 9.77E-01 | 2.98E+01 | 1.39E+01 |
| | 36 | 2033.45 | 5.43E+00 | 6.63 | | | 5.43E+00 | 6.63E+00 |
| | 37 | 2073.67 | 1.26E+01 | 9.22 | | | 1.26E+01 | 9.22E+00 |
| | 38 | 2202.62 | 1.41E+01 | 10.20 | | | 1.41E+01 | 1.02E+01 |
| | 39 | 2400.79 | 1.04E+01 | 9.38 | | | 1.04E+01 | 9.38E+00 |
| | 40 | 2614.86 | 4.28E+01 | 14.83 | 1.20E+00 | 1.02E+00 | 4.16E+01 | 1.49E+01 |

Analysis Report for 1510085-18
CP5006S17-18

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|-------------------------|-------------------------|
| K-40 | 0.970 | 1460.81 * | 10.67 | 2.19E+01 | 3.80E+00 |
| CD-109 | 1.000 | 88.03 * | 3.72 | 8.01E+00 | 2.64E+00 |
| SN-126 | 0.961 | 87.57 * | 37.00 | 7.70E-01 | 2.49E-01 |
| TL-208 | 0.881 | 583.14 * | 30.22 | 1.36E+00 | 5.42E-01 |
| | | 860.37 | 4.48 | | |
| | | 2614.66 * | 35.85 | 1.49E+00 | 5.56E-01 |
| PB-212 | 0.827 | 238.63 * | 44.60 | 2.15E+00 | 3.93E-01 |
| | | 300.09 | 3.41 | | |
| BI-214 | 0.920 | 609.31 * | 46.30 | 1.19E+00 | 3.54E-01 |
| | | 1120.29 * | 15.10 | 1.65E+00 | 1.40E+00 |
| | | 1764.49 * | 15.80 | 1.81E+00 | 8.62E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.987 | 295.21 * | 19.19 | 1.40E+00 | 5.76E-01 |
| | | 351.92 * | 37.19 | 1.55E+00 | 4.16E-01 |
| RA-226 | 0.999 | 186.21 * | 3.28 | 2.57E+00 | 5.65E+00 |
| AC-228 | 0.559 | 338.32 * | 11.40 | 2.17E+00 | 8.50E-01 |
| | | 911.07 * | 27.70 | 1.67E+00 | 7.19E-01 |
| | | 969.11 | 16.60 | | |
| TH-234 | 0.990 | 63.29 * | 3.80 | 3.00E+00 | 2.20E+00 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

Analysis Report for 1510085-18
CP5006S17-18

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 10:20:46AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| m | 2 | 75.79 | 2.41361E-01 | | |
| | 4 | 105.65 | 2.01678E-02 | | |
| | 5 | 128.47 | 1.58943E-02 | | |
| | 7 | 210.37 | 1.41266E-02 | Tol. | EU-155 |
| | 8 | 224.17 | 1.67991E-02 | | NP-239 |
| | 10 | 270.12 | 1.34151E-02 | | |
| M | 12 | 328.80 | 1.64875E-02 | Tol. | CM-243 |
| | 15 | 463.63 | 8.23315E-03 | Tol. | LA-140 |
| | 16 | 511.12 | 1.04369E-02 | | SB-125 |
| | 19 | 728.89 | 1.32212E-02 | | |
| | 20 | 794.23 | 8.75000E-03 | | |
| | 21 | 806.86 | 1.23059E-02 | | |
| | 23 | 967.70 | 2.34147E-02 | | |
| | 24 | 991.80 | 6.66667E-03 | | |
| | 26 | 1240.13 | 8.99527E-03 | | |
| | 27 | 1325.16 | 4.46078E-03 | | |
| | 28 | 1349.83 | 5.12587E-03 | | |
| | 29 | 1415.19 | 2.92824E-03 | | |
| | 30 | 1426.92 | 6.94444E-03 | | |
| | 32 | 1597.81 | 8.53472E-03 | | |
| | 33 | 1649.82 | 3.05556E-03 | | |
| | 34 | 1728.86 | 2.77778E-03 | | |
| | 36 | 2033.45 | 1.50794E-03 | | |
| | 37 | 2073.67 | 3.50000E-03 | | |
| | 38 | 2202.62 | 3.92974E-03 | | |
| | 39 | 2400.79 | 2.88462E-03 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-18
CP5006S17-18

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|---|----------|----------------------|----------------------|
| K-40 | 0.97 | 1460.81 | * | 10.67 | 2.19E+01 | 3.80E+00 |
| CD-109 | 1.00 | 88.03 | * | 3.72 | 8.01E+00 | 2.64E+00 |
| SN-126 | 0.96 | 87.57 | * | 37.00 | 7.70E-01 | 2.49E-01 |
| TL-208 | 0.88 | 583.14 | * | 30.22 | 1.36E+00 | 5.42E-01 |
| | | 860.37 | | 4.48 | | |
| | | 2614.66 | * | 35.85 | 1.49E+00 | 5.56E-01 |
| PB-212 | 0.82 | 238.63 | * | 44.60 | 2.15E+00 | 3.93E-01 |
| | | 300.09 | | 3.41 | | |
| BI-214 | 0.92 | 609.31 | * | 46.30 | 1.19E+00 | 3.54E-01 |
| | | 1120.29 | * | 15.10 | 1.65E+00 | 1.40E+00 |
| | | 1764.49 | * | 15.80 | 1.81E+00 | 8.62E-01 |
| | | 2204.22 | | 4.98 | | |
| PB-214 | 0.98 | 295.21 | * | 19.19 | 1.40E+00 | 5.76E-01 |
| | | 351.92 | * | 37.19 | 1.55E+00 | 4.16E-01 |
| RA-226 | 0.99 | 186.21 | * | 3.28 | 2.57E+00 | 5.65E+00 |
| AC-228 | 0.55 | 338.32 | * | 11.40 | 2.17E+00 | 8.50E-01 |
| | | 911.07 | * | 27.70 | 1.67E+00 | 7.19E-01 |
| | | 969.11 | | 16.60 | | |
| TH-234 | 0.99 | 63.29 | * | 3.80 | 3.00E+00 | 2.20E+00 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

Analysis Report for 1510085-18

CP5006S17-18

| <i>Nuclide Name</i> | <i>Nuclide Id Confidence</i> | <i>Wt mean Activity (pCi/grams)</i> | <i>Wt mean Activity Uncertainty</i> | <i>Comments</i> |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | 0.970 | 2.19E+01 | 3.80E+00 | |
| ? CD-109 | 1.000 | 8.01E+00 | 2.64E+00 | |
| ? SN-126 | 0.961 | 7.70E-01 | 2.49E-01 | |
| TL-208 | 0.881 | 1.43E+00 | 3.88E-01 | |
| PB-212 | 0.827 | 2.15E+00 | 3.93E-01 | |
| BI-214 | 0.920 | 1.30E+00 | 3.19E-01 | |
| PB-214 | 0.987 | 1.50E+00 | 3.37E-01 | |
| RA-226 | 0.999 | 2.57E+00 | 5.65E+00 | |
| AC-228 | 0.559 | 1.88E+00 | 5.49E-01 | |
| TH-234 | 0.990 | 3.00E+00 | 2.20E+00 | |

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-18
CP5006S17-18

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 10:20:46AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|-----------------------|
| | 2 | 75.79 | 2.41361E-01 | 8.27 | |
| m | 4 | 105.65 | 2.01678E-02 | 61.51 | Tol. EU-155 NP-239 |
| | 5 | 128.47 | 1.58943E-02 | 58.54 | |
| | 7 | 210.37 | 1.41266E-02 | 59.28 | Tol. CM-243 |
| | 8 | 224.17 | 1.67991E-02 | 57.64 | |
| M | 10 | 270.12 | 1.34151E-02 | 56.74 | |
| | 12 | 328.80 | 1.64875E-02 | 40.87 | Tol. LA-140 |
| | 15 | 463.63 | 8.23315E-03 | 63.41 | Tol. SB-125 |
| | 16 | 511.12 | 1.04369E-02 | 54.73 | |
| | 19 | 728.89 | 1.32212E-02 | 47.35 | |
| | 20 | 794.23 | 8.75000E-03 | 40.55 | |
| | 21 | 806.86 | 1.23059E-02 | 31.92 | |
| | 23 | 967.70 | 2.34147E-02 | 21.75 | |
| | 24 | 991.80 | 6.66667E-03 | 35.36 | |
| | 26 | 1240.13 | 8.99527E-03 | 53.95 | |
| | 27 | 1325.16 | 4.46078E-03 | 54.91 | |
| | 28 | 1349.83 | 5.12587E-03 | 47.55 | |
| | 29 | 1415.19 | 2.92824E-03 | 36.82 | Sum |
| | 30 | 1426.92 | 6.94444E-03 | 23.85 | |
| | 32 | 1597.81 | 8.53472E-03 | 31.74 | |
| | 33 | 1649.82 | 3.05556E-03 | 30.15 | |
| | 34 | 1728.86 | 2.77778E-03 | 31.62 | Sum |
| | 36 | 2033.45 | 1.50794E-03 | 61.10 | |
| | 37 | 2073.67 | 3.50000E-03 | 36.59 | |
| | 38 | 2202.62 | 3.92974E-03 | 36.04 | |
| | 39 | 2400.79 | 2.88462E-03 | 45.17 | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

Analysis Report for 1510085-18
CP5006S17-18

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|
| + BE-7 | 477.59 | 10.42 | -3.28E-01 | 1.89E+00 | 1.89E+00 |
| + NA-22 | 1274.54 | 99.94 | 1.15E-02 | 2.12E-01 | 2.12E-01 |
| + NA-24 | 1368.53 | 99.99 | 3.03E+12 | 4.46E+13 | 5.52E+13 |
| | 2754.09 | 99.86 | 1.84E+12 | | 4.46E+13 |
| + AL-26 | 1808.65 | 99.76 | 3.00E-02 | 2.04E-01 | 2.04E-01 |
| + K-40 | 1460.81 | * 10.67 | 2.19E+01 | 2.22E+00 | 2.22E+00 |
| + @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + TI-44 | 67.88 | 94.40 | -2.45E-01 | 9.58E-02 | 9.58E-02 |
| | 78.34 | 96.00 | 2.79E-01 | | 1.27E-01 |
| + SC-46 | 889.25 | 99.98 | -4.68E-02 | 2.06E-01 | 2.06E-01 |
| | 1120.51 | 99.99 | 3.34E-01 | | 3.89E-01 |
| + V-48 | 983.52 | 99.98 | -8.99E-02 | 6.44E-01 | 6.44E-01 |
| | 1312.10 | 97.50 | 1.62E-01 | | 8.07E-01 |
| + CR-51 | 320.08 | 9.83 | 1.09E-01 | 2.88E+00 | 2.88E+00 |
| + MN-54 | 834.83 | 99.97 | 2.34E-02 | 2.10E-01 | 2.10E-01 |
| + CO-56 | 846.75 | 99.96 | 1.36E-01 | 2.53E-01 | 2.53E-01 |
| | 1037.75 | 14.03 | 4.13E-01 | | 1.95E+00 |
| | 1238.25 | 67.00 | 4.36E-01 | | 5.99E-01 |
| | 1771.40 | 15.51 | -1.60E+00 | | 1.53E+00 |
| | 2598.48 | 16.90 | -4.95E-02 | | 9.19E-01 |
| + CO-57 | 122.06 | 85.51 | -3.85E-02 | 1.23E-01 | 1.23E-01 |
| | 136.48 | 10.60 | -8.62E-02 | | 1.04E+00 |
| + CO-58 | 810.76 | 99.40 | -1.44E-02 | 2.49E-01 | 2.49E-01 |
| + FE-59 | 1099.22 | 56.50 | 2.33E-01 | 6.25E-01 | 6.25E-01 |
| | 1291.56 | 43.20 | -9.15E-02 | | 8.10E-01 |
| + CO-60 | 1173.22 | 100.00 | -6.25E-02 | 2.05E-01 | 2.23E-01 |
| | 1332.49 | 100.00 | 1.02E-01 | | 2.05E-01 |
| + ZN-65 | 1115.52 | 50.75 | -5.23E-02 | 4.99E-01 | 4.99E-01 |
| + GA-67 | 93.31 | 35.70 | 1.28E+02 | 1.79E+02 | 1.79E+02 |
| | 208.95 | 2.24 | 1.06E+02 | | 3.29E+03 |
| | 300.22 | 16.00 | -4.17E+02 | | 5.13E+02 |
| + SE-75 | 121.11 | 16.70 | -1.77E-01 | 2.03E-01 | 6.88E-01 |
| | 136.00 | 59.20 | -1.68E-02 | | 2.03E-01 |
| | 264.65 | 59.80 | -7.37E-03 | | 2.36E-01 |
| | 279.53 | 25.20 | 2.70E-01 | | 6.01E-01 |
| | 400.65 | 11.40 | 7.14E-01 | | 1.50E+00 |
| + RB-82 | 776.52 | 13.00 | -1.12E+00 | 3.10E+00 | 3.10E+00 |
| + RB-83 | 520.41 | 46.00 | -9.70E-03 | 4.00E-01 | 4.00E-01 |
| | 529.64 | 30.30 | -6.83E-02 | | 5.98E-01 |
| | 552.65 | 16.40 | -1.47E-01 | | 1.11E+00 |

Analysis Report for 1510085-18
CP5006S17-18

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | KR-85 | 513.99 | 0.43 | 9.41E-01 | 4.60E+01 | 4.60E+01 |
| + | SR-85 | 513.99 | 99.27 | 5.64E-03 | 2.76E-01 | 2.76E-01 |
| + | Y-88 | 898.02 | 93.40 | -2.53E-02 | 2.21E-01 | 2.26E-01 |
| | | 1836.01 | 99.38 | 0.00E+00 | | 2.21E-01 |
| + | NB-93M | 16.57 | 9.43 | 1.14E+00 | 4.80E-01 | 4.80E-01 |
| + | NB-94 | 702.63 | 100.00 | -1.42E-02 | 1.70E-01 | 1.76E-01 |
| | | 871.10 | 100.00 | -5.96E-02 | | 1.70E-01 |
| + | NB-95 | 765.79 | 99.81 | -1.54E-02 | 3.31E-01 | 3.31E-01 |
| + | NB-95M | 235.69 | 25.00 | 6.37E+02 | 2.47E+02 | 2.47E+02 |
| + | ZR-95 | 724.18 | 43.70 | 2.81E-02 | 4.38E-01 | 6.18E-01 |
| | | 756.72 | 55.30 | 1.33E-02 | | 4.38E-01 |
| + | MO-99 | 181.06 | 6.20 | 1.15E+03 | 2.35E+03 | 3.84E+03 |
| | | 739.58 | 12.80 | -4.49E+02 | | 2.35E+03 |
| | | 778.00 | 4.50 | -5.41E+03 | | 7.36E+03 |
| + | RU-103 | 497.08 | 89.00 | -7.87E-02 | 2.73E-01 | 2.73E-01 |
| + | RU-106 | 621.84 | 9.80 | 4.71E-01 | 1.81E+00 | 1.81E+00 |
| + | AG-108M | 433.93 | 89.90 | 1.16E-01 | 1.70E-01 | 1.70E-01 |
| | | 614.37 | 90.40 | -1.74E-02 | | 2.13E-01 |
| | | 722.95 | 90.50 | -7.78E-03 | | 2.01E-01 |
| + | CD-109 | 88.03 | * | 3.72 | 8.01E+00 | 8.19E+00 |
| + | AG-110M | 657.75 | 93.14 | -8.97E-02 | 1.75E-01 | 1.75E-01 |
| | | 677.61 | 10.53 | -7.63E-01 | | 1.61E+00 |
| | | 706.67 | 16.46 | 1.52E-01 | | 1.21E+00 |
| | | 763.93 | 21.98 | -1.26E-01 | | 8.73E-01 |
| | | 884.67 | 71.63 | 2.90E-02 | | 2.45E-01 |
| | | 1384.27 | 23.94 | -6.76E-03 | | 8.53E-01 |
| + | CD-113M | 263.70 | 0.02 | 9.42E+01 | 5.17E+02 | 5.17E+02 |
| + | SN-113 | 255.12 | 1.93 | 5.35E-01 | 2.58E-01 | 7.38E+00 |
| | | 391.69 | 64.90 | 1.08E-01 | | 2.58E-01 |
| + | TE123M | 159.00 | 84.10 | 2.37E-02 | 1.52E-01 | 1.52E-01 |
| + | SB-124 | 602.71 | 97.87 | -1.70E-02 | 2.18E-01 | 2.18E-01 |
| | | 645.85 | 7.26 | 9.87E-01 | | 3.37E+00 |
| | | 722.78 | 11.10 | 8.27E-03 | | 2.16E+00 |
| | | 1691.02 | 49.00 | -5.61E-02 | | 4.87E-01 |
| + | I-125 | 35.49 | 6.49 | -4.98E-01 | 1.16E+00 | 1.16E+00 |
| + | SB-125 | 176.33 | 6.89 | -3.21E-01 | 4.85E-01 | 1.68E+00 |
| | | 427.89 | 29.33 | -4.92E-02 | | 4.85E-01 |
| | | 463.38 | 10.35 | 6.62E-01 | | 1.40E+00 |
| | | 600.56 | 17.80 | 2.35E-03 | | 8.83E-01 |
| | | 635.90 | 11.32 | -7.17E-01 | | 1.24E+00 |
| + | SB-126 | 414.70 | 83.30 | 1.71E-01 | 8.96E-01 | 8.96E-01 |
| | | 666.33 | 99.60 | 4.60E-01 | | 9.20E-01 |
| | | 695.00 | 99.60 | -2.18E-01 | | 9.30E-01 |
| | | 720.50 | 53.80 | -4.41E-02 | | 1.62E+00 |
| + | SN-126 | 87.57 | * | 37.00 | 7.87E-01 | 7.87E-01 |
| + | SB-127 | 473.00 | 25.00 | 1.60E+01 | 1.11E+02 | 1.20E+02 |
| | | 685.20 | 35.70 | 6.21E+01 | | 1.11E+02 |
| | | 783.80 | 14.70 | 2.02E+02 | | 2.81E+02 |

Analysis Report for 1510085-18
CP5006S17-18

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | I-129 | 29.78 | 57.00 | -2.44E-02 | 9.04E-02 | 9.04E-02 |
| | | 33.60 | 13.20 | -7.41E-03 | | 3.97E-01 |
| | | 39.58 | 7.52 | -6.63E-01 | | 7.44E-01 |
| + | I-131 | 284.30 | 6.05 | -5.77E+00 | 2.11E+00 | 2.71E+01 |
| | | 364.48 | 81.20 | -6.18E-02 | | 2.11E+00 |
| | | 636.97 | 7.26 | -3.91E+00 | | 2.64E+01 |
| | | 722.89 | 1.80 | 4.83E-01 | | 1.26E+02 |
| + | TE-132 | 49.72 | 13.10 | 1.16E+02 | 8.53E+01 | 3.11E+02 |
| | | 228.16 | 88.00 | 3.44E-01 | | 8.53E+01 |
| + | BA-133 | 81.00 | 33.00 | -3.89E-01 | 3.30E-01 | 3.44E-01 |
| | | 302.84 | 17.80 | -8.22E-01 | | 7.31E-01 |
| | | 356.01 | 60.00 | -2.55E-02 | | 3.30E-01 |
| + | I-133 | 529.87 | 86.30 | -5.32E+08 | 4.66E+09 | 4.66E+09 |
| + | XE-133 | 81.00 | 38.00 | -1.79E+01 | 1.59E+01 | 1.59E+01 |
| + | CS-134 | 563.23 | 8.38 | -4.52E-01 | 2.02E-01 | 1.92E+00 |
| | | 569.32 | 15.43 | 1.27E-02 | | 1.08E+00 |
| | | 604.70 | 97.60 | -3.73E-03 | | 2.02E-01 |
| | | 795.84 | 85.40 | 2.79E-02 | | 2.45E-01 |
| | | 801.93 | 8.73 | -9.60E-02 | | 2.08E+00 |
| + | CS-135 | 268.24 | 16.00 | 4.10E-01 | 8.01E-01 | 8.01E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 1.77E+00 | 8.82E-01 | 7.19E+00 |
| | | 163.89 | 4.61 | -4.59E+00 | | 1.12E+01 |
| | | 176.55 | 13.56 | -7.81E-01 | | 4.08E+00 |
| | | 273.65 | 12.66 | 1.76E+00 | | 5.23E+00 |
| | | 340.57 | 48.50 | 2.00E+00 | | 1.58E+00 |
| | | 818.50 | 99.70 | 4.07E-01 | | 8.82E-01 |
| | | 1048.07 | 79.60 | 1.82E-01 | | 1.14E+00 |
| | | 1235.34 | 19.70 | -3.49E-01 | | 6.98E+00 |
| + | CS-137 | 661.65 | 85.12 | 1.82E-02 | 1.89E-01 | 1.89E-01 |
| + | LA-138 | 788.74 | 34.00 | 3.25E-02 | 2.22E-01 | 5.07E-01 |
| | | 1435.80 | 66.00 | -4.79E-02 | | 2.22E-01 |
| + | CE-139 | 165.85 | 80.35 | 1.18E-02 | 1.56E-01 | 1.56E-01 |
| + | BA-140 | 162.64 | 6.70 | -4.64E+00 | 3.01E+00 | 7.99E+00 |
| | | 304.84 | 4.50 | -1.56E+00 | | 1.42E+01 |
| | | 423.70 | 3.20 | -3.19E+00 | | 2.12E+01 |
| | | 437.55 | 2.00 | 2.63E+00 | | 3.75E+01 |
| | | 537.32 | 25.00 | 5.86E-01 | | 3.01E+00 |
| + | LA-140 | 328.77 | 20.50 | 1.18E+00 | 1.19E+00 | 3.49E+00 |
| | | 487.03 | 45.50 | -7.90E-02 | | 1.61E+00 |
| | | 815.85 | 23.50 | -6.91E-01 | | 3.47E+00 |
| | | 1596.49 | 95.49 | 4.41E-01 | | 1.19E+00 |
| + | CE-141 | 145.44 | 48.40 | 9.69E-02 | 4.27E-01 | 4.27E-01 |
| + | CE-143 | 57.36 | 11.80 | -2.15E+05 | 1.52E+06 | 2.51E+06 |
| | | 293.26 | 42.00 | 2.12E+06 | | 1.52E+06 |
| | | 664.55 | 5.20 | 1.58E+06 | | 1.22E+07 |
| + | CE-144 | 133.54 | 10.80 | 9.07E-02 | 1.02E+00 | 1.02E+00 |

Analysis Report for 1510085-18
CP5006S17-18

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | PM-144 | 476.78 | 42.00 | -7.36E-02 | 1.77E-01 | 3.29E-01 |
| | | 618.01 | 98.60 | 2.62E-02 | | 1.77E-01 |
| | | 696.49 | 99.49 | -3.12E-02 | | 1.85E-01 |
| + | PM-145 | 36.85 | 21.70 | -1.27E-01 | 1.36E-01 | 2.46E-01 |
| | | 37.36 | 39.70 | -3.11E-02 | | 1.36E-01 |
| | | 42.30 | 15.10 | 2.27E-01 | | 4.05E-01 |
| | | 72.40 | 2.31 | 8.30E+00 | | 4.99E+00 |
| + | PM-146 | 453.90 | 39.94 | 1.36E-01 | 3.43E-01 | 3.43E-01 |
| | | 735.90 | 14.01 | 2.25E-01 | | 1.28E+00 |
| | | 747.13 | 13.10 | 4.07E-01 | | 1.31E+00 |
| + | ND-147 | 91.11 | 28.90 | 6.72E+00 | 2.70E+00 | 2.70E+00 |
| | | 531.02 | 13.10 | -4.10E-01 | | 7.32E+00 |
| + | PM-149 | 285.90 | 3.10 | -6.92E+02 | 4.92E+04 | 4.92E+04 |
| + | EU-152 | 121.78 | 20.50 | -1.49E-01 | 4.75E-01 | 4.75E-01 |
| | | 244.69 | 5.40 | -1.18E-01 | | 2.59E+00 |
| | | 344.27 | 19.13 | -4.27E+00 | | 6.56E-01 |
| | | 778.89 | 9.20 | -1.36E+00 | | 1.84E+00 |
| | | 964.01 | 10.40 | 2.13E-02 | | 2.47E+00 |
| | | 1085.78 | 7.22 | 1.50E+00 | | 3.21E+00 |
| | | 1112.02 | 9.60 | -4.84E-01 | | 2.08E+00 |
| | | 1407.95 | 14.94 | 2.31E-01 | | 1.25E+00 |
| + | GD-153 | 97.43 | 31.30 | -4.16E-01 | 3.24E-01 | 3.24E-01 |
| | | 103.18 | 22.20 | 3.58E-01 | | 4.48E-01 |
| + | EU-154 | 123.07 | 40.50 | -4.44E-02 | 2.44E-01 | 2.44E-01 |
| | | 723.30 | 19.70 | -3.60E-02 | | 9.28E-01 |
| | | 873.19 | 11.50 | -2.63E-02 | | 1.49E+00 |
| | | 996.32 | 10.30 | 2.50E-01 | | 1.97E+00 |
| | | 1004.76 | 17.90 | 4.50E-01 | | 1.10E+00 |
| | | 1274.45 | 35.50 | 3.19E-02 | | 5.89E-01 |
| + | EU-155 | 86.50 | 30.90 | 4.55E-02 | 3.57E-01 | 3.57E-01 |
| | | 105.30 | 20.70 | -2.58E-01 | | 4.33E-01 |
| + | EU-156 | 811.77 | 10.40 | -3.20E-01 | 6.79E+00 | 6.79E+00 |
| | | 1153.47 | 7.20 | -3.31E+00 | | 1.17E+01 |
| | | 1230.71 | 8.90 | -3.02E+00 | | 1.06E+01 |
| + | HO-166M | 184.41 | 72.60 | 1.62E-01 | 1.80E-01 | 1.80E-01 |
| | | 280.45 | 29.60 | 4.37E-02 | | 4.24E-01 |
| | | 410.94 | 11.10 | -2.14E-01 | | 1.24E+00 |
| | | 711.69 | 54.10 | 3.84E-02 | | 3.28E-01 |
| + | TM-171 | 66.72 | 0.14 | -6.56E+01 | 6.60E+01 | 6.60E+01 |
| + | HF-172 | 81.75 | 4.52 | -8.84E+00 | 9.26E-01 | 2.41E+00 |
| | | 125.81 | 11.30 | -9.45E-02 | | 9.26E-01 |
| + | LU-172 | 181.53 | 20.60 | 2.54E+00 | 8.07E+00 | 1.38E+01 |
| | | 810.06 | 16.63 | -1.44E+00 | | 2.49E+01 |
| | | 912.12 | 15.25 | 7.88E+01 | | 4.48E+01 |
| | | 1093.66 | 62.50 | 1.13E+00 | | 8.07E+00 |
| + | LU-173 | 100.72 | 5.24 | -1.79E+00 | 6.51E-01 | 1.76E+00 |
| | | 272.11 | 21.20 | -6.38E-02 | | 6.51E-01 |
| + | HF-175 | 343.40 | 84.00 | -5.50E-01 | 2.11E-01 | 2.11E-01 |
| + | LU-176 | 88.34 | 13.30 | 1.60E+00 | 1.29E-01 | 8.63E-01 |

Analysis Report for 1510085-18
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| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | LU-176 | 201.83 | 86.00 | 7.98E-02 | 1.29E-01 | 1.42E-01 |
| | | 306.78 | 94.00 | -5.82E-02 | | 1.29E-01 |
| + | TA-182 | 67.75 | 41.20 | -6.73E-01 | 2.63E-01 | 2.63E-01 |
| | | 1121.30 | 34.90 | 8.87E-01 | | 1.05E+00 |
| | | 1189.05 | 16.23 | -5.36E-01 | | 1.54E+00 |
| | | 1221.41 | 26.98 | 4.11E-01 | | 1.19E+00 |
| | | 1231.02 | 11.44 | -7.14E-01 | | 2.50E+00 |
| + | IR-192 | 308.46 | 29.68 | -5.97E-02 | 3.75E-01 | 5.39E-01 |
| | | 468.07 | 48.10 | -1.78E-02 | | 3.75E-01 |
| + | HG-203 | 279.19 | 77.30 | 1.15E-01 | 2.57E-01 | 2.57E-01 |
| + | BI-207 | 569.67 | 97.72 | 1.95E-03 | 1.67E-01 | 1.67E-01 |
| | | 1063.62 | 74.90 | 1.31E-01 | | 2.81E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.36E+00 | 5.35E-01 | 7.82E-01 |
| | | 860.37 | 4.48 | 2.20E+00 | | 4.80E+00 |
| | | 2614.66 | * 35.85 | 1.49E+00 | | 5.35E-01 |
| + | BI-210M | 262.00 | 45.00 | 9.29E-02 | 2.66E-01 | 2.66E-01 |
| | | 300.00 | 23.00 | -2.81E-01 | | 6.55E-01 |
| + | PB-210 | 46.50 | 4.25 | 6.84E-01 | 1.53E+00 | 1.53E+00 |
| + | PB-211 | 404.84 | 2.90 | 6.17E-01 | 4.85E+00 | 4.85E+00 |
| | | 831.96 | 2.90 | -6.50E-02 | | 6.47E+00 |
| + | BI-212 | 727.17 | 11.80 | 3.61E-01 | 1.65E+00 | 1.65E+00 |
| | | 1620.62 | 2.75 | 0.00E+00 | | 5.44E+00 |
| + | PB-212 | 238.63 | * 44.60 | 2.15E+00 | 4.60E-01 | 4.60E-01 |
| | | 300.09 | 3.41 | -1.90E+00 | | 4.42E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.19E+00 | 4.63E-01 | 4.63E-01 |
| | | 1120.29 | * 15.10 | 1.65E+00 | | 2.23E+00 |
| | | 1764.49 | * 15.80 | 1.81E+00 | | 1.03E+00 |
| | | 2204.22 | 4.98 | -3.83E-01 | | 4.90E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.40E+00 | 5.48E-01 | 8.59E-01 |
| | | 351.92 | * 37.19 | 1.55E+00 | | 5.48E-01 |
| + | RN-219 | 401.80 | 6.50 | 7.75E-01 | 2.19E+00 | 2.19E+00 |
| + | RA-223 | 323.87 | 3.88 | -1.04E+00 | 3.48E+00 | 3.48E+00 |
| + | RA-224 | 240.98 | 3.95 | 2.27E+01 | 5.23E+00 | 5.23E+00 |
| + | RA-225 | 40.00 | 31.00 | -6.60E-01 | 7.41E-01 | 7.41E-01 |
| + | RA-226 | 186.21 | * 3.28 | 2.57E+00 | 5.12E+00 | 5.12E+00 |
| + | TH-227 | 50.10 | 8.40 | 3.02E-01 | 8.09E-01 | 8.09E-01 |
| | | 236.00 | 11.50 | 4.29E+00 | | 1.67E+00 |
| | | 256.20 | 6.30 | 1.05E+00 | | 1.94E+00 |
| + | AC-228 | 338.32 | * 11.40 | 2.17E+00 | 1.06E+00 | 2.98E+00 |
| | | 911.07 | * 27.70 | 1.67E+00 | | 1.06E+00 |
| | | 969.11 | 16.60 | 2.09E+00 | | 1.76E+00 |
| + | TH-230 | 48.44 | 16.90 | 6.05E-02 | 3.92E-01 | 3.92E-01 |
| | | 62.85 | 4.60 | 2.12E+00 | | 1.91E+00 |
| | | 67.67 | 0.37 | -6.24E+01 | | 2.44E+01 |
| + | PA-231 | 283.67 | 1.60 | -2.49E+00 | 5.62E+00 | 7.55E+00 |
| | | 302.67 | 2.30 | -6.32E+00 | | 5.62E+00 |
| + | TH-231 | 25.64 | 14.70 | -7.49E-02 | 3.50E-01 | 3.50E-01 |
| | | 84.21 | 6.40 | -6.32E+00 | | 1.60E+00 |

Analysis Report for 1510085-18
CP5006S17-18

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | PA-233 | 311.98 | 38.60 | -6.63E-02 | 6.89E-01 | 6.89E-01 |
| + | PA-234 | 131.20 | 20.40 | 1.08E-01 | 5.08E-01 | 5.08E-01 |
| | | 733.99 | 8.80 | -7.98E-01 | | 2.00E+00 |
| | | 946.00 | 12.00 | -4.74E-01 | | 1.36E+00 |
| + | PA-234M | 1001.03 | 0.92 | 1.30E+01 | 2.20E+01 | 2.20E+01 |
| + | TH-234 | 63.29 | * | 3.80 | 3.57E+00 | 3.57E+00 |
| + | U-235 | 143.76 | 10.50 | 1.78E-01 | 1.02E+00 | 1.02E+00 |
| | | 163.35 | 4.70 | -9.20E-01 | | 2.25E+00 |
| | | 205.31 | 4.70 | 3.85E-01 | | 2.62E+00 |
| + | NP-237 | 86.50 | 12.60 | 1.10E-01 | 8.66E-01 | 8.66E-01 |
| + | NP-239 | 106.10 | 22.70 | -1.64E+03 | 2.75E+03 | 2.75E+03 |
| | | 228.18 | 10.70 | 3.29E+01 | | 7.98E+03 |
| | | 277.60 | 14.10 | 2.15E+03 | | 6.32E+03 |
| + | AM-241 | 59.54 | 35.90 | 1.70E-01 | 2.30E-01 | 2.30E-01 |
| + | AM-243 | 74.67 | 66.00 | 8.13E-01 | 1.89E-01 | 1.89E-01 |
| + | CM-243 | 209.75 | 3.29 | 1.94E+00 | 9.09E-01 | 3.72E+00 |
| | | 228.14 | 10.60 | 4.75E-03 | | 1.18E+00 |
| | | 277.60 | 14.00 | 3.10E-01 | | 9.09E-01 |

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction
- ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| BE-7 | 477.59 | 10.42 | 1.89E+00 | 1.89E+00 | -3.28E-01 | 8.92E-01 |
| NA-22 | 1274.54 | 99.94 | 2.12E-01 | 2.12E-01 | 1.15E-02 | 9.62E-02 |
| NA-24 | 1368.53 | 99.99 | 5.52E+13 | 4.46E+13 | 3.03E+12 | 2.44E+13 |
| | 2754.09 | 99.86 | 4.46E+13 | | 1.84E+12 | 1.67E+13 |

Analysis Report for 1510085-18
CP5006S17-18

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| AL-26 | 1808.65 | 99.76 | 2.04E-01 | 2.04E-01 | 3.00E-02 | 8.87E-02 |
| + K-40 | 1460.81 | * | 2.22E+00 | 2.22E+00 | 2.19E+01 | 1.00E+00 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 9.58E-02 | 9.58E-02 | -2.45E-01 | 4.70E-02 |
| | 78.34 | 96.00 | 1.27E-01 | | 2.79E-01 | 6.24E-02 |
| SC-46 | 889.25 | 99.98 | 2.06E-01 | 2.06E-01 | -4.68E-02 | 9.38E-02 |
| | 1120.51 | 99.99 | 3.89E-01 | | 3.34E-01 | 1.83E-01 |
| V-48 | 983.52 | 99.98 | 6.44E-01 | 6.44E-01 | -8.99E-02 | 2.93E-01 |
| | 1312.10 | 97.50 | 8.07E-01 | | 1.62E-01 | 3.66E-01 |
| CR-51 | 320.08 | 9.83 | 2.88E+00 | 2.88E+00 | 1.09E-01 | 1.38E+00 |
| MN-54 | 834.83 | 99.97 | 2.10E-01 | 2.10E-01 | 2.34E-02 | 9.82E-02 |
| CO-56 | 846.75 | 99.96 | 2.53E-01 | 2.53E-01 | 1.36E-01 | 1.18E-01 |
| | 1037.75 | 14.03 | 1.95E+00 | | 4.13E-01 | 8.97E-01 |
| | 1238.25 | 67.00 | 5.99E-01 | | 4.36E-01 | 2.81E-01 |
| | 1771.40 | 15.51 | 1.53E+00 | | -1.60E+00 | 6.54E-01 |
| | 2598.48 | 16.90 | 9.19E-01 | | -4.95E-02 | 3.26E-01 |
| CO-57 | 122.06 | 85.51 | 1.23E-01 | 1.23E-01 | -3.85E-02 | 5.99E-02 |
| | 136.48 | 10.60 | 1.04E+00 | | -8.62E-02 | 5.08E-01 |
| CO-58 | 810.76 | 99.40 | 2.49E-01 | 2.49E-01 | -1.44E-02 | 1.16E-01 |
| FE-59 | 1099.22 | 56.50 | 6.25E-01 | 6.25E-01 | 2.33E-01 | 2.88E-01 |
| | 1291.56 | 43.20 | 8.10E-01 | | -9.15E-02 | 3.68E-01 |
| CO-60 | 1173.22 | 100.00 | 2.23E-01 | 2.05E-01 | -6.25E-02 | 1.03E-01 |
| | 1332.49 | 100.00 | 2.05E-01 | | 1.02E-01 | 9.24E-02 |
| ZN-65 | 1115.52 | 50.75 | 4.99E-01 | 4.99E-01 | -5.23E-02 | 2.31E-01 |
| GA-67 | 93.31 | 35.70 | 1.79E+02 | 1.79E+02 | 1.28E+02 | 8.81E+01 |
| | 208.95 | 2.24 | 3.29E+03 | | 1.06E+02 | 1.60E+03 |
| | 300.22 | 16.00 | 5.13E+02 | | -4.17E+02 | 2.47E+02 |
| SE-75 | 121.11 | 16.70 | 6.88E-01 | 2.03E-01 | -1.77E-01 | 3.36E-01 |
| | 136.00 | 59.20 | 2.03E-01 | | -1.68E-02 | 9.91E-02 |
| | 264.65 | 59.80 | 2.36E-01 | | -7.37E-03 | 1.14E-01 |
| | 279.53 | 25.20 | 6.01E-01 | | 2.70E-01 | 2.90E-01 |
| | 400.65 | 11.40 | 1.50E+00 | | 7.14E-01 | 7.17E-01 |
| RB-82 | 776.52 | 13.00 | 3.10E+00 | 3.10E+00 | -1.12E+00 | 1.44E+00 |
| RB-83 | 520.41 | 46.00 | 4.00E-01 | 4.00E-01 | -9.70E-03 | 1.89E-01 |
| | 529.64 | 30.30 | 5.98E-01 | | -6.83E-02 | 2.82E-01 |
| | 552.65 | 16.40 | 1.11E+00 | | -1.47E-01 | 5.23E-01 |
| KR-85 | 513.99 | 0.43 | 4.60E+01 | 4.60E+01 | 9.41E-01 | 2.20E+01 |
| SR-85 | 513.99 | 99.27 | 2.76E-01 | 2.76E-01 | 5.64E-03 | 1.32E-01 |
| Y-88 | 898.02 | 93.40 | 2.26E-01 | 2.21E-01 | -2.53E-02 | 1.04E-01 |
| | 1836.01 | 99.38 | 2.21E-01 | | 0.00E+00 | 9.39E-02 |
| NB-93M | 16.57 | 9.43 | 4.80E-01 | 4.80E-01 | 1.14E+00 | 2.33E-01 |
| NB-94 | 702.63 | 100.00 | 1.76E-01 | 1.70E-01 | -1.42E-02 | 8.27E-02 |
| | 871.10 | 100.00 | 1.70E-01 | | -5.96E-02 | 7.82E-02 |
| NB-95 | 765.79 | 99.81 | 3.31E-01 | 3.31E-01 | -1.54E-02 | 1.54E-01 |
| NB-95M | 235.69 | 25.00 | 2.47E+02 | 2.47E+02 | 6.37E+02 | 1.21E+02 |
| ZR-95 | 724.18 | 43.70 | 6.18E-01 | 4.38E-01 | 2.81E-02 | 2.91E-01 |
| | 756.72 | 55.30 | 4.38E-01 | | 1.33E-02 | 2.04E-01 |
| MO-99 | 181.06 | 6.20 | 3.84E+03 | 2.35E+03 | 1.15E+03 | 1.87E+03 |
| | 739.58 | 12.80 | 2.35E+03 | | -4.49E+02 | 1.09E+03 |
| | 778.00 | 4.50 | 7.36E+03 | | -5.41E+03 | 3.41E+03 |
| RU-103 | 497.08 | 89.00 | 2.73E-01 | 2.73E-01 | -7.87E-02 | 1.29E-01 |
| RU-106 | 621.84 | 9.80 | 1.81E+00 | 1.81E+00 | 4.71E-01 | 8.52E-01 |
| AG-108M | 433.93 | 89.90 | 1.70E-01 | 1.70E-01 | 1.16E-01 | 8.10E-02 |

Analysis Report for 1510085-18

CP5006S17-18

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| AG-108M | 614.37 | 90.40 | 2.13E-01 | 1.70E-01 | -1.74E-02 | 1.01E-01 |
| | 722.95 | 90.50 | 2.01E-01 | | -7.78E-03 | 9.40E-02 |
| + CD-109 | 88.03 | * | 3.72 | 8.19E+00 | 8.01E+00 | 4.07E+00 |
| AG-110M | 657.75 | 93.14 | 1.75E-01 | 1.75E-01 | -8.97E-02 | 8.15E-02 |
| | 677.61 | 10.53 | 1.61E+00 | | -7.63E-01 | 7.49E-01 |
| | 706.67 | 16.46 | 1.21E+00 | | 1.52E-01 | 5.67E-01 |
| | 763.93 | 21.98 | 8.73E-01 | | -1.26E-01 | 4.07E-01 |
| | 884.67 | 71.63 | 2.45E-01 | | 2.90E-02 | 1.12E-01 |
| | 1384.27 | 23.94 | 8.53E-01 | | -6.76E-03 | 3.79E-01 |
| CD-113M | 263.70 | 0.02 | 5.17E+02 | 5.17E+02 | 9.42E+01 | 2.49E+02 |
| SN-113 | 255.12 | 1.93 | 7.38E+00 | 2.58E-01 | 5.35E-01 | 3.56E+00 |
| | 391.69 | 64.90 | 2.58E-01 | | 1.08E-01 | 1.23E-01 |
| TE123M | 159.00 | 84.10 | 1.52E-01 | 1.52E-01 | 2.37E-02 | 7.40E-02 |
| SB-124 | 602.71 | 97.87 | 2.18E-01 | 2.18E-01 | -1.70E-02 | 1.02E-01 |
| | 645.85 | 7.26 | 3.37E+00 | | 9.87E-01 | 1.59E+00 |
| | 722.78 | 11.10 | 2.16E+00 | | 8.27E-03 | 1.01E+00 |
| | 1691.02 | 49.00 | 4.87E-01 | | -5.61E-02 | 2.07E-01 |
| I-125 | 35.49 | 6.49 | 1.16E+00 | 1.16E+00 | -4.98E-01 | 5.64E-01 |
| SB-125 | 176.33 | 6.89 | 1.68E+00 | 4.85E-01 | -3.21E-01 | 8.16E-01 |
| | 427.89 | 29.33 | 4.85E-01 | | -4.92E-02 | 2.31E-01 |
| | 463.38 | 10.35 | 1.40E+00 | | 6.62E-01 | 6.64E-01 |
| | 600.56 | 17.80 | 8.83E-01 | | 2.35E-03 | 4.14E-01 |
| | 635.90 | 11.32 | 1.24E+00 | | -7.17E-01 | 5.73E-01 |
| SB-126 | 414.70 | 83.30 | 8.96E-01 | 8.96E-01 | 1.71E-01 | 4.26E-01 |
| | 666.33 | 99.60 | 9.20E-01 | | 4.60E-01 | 4.32E-01 |
| | 695.00 | 99.60 | 9.30E-01 | | -2.18E-01 | 4.35E-01 |
| | 720.50 | 53.80 | 1.62E+00 | | -4.41E-02 | 7.51E-01 |
| + SN-126 | 87.57 | * | 37.00 | 7.87E-01 | 7.70E-01 | 3.91E-01 |
| SB-127 | 473.00 | 25.00 | 1.20E+02 | 1.11E+02 | 1.60E+01 | 5.64E+01 |
| | 685.20 | 35.70 | 1.11E+02 | | 6.21E+01 | 5.22E+01 |
| | 783.80 | 14.70 | 2.81E+02 | | 2.02E+02 | 1.31E+02 |
| I-129 | 29.78 | 57.00 | 9.04E-02 | 9.04E-02 | -2.44E-02 | 4.41E-02 |
| | 33.60 | 13.20 | 3.97E-01 | | -7.41E-03 | 1.94E-01 |
| | 39.58 | 7.52 | 7.44E-01 | | -6.63E-01 | 3.63E-01 |
| I-131 | 284.30 | 6.05 | 2.71E+01 | 2.11E+00 | -5.77E+00 | 1.31E+01 |
| | 364.48 | 81.20 | 2.11E+00 | | -6.18E-02 | 1.01E+00 |
| | 636.97 | 7.26 | 2.64E+01 | | -3.91E+00 | 1.23E+01 |
| | 722.89 | 1.80 | 1.26E+02 | | 4.83E-01 | 5.88E+01 |
| TE-132 | 49.72 | 13.10 | 3.11E+02 | 8.53E+01 | 1.16E+02 | 1.52E+02 |
| | 228.16 | 88.00 | 8.53E+01 | | 3.44E-01 | 4.14E+01 |
| BA-133 | 81.00 | 33.00 | 3.44E-01 | 3.30E-01 | -3.89E-01 | 1.69E-01 |
| | 302.84 | 17.80 | 7.31E-01 | | -8.22E-01 | 3.52E-01 |
| | 356.01 | 60.00 | 3.30E-01 | | -2.55E-02 | 1.60E-01 |
| I-133 | 529.87 | 86.30 | 4.66E+09 | 4.66E+09 | -5.32E+08 | 2.19E+09 |
| XE-133 | 81.00 | 38.00 | 1.59E+01 | 1.59E+01 | -1.79E+01 | 7.80E+00 |
| CS-134 | 563.23 | 8.38 | 1.92E+00 | 2.02E-01 | -4.52E-01 | 9.03E-01 |
| | 569.32 | 15.43 | 1.08E+00 | | 1.27E-02 | 5.11E-01 |
| | 604.70 | 97.60 | 2.02E-01 | | -3.73E-03 | 9.61E-02 |
| | 795.84 | 85.40 | 2.45E-01 | | 2.79E-02 | 1.15E-01 |
| | 801.93 | 8.73 | 2.08E+00 | | -9.60E-02 | 9.66E-01 |
| CS-135 | 268.24 | 16.00 | 8.01E-01 | 8.01E-01 | 4.10E-01 | 3.87E-01 |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 |

Analysis Report for 1510085-18

CP5006S17-18

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| @ I-135 | 1678.03 | 9.54 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| CS-136 | 153.22 | 7.46 | 7.19E+00 | 8.82E-01 | 1.77E+00 | 3.50E+00 |
| | 163.89 | 4.61 | 1.12E+01 | | -4.59E+00 | 5.46E+00 |
| | 176.55 | 13.56 | 4.08E+00 | | -7.81E-01 | 1.98E+00 |
| | 273.65 | 12.66 | 5.23E+00 | | 1.76E+00 | 2.53E+00 |
| | 340.57 | 48.50 | 1.58E+00 | | 2.00E+00 | 7.62E-01 |
| | 818.50 | 99.70 | 8.82E-01 | | 4.07E-01 | 4.10E-01 |
| | 1048.07 | 79.60 | 1.14E+00 | | 1.82E-01 | 5.18E-01 |
| | 1235.34 | 19.70 | 6.98E+00 | | -3.49E-01 | 3.25E+00 |
| CS-137 | 661.65 | 85.12 | 1.89E-01 | 1.89E-01 | 1.82E-02 | 8.86E-02 |
| LA-138 | 788.74 | 34.00 | 5.07E-01 | 2.22E-01 | 3.25E-02 | 2.35E-01 |
| | 1435.80 | 66.00 | 2.22E-01 | | -4.79E-02 | 9.44E-02 |
| CE-139 | 165.85 | 80.35 | 1.56E-01 | 1.56E-01 | 1.18E-02 | 7.56E-02 |
| BA-140 | 162.64 | 6.70 | 7.99E+00 | 3.01E+00 | -4.64E+00 | 3.88E+00 |
| | 304.84 | 4.50 | 1.42E+01 | | -1.56E+00 | 6.82E+00 |
| | 423.70 | 3.20 | 2.12E+01 | | -3.19E+00 | 1.01E+01 |
| | 437.55 | 2.00 | 3.75E+01 | | 2.63E+00 | 1.78E+01 |
| LA-140 | 537.32 | 25.00 | 3.01E+00 | | 5.86E-01 | 1.42E+00 |
| | 328.77 | 20.50 | 3.49E+00 | 1.19E+00 | 1.18E+00 | 1.68E+00 |
| | 487.03 | 45.50 | 1.61E+00 | | -7.90E-02 | 7.61E-01 |
| | 815.85 | 23.50 | 3.47E+00 | | -6.91E-01 | 1.59E+00 |
| | 1596.49 | 95.49 | 1.19E+00 | | 4.41E-01 | 5.29E-01 |
| CE-141 | 145.44 | 48.40 | 4.27E-01 | 4.27E-01 | 9.69E-02 | 2.09E-01 |
| CE-143 | 57.36 | 11.80 | 2.51E+06 | 1.52E+06 | -2.15E+05 | 1.23E+06 |
| | 293.26 | 42.00 | 1.52E+06 | | 2.12E+06 | 7.39E+05 |
| | 664.55 | 5.20 | 1.22E+07 | | 1.58E+06 | 5.70E+06 |
| CE-144 | 133.54 | 10.80 | 1.02E+00 | 1.02E+00 | 9.07E-02 | 4.95E-01 |
| PM-144 | 476.78 | 42.00 | 3.29E-01 | 1.77E-01 | -7.36E-02 | 1.55E-01 |
| | 618.01 | 98.60 | 1.77E-01 | | 2.62E-02 | 8.33E-02 |
| | 696.49 | 99.49 | 1.85E-01 | | -3.12E-02 | 8.67E-02 |
| PM-145 | 36.85 | 21.70 | 2.46E-01 | 1.36E-01 | -1.27E-01 | 1.20E-01 |
| | 37.36 | 39.70 | 1.36E-01 | | -3.11E-02 | 6.64E-02 |
| | 42.30 | 15.10 | 4.05E-01 | | 2.27E-01 | 1.98E-01 |
| | 72.40 | 2.31 | 4.99E+00 | | 8.30E+00 | 2.46E+00 |
| PM-146 | 453.90 | 39.94 | 3.43E-01 | 3.43E-01 | 1.36E-01 | 1.62E-01 |
| | 735.90 | 14.01 | 1.28E+00 | | 2.25E-01 | 5.98E-01 |
| | 747.13 | 13.10 | 1.31E+00 | | 4.07E-01 | 6.11E-01 |
| ND-147 | 91.11 | 28.90 | 2.70E+00 | 2.70E+00 | 6.72E+00 | 1.33E+00 |
| | 531.02 | 13.10 | 7.32E+00 | | -4.10E-01 | 3.44E+00 |
| PM-149 | 285.90 | 3.10 | 4.92E+04 | 4.92E+04 | -6.92E+02 | 2.37E+04 |
| EU-152 | 121.78 | 20.50 | 4.75E-01 | 4.75E-01 | -1.49E-01 | 2.32E-01 |
| | 244.69 | 5.40 | 2.59E+00 | | -1.18E-01 | 1.26E+00 |
| | 344.27 | 19.13 | 6.56E-01 | | -4.27E+00 | 3.13E-01 |
| | 778.89 | 9.20 | 1.84E+00 | | -1.36E+00 | 8.55E-01 |
| | 964.01 | 10.40 | 2.47E+00 | | 2.13E-02 | 1.16E+00 |
| | 1085.78 | 7.22 | 3.21E+00 | | 1.50E+00 | 1.49E+00 |
| | 1112.02 | 9.60 | 2.08E+00 | | -4.84E-01 | 9.47E-01 |
| | 1407.95 | 14.94 | 1.25E+00 | | 2.31E-01 | 5.55E-01 |
| GD-153 | 97.43 | 31.30 | 3.24E-01 | 3.24E-01 | -4.16E-01 | 1.58E-01 |
| | 103.18 | 22.20 | 4.48E-01 | | 3.58E-01 | 2.19E-01 |
| EU-154 | 123.07 | 40.50 | 2.44E-01 | 2.44E-01 | -4.44E-02 | 1.19E-01 |
| | 723.30 | 19.70 | 9.28E-01 | | -3.60E-02 | 4.35E-01 |
| | 873.19 | 11.50 | 1.49E+00 | | -2.63E-02 | 6.86E-01 |

Analysis Report for 1510085-18

CP5006S17-18

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| EU-154 | 996.32 | 10.30 | 1.97E+00 | 2.44E-01 | 2.50E-01 | 9.08E-01 |
| | 1004.76 | 17.90 | 1.10E+00 | | 4.50E-01 | 5.04E-01 |
| | 1274.45 | 35.50 | 5.89E-01 | | 3.19E-02 | 2.67E-01 |
| EU-155 | 86.50 | 30.90 | 3.57E-01 | 3.57E-01 | 4.55E-02 | 1.76E-01 |
| | 105.30 | 20.70 | 4.33E-01 | | -2.58E-01 | 2.11E-01 |
| EU-156 | 811.77 | 10.40 | 6.79E+00 | 6.79E+00 | -3.20E-01 | 3.15E+00 |
| | 1153.47 | 7.20 | 1.17E+01 | | -3.31E+00 | 5.34E+00 |
| | 1230.71 | 8.90 | 1.06E+01 | | -3.02E+00 | 4.87E+00 |
| HO-166M | 184.41 | 72.60 | 1.80E-01 | 1.80E-01 | 1.62E-01 | 8.77E-02 |
| | 280.45 | 29.60 | 4.24E-01 | | 4.37E-02 | 2.04E-01 |
| | 410.94 | 11.10 | 1.24E+00 | | -2.14E-01 | 5.92E-01 |
| | 711.69 | 54.10 | 3.28E-01 | | 3.84E-02 | 1.54E-01 |
| TM-171 | 66.72 | 0.14 | 6.60E+01 | 6.60E+01 | -6.56E+01 | 3.24E+01 |
| HF-172 | 81.75 | 4.52 | 2.41E+00 | 9.26E-01 | -8.84E+00 | 1.18E+00 |
| | 125.81 | 11.30 | 9.26E-01 | | -9.45E-02 | 4.52E-01 |
| LU-172 | 181.53 | 20.60 | 1.38E+01 | 8.07E+00 | 2.54E+00 | 6.71E+00 |
| | 810.06 | 16.63 | 2.49E+01 | | -1.44E+00 | 1.16E+01 |
| | 912.12 | 15.25 | 4.48E+01 | | 7.88E+01 | 2.13E+01 |
| | 1093.66 | 62.50 | 8.07E+00 | | 1.13E+00 | 3.73E+00 |
| LU-173 | 100.72 | 5.24 | 1.76E+00 | 6.51E-01 | -1.79E+00 | 8.61E-01 |
| | 272.11 | 21.20 | 6.51E-01 | | -6.38E-02 | 3.14E-01 |
| HF-175 | 343.40 | 84.00 | 2.11E-01 | 2.11E-01 | -5.50E-01 | 1.01E-01 |
| LU-176 | 88.34 | 13.30 | 8.63E-01 | 1.29E-01 | 1.60E+00 | 4.25E-01 |
| | 201.83 | 86.00 | 1.42E-01 | | 7.98E-02 | 6.92E-02 |
| | 306.78 | 94.00 | 1.29E-01 | | -5.82E-02 | 6.19E-02 |
| TA-182 | 67.75 | 41.20 | 2.63E-01 | 2.63E-01 | -6.73E-01 | 1.29E-01 |
| | 1121.30 | 34.90 | 1.05E+00 | | 8.87E-01 | 4.95E-01 |
| | 1189.05 | 16.23 | 1.54E+00 | | -5.36E-01 | 7.03E-01 |
| | 1221.41 | 26.98 | 1.19E+00 | | 4.11E-01 | 5.55E-01 |
| | 1231.02 | 11.44 | 2.50E+00 | | -7.14E-01 | 1.15E+00 |
| IR-192 | 308.46 | 29.68 | 5.39E-01 | 3.75E-01 | -5.97E-02 | 2.58E-01 |
| | 468.07 | 48.10 | 3.75E-01 | | -1.78E-02 | 1.77E-01 |
| HG-203 | 279.19 | 77.30 | 2.57E-01 | 2.57E-01 | 1.15E-01 | 1.24E-01 |
| BI-207 | 569.67 | 97.72 | 1.67E-01 | 1.67E-01 | 1.95E-03 | 7.87E-02 |
| | 1063.62 | 74.90 | 2.81E-01 | | 1.31E-01 | 1.29E-01 |
| | 583.14 | 30.22 | 7.82E-01 | | 5.35E-01 | 1.36E+00 | 3.76E-01 |
| + TL-208 | 860.37 | 4.48 | 4.80E+00 | 5.35E-01 | 2.20E+00 | 2.25E+00 |
| | 2614.66 | 35.85 | 5.35E-01 | | 1.49E+00 | 2.19E-01 |
| | 262.00 | 45.00 | 2.66E-01 | | 2.66E-01 | 9.29E-02 | 1.28E-01 |
| BI-210M | 300.00 | 23.00 | 6.55E-01 | 2.66E-01 | -2.81E-01 | 3.17E-01 |
| | 46.50 | 4.25 | 1.53E+00 | | 1.53E+00 | 6.84E-01 | 7.48E-01 |
| PB-210 | 404.84 | 2.90 | 4.85E+00 | 4.85E+00 | 6.17E-01 | 2.32E+00 |
| | 831.96 | 2.90 | 6.47E+00 | | -6.50E-02 | 3.01E+00 |
| BI-212 | 727.17 | 11.80 | 1.65E+00 | 1.65E+00 | 3.61E-01 | 7.76E-01 |
| | 1620.62 | 2.75 | 5.44E+00 | | 0.00E+00 | 2.28E+00 |
| + PB-212 | 238.63 | 44.60 | 4.60E-01 | 4.60E-01 | 2.15E+00 | 2.26E-01 |
| | 300.09 | 3.41 | 4.42E+00 | | -1.90E+00 | 2.14E+00 |
| + BI-214 | 609.31 | 46.30 | 4.63E-01 | 4.63E-01 | 1.19E+00 | 2.21E-01 |
| | 1120.29 | 15.10 | 2.23E+00 | | 1.65E+00 | 1.06E+00 |
| | 1764.49 | 15.80 | 1.03E+00 | | 1.81E+00 | 4.31E-01 |
| | 2204.22 | 4.98 | 4.90E+00 | | -3.83E-01 | 2.14E+00 |
| + PB-214 | 295.21 | 19.19 | 8.59E-01 | 5.48E-01 | 1.40E+00 | 4.17E-01 |
| | 351.92 | 37.19 | 5.48E-01 | | 1.55E+00 | 2.67E-01 |

Analysis Report for 1510085-18
CP5006S17-18

| | Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| | RN-219 | 401.80 | 6.50 | 2.19E+00 | 2.19E+00 | 7.75E-01 | 1.05E+00 |
| | RA-223 | 323.87 | 3.88 | 3.48E+00 | 3.48E+00 | -1.04E+00 | 1.67E+00 |
| | RA-224 | 240.98 | 3.95 | 5.23E+00 | 5.23E+00 | 2.27E+01 | 2.56E+00 |
| | RA-225 | 40.00 | 31.00 | 7.41E-01 | 7.41E-01 | -6.60E-01 | 3.61E-01 |
| + | RA-226 | 186.21 * | 3.28 | 5.12E+00 | 5.12E+00 | 2.57E+00 | 2.51E+00 |
| | TH-227 | 50.10 | 8.40 | 8.09E-01 | 8.09E-01 | 3.02E-01 | 3.96E-01 |
| | | 236.00 | 11.50 | 1.67E+00 | | 4.29E+00 | 8.16E-01 |
| | | 256.20 | 6.30 | 1.94E+00 | | 1.05E+00 | 9.35E-01 |
| + | AC-228 | 338.32 * | 11.40 | 2.98E+00 | 1.06E+00 | 2.17E+00 | 1.47E+00 |
| | | 911.07 * | 27.70 | 1.06E+00 | | 1.67E+00 | 5.02E-01 |
| | | 969.11 | 16.60 | 1.76E+00 | | 2.09E+00 | 8.37E-01 |
| | TH-230 | 48.44 | 16.90 | 3.92E-01 | 3.92E-01 | 6.05E-02 | 1.91E-01 |
| | | 62.85 | 4.60 | 1.91E+00 | | 2.12E+00 | 9.37E-01 |
| | | 67.67 | 0.37 | 2.44E+01 | | -6.24E+01 | 1.20E+01 |
| | PA-231 | 283.67 | 1.60 | 7.55E+00 | 5.62E+00 | -2.49E+00 | 3.63E+00 |
| | | 302.67 | 2.30 | 5.62E+00 | | -6.32E+00 | 2.71E+00 |
| | TH-231 | 25.64 | 14.70 | 3.50E-01 | 3.50E-01 | -7.49E-02 | 1.71E-01 |
| | | 84.21 | 6.40 | 1.60E+00 | | -6.32E+00 | 7.83E-01 |
| | PA-233 | 311.98 | 38.60 | 6.89E-01 | 6.89E-01 | -6.63E-02 | 3.30E-01 |
| | PA-234 | 131.20 | 20.40 | 5.08E-01 | 5.08E-01 | 1.08E-01 | 2.48E-01 |
| | | 733.99 | 8.80 | 2.00E+00 | | -7.98E-01 | 9.34E-01 |
| | | 946.00 | 12.00 | 1.36E+00 | | -4.74E-01 | 6.20E-01 |
| | PA-234M | 1001.03 | 0.92 | 2.20E+01 | 2.20E+01 | 1.30E+01 | 1.01E+01 |
| + | TH-234 | 63.29 * | 3.80 | 3.57E+00 | 3.57E+00 | 3.00E+00 | 1.77E+00 |
| | U-235 | 143.76 | 10.50 | 1.02E+00 | 1.02E+00 | 1.78E-01 | 4.97E-01 |
| | | 163.35 | 4.70 | 2.25E+00 | | -9.20E-01 | 1.09E+00 |
| | | 205.31 | 4.70 | 2.62E+00 | | 3.85E-01 | 1.28E+00 |
| | NP-237 | 86.50 | 12.60 | 8.66E-01 | 8.66E-01 | 1.10E-01 | 4.26E-01 |
| | NP-239 | 106.10 | 22.70 | 2.75E+03 | 2.75E+03 | -1.64E+03 | 1.34E+03 |
| | | 228.18 | 10.70 | 7.98E+03 | | 3.29E+01 | 3.87E+03 |
| | | 277.60 | 14.10 | 6.32E+03 | | 2.15E+03 | 3.05E+03 |
| | AM-241 | 59.54 | 35.90 | 2.30E-01 | 2.30E-01 | 1.70E-01 | 1.13E-01 |
| | AM-243 | 74.67 | 66.00 | 1.89E-01 | 1.89E-01 | 8.13E-01 | 9.30E-02 |
| | CM-243 | 209.75 | 3.29 | 3.72E+00 | 9.09E-01 | 1.94E+00 | 1.81E+00 |
| | | 228.14 | 10.60 | 1.18E+00 | | 4.75E-03 | 5.71E-01 |
| | | 277.60 | 14.00 | 9.09E-01 | | 3.10E-01 | 4.38E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

No Action Level results available for reporting purposes.

Analysis Report for 1510085-18
CP5006S17-18

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S17-18

Elapsed Live time: 3600

Elapsed Real Time: 3639

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 101 |
| 17: | 90 | 78 | 73 | 66 | 47 | 64 | 63 | 80 |
| 25: | 55 | 60 | 52 | 70 | 62 | 49 | 67 | 56 |
| 33: | 59 | 51 | 62 | 57 | 61 | 50 | 60 | 60 |
| 41: | 67 | 70 | 64 | 60 | 100 | 100 | 66 | 67 |
| 49: | 63 | 84 | 80 | 62 | 80 | 81 | 75 | 80 |
| 57: | 86 | 92 | 107 | 103 | 104 | 133 | 129 | 100 |
| 65: | 115 | 97 | 115 | 85 | 97 | 97 | 130 | 128 |
| 73: | 154 | 249 | 244 | 292 | 242 | 143 | 90 | 76 |
| 81: | 100 | 84 | 124 | 111 | 117 | 134 | 149 | 122 |
| 89: | 133 | 119 | 135 | 163 | 140 | 82 | 59 | 62 |
| 97: | 65 | 65 | 78 | 72 | 59 | 59 | 67 | 66 |
| 105: | 85 | 61 | 56 | 57 | 49 | 54 | 82 | 68 |
| 113: | 58 | 63 | 76 | 64 | 57 | 65 | 64 | 60 |
| 121: | 64 | 61 | 66 | 51 | 66 | 63 | 62 | 70 |
| 129: | 77 | 56 | 48 | 57 | 64 | 72 | 60 | 51 |
| 137: | 51 | 53 | 58 | 56 | 62 | 58 | 54 | 60 |
| 145: | 63 | 58 | 63 | 62 | 61 | 61 | 61 | 54 |
| 153: | 53 | 51 | 63 | 54 | 51 | 49 | 47 | 48 |
| 161: | 45 | 50 | 51 | 43 | 38 | 49 | 54 | 47 |
| 169: | 51 | 58 | 47 | 32 | 41 | 38 | 52 | 53 |
| 177: | 55 | 54 | 54 | 53 | 50 | 40 | 48 | 69 |
| 185: | 91 | 67 | 59 | 60 | 43 | 49 | 38 | 46 |
| 193: | 48 | 35 | 43 | 39 | 56 | 45 | 43 | 43 |
| 201: | 52 | 41 | 41 | 40 | 44 | 38 | 32 | 47 |
| 209: | 64 | 49 | 27 | 44 | 32 | 30 | 41 | 29 |
| 217: | 39 | 28 | 39 | 32 | 28 | 55 | 44 | 42 |
| 225: | 37 | 34 | 46 | 33 | 32 | 33 | 38 | 28 |
| 233: | 31 | 38 | 48 | 54 | 141 | 216 | 177 | 91 |
| 241: | 72 | 62 | 33 | 20 | 26 | 17 | 29 | 25 |
| 249: | 20 | 29 | 24 | 29 | 35 | 25 | 28 | 23 |
| 257: | 32 | 26 | 34 | 31 | 23 | 33 | 18 | 24 |
| 265: | 22 | 20 | 29 | 33 | 36 | 39 | 41 | 23 |
| 273: | 22 | 28 | 27 | 34 | 40 | 23 | 19 | 27 |
| 281: | 26 | 26 | 22 | 18 | 27 | 23 | 25 | 25 |
| 289: | 24 | 15 | 36 | 33 | 38 | 87 | 72 | 52 |
| 297: | 26 | 28 | 32 | 36 | 20 | 24 | 13 | 17 |
| 305: | 21 | 26 | 24 | 19 | 22 | 19 | 16 | 17 |
| 313: | 25 | 19 | 23 | 17 | 18 | 28 | 25 | 18 |
| 321: | 21 | 29 | 28 | 20 | 18 | 24 | 25 | 40 |
| 329: | 25 | 22 | 21 | 24 | 20 | 14 | 20 | 23 |
| 337: | 50 | 62 | 31 | 16 | 20 | 16 | 14 | 26 |
| 345: | 11 | 28 | 14 | 12 | 27 | 61 | 129 | 105 |
| 353: | 47 | 19 | 11 | 17 | 18 | 20 | 13 | 8 |
| 361: | 20 | 17 | 19 | 20 | 16 | 11 | 26 | 11 |

369: 15 19 15 13 12 16 11 17

Sample Title: CP5006S17-18

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 21 | 18 | 18 | 25 | 16 | 11 | 21 | 16 |
| 385: | 9 | 17 | 19 | 20 | 17 | 19 | 15 | 15 |
| 393: | 13 | 15 | 20 | 17 | 17 | 9 | 16 | 17 |
| 401: | 15 | 21 | 20 | 24 | 13 | 11 | 13 | 12 |
| 409: | 22 | 14 | 13 | 12 | 27 | 12 | 15 | 19 |
| 417: | 7 | 16 | 16 | 11 | 10 | 11 | 14 | 13 |
| 425: | 16 | 12 | 15 | 11 | 17 | 14 | 16 | 14 |
| 433: | 18 | 23 | 20 | 13 | 15 | 10 | 16 | 9 |
| 441: | 12 | 11 | 18 | 15 | 8 | 16 | 11 | 11 |
| 449: | 13 | 13 | 15 | 13 | 15 | 13 | 10 | 5 |
| 457: | 10 | 9 | 8 | 6 | 14 | 20 | 16 | 17 |
| 465: | 12 | 12 | 8 | 10 | 11 | 13 | 8 | 10 |
| 473: | 11 | 10 | 12 | 9 | 8 | 12 | 7 | 10 |
| 481: | 14 | 7 | 13 | 16 | 8 | 19 | 7 | 15 |
| 489: | 11 | 8 | 13 | 15 | 11 | 11 | 10 | 13 |
| 497: | 13 | 15 | 7 | 9 | 10 | 9 | 10 | 20 |
| 505: | 11 | 11 | 11 | 12 | 29 | 27 | 50 | 28 |
| 513: | 8 | 8 | 11 | 13 | 10 | 9 | 16 | 9 |
| 521: | 8 | 5 | 9 | 13 | 9 | 11 | 14 | 6 |
| 529: | 5 | 13 | 10 | 12 | 6 | 10 | 13 | 10 |
| 537: | 6 | 16 | 8 | 10 | 11 | 6 | 8 | 6 |
| 545: | 9 | 8 | 10 | 7 | 6 | 10 | 12 | 12 |
| 553: | 5 | 9 | 8 | 11 | 8 | 8 | 14 | 11 |
| 561: | 10 | 14 | 14 | 8 | 5 | 9 | 7 | 16 |
| 569: | 11 | 12 | 12 | 17 | 9 | 8 | 10 | 11 |
| 577: | 8 | 5 | 9 | 11 | 20 | 46 | 51 | 34 |
| 585: | 12 | 8 | 8 | 5 | 7 | 10 | 6 | 8 |
| 593: | 12 | 7 | 12 | 9 | 11 | 6 | 11 | 8 |
| 601: | 7 | 8 | 8 | 10 | 4 | 12 | 23 | 43 |
| 609: | 65 | 50 | 14 | 5 | 6 | 7 | 11 | 7 |
| 617: | 10 | 10 | 11 | 9 | 13 | 7 | 5 | 10 |
| 625: | 12 | 8 | 8 | 9 | 5 | 6 | 3 | 7 |
| 633: | 12 | 8 | 1 | 6 | 4 | 8 | 5 | 8 |
| 641: | 9 | 12 | 6 | 5 | 13 | 9 | 11 | 8 |
| 649: | 13 | 9 | 11 | 7 | 7 | 9 | 7 | 6 |
| 657: | 7 | 8 | 5 | 5 | 7 | 10 | 7 | 10 |
| 665: | 11 | 7 | 10 | 5 | 9 | 9 | 6 | 8 |
| 673: | 6 | 4 | 6 | 9 | 13 | 9 | 4 | 4 |
| 681: | 7 | 10 | 14 | 6 | 7 | 12 | 7 | 6 |
| 689: | 10 | 5 | 7 | 7 | 6 | 10 | 12 | 8 |
| 697: | 10 | 8 | 5 | 8 | 7 | 18 | 6 | 8 |
| 705: | 8 | 7 | 11 | 6 | 6 | 10 | 8 | 7 |
| 713: | 13 | 6 | 7 | 10 | 5 | 8 | 4 | 10 |
| 721: | 4 | 7 | 0 | 11 | 7 | 14 | 18 | 16 |
| 729: | 9 | 5 | 6 | 7 | 14 | 8 | 9 | 7 |
| 737: | 2 | 10 | 6 | 6 | 4 | 2 | 4 | 6 |
| 745: | 7 | 7 | 10 | 7 | 7 | 8 | 5 | 10 |
| 753: | 6 | 4 | 12 | 8 | 7 | 6 | 5 | 5 |
| 761: | 5 | 8 | 8 | 7 | 1 | 5 | 11 | 13 |
| 769: | 9 | 10 | 9 | 11 | 14 | 6 | 9 | 2 |
| 777: | 2 | 7 | 5 | 6 | 6 | 12 | 6 | 7 |
| 785: | 8 | 9 | 6 | 5 | 4 | 4 | 9 | 4 |
| 793: | 12 | 21 | 4 | 12 | 2 | 7 | 7 | 3 |

801: 4 5 10 5 6 10 11 12

Sample Title: CP5006S17-18

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------|----|----|----|----|----|----|----|----|---|----|----|----|
| 809: | 6 | 7 | 4 | 3 | 3 | 5 | 6 | 5 | | | | |
| 817: | 5 | 7 | 6 | 12 | 8 | 3 | 3 | 8 | | | | |
| 825: | 5 | 4 | 6 | 6 | 6 | 2 | 10 | 4 | | | | |
| 833: | 9 | 6 | 10 | 7 | 8 | 10 | 7 | 9 | | | | |
| 841: | 7 | 9 | 4 | 12 | 6 | 7 | 6 | 6 | | | | |
| 849: | 6 | 6 | 2 | 3 | 2 | 7 | 10 | 5 | | | | |
| 857: | 4 | 12 | 14 | 13 | 6 | 8 | 3 | 10 | | | | |
| 865: | 6 | 6 | 6 | 6 | 4 | 5 | 6 | 2 | | | | |
| 873: | 3 | 6 | 6 | 8 | 4 | 4 | 4 | 4 | | | | |
| 881: | 6 | 4 | 2 | 6 | 5 | 4 | 3 | 4 | | | | |
| 889: | 2 | 4 | 5 | 6 | 4 | 4 | 7 | 6 | | | | |
| 897: | 4 | 5 | 5 | 3 | 1 | 8 | 2 | 6 | | | | |
| 905: | 8 | 2 | 3 | 5 | 13 | 21 | 39 | 29 | | | | |
| 913: | 15 | 5 | 7 | 4 | 3 | 5 | 4 | 10 | | | | |
| 921: | 3 | 4 | 4 | 4 | 3 | 8 | 0 | 4 | | | | |
| 929: | 4 | 2 | 5 | 6 | 7 | 3 | 13 | 3 | | | | |
| 937: | 5 | 7 | 7 | 7 | 3 | 1 | 6 | 3 | | | | |
| 945: | 4 | 2 | 9 | 4 | 4 | 1 | 4 | 4 | | | | |
| 953: | 5 | 4 | 5 | 4 | 7 | 5 | 6 | 1 | | | | |
| 961: | 4 | 6 | 10 | 6 | 10 | 13 | 14 | 22 | | | | |
| 969: | 20 | 18 | 7 | 5 | 4 | 5 | 1 | 8 | | | | |
| 977: | 3 | 3 | 4 | 3 | 3 | 4 | 9 | 4 | | | | |
| 985: | 3 | 5 | 1 | 3 | 3 | 7 | 5 | 10 | | | | |
| 993: | 6 | 4 | 2 | 2 | 3 | 7 | 4 | 10 | | | | |
| 1001: | 4 | 8 | 2 | 7 | 3 | 5 | 2 | 3 | | | | |
| 1009: | 2 | 5 | 1 | 4 | 5 | 6 | 5 | 3 | | | | |
| 1017: | 2 | 5 | 1 | 0 | 1 | 5 | 7 | 6 | | | | |
| 1025: | 7 | 3 | 4 | 3 | 3 | 5 | 6 | 6 | | | | |
| 1033: | 6 | 7 | 9 | 3 | 2 | 4 | 5 | 6 | | | | |
| 1041: | 6 | 4 | 5 | 2 | 6 | 3 | 3 | 3 | | | | |
| 1049: | 5 | 5 | 3 | 6 | 3 | 2 | 1 | 1 | | | | |
| 1057: | 3 | 6 | 3 | 3 | 7 | 2 | 6 | 14 | | | | |
| 1065: | 3 | 2 | 6 | 6 | 2 | 2 | 5 | 3 | | | | |
| 1073: | 5 | 3 | 5 | 0 | 6 | 11 | 3 | 3 | | | | |
| 1081: | 4 | 9 | 5 | 8 | 4 | 3 | 5 | 7 | | | | |
| 1089: | 3 | 10 | 6 | 4 | 4 | 6 | 7 | 6 | | | | |
| 1097: | 4 | 8 | 3 | 4 | 7 | 6 | 3 | 3 | | | | |
| 1105: | 5 | 2 | 7 | 6 | 3 | 3 | 3 | 2 | | | | |
| 1113: | 5 | 4 | 4 | 7 | 6 | 9 | 12 | 21 | | | | |
| 1121: | 16 | 4 | 11 | 5 | 8 | 5 | 7 | 7 | | | | |
| 1129: | 2 | 2 | 3 | 4 | 3 | 3 | 4 | 4 | | | | |
| 1137: | 4 | 4 | 2 | 4 | 7 | 9 | 5 | 4 | | | | |
| 1145: | 7 | 2 | 6 | 10 | 5 | 1 | 6 | 2 | | | | |
| 1153: | 6 | 6 | 8 | 4 | 2 | 6 | 5 | 4 | | | | |
| 1161: | 7 | 6 | 5 | 6 | 6 | 2 | 5 | 6 | | | | |
| 1169: | 3 | 2 | 5 | 6 | 9 | 3 | 1 | 5 | | | | |
| 1177: | 8 | 7 | 6 | 8 | 10 | 2 | 5 | 8 | | | | |
| 1185: | 7 | 2 | 4 | 2 | 4 | 5 | 3 | 1 | | | | |
| 1193: | 8 | 3 | 5 | 8 | 3 | 5 | 2 | 5 | | | | |
| 1201: | 6 | 7 | 7 | 3 | 10 | 3 | 7 | 7 | | | | |
| 1209: | 5 | 10 | 7 | 5 | 3 | 3 | 5 | 5 | | | | |
| 1217: | 7 | 10 | 6 | 2 | 7 | 5 | 9 | 7 | | | | |
| 1225: | 6 | 4 | 7 | 6 | 1 | 6 | 2 | 4 | | | | |

1233: 6 8 5 2 13 17 7 5

Sample Title: CP5006S17-18

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|----|----|----|----|----|----|---|
| 1241: | 7 | 13 | 8 | 4 | 6 | 4 | 3 | 4 |
| 1249: | 9 | 3 | 8 | 7 | 4 | 3 | 5 | 5 |
| 1257: | 2 | 7 | 4 | 5 | 3 | 4 | 3 | 3 |
| 1265: | 2 | 3 | 3 | 2 | 3 | 8 | 0 | 4 |
| 1273: | 2 | 4 | 4 | 4 | 4 | 1 | 2 | 4 |
| 1281: | 5 | 3 | 0 | 4 | 3 | 6 | 1 | 5 |
| 1289: | 6 | 2 | 2 | 5 | 8 | 4 | 1 | 2 |
| 1297: | 3 | 7 | 4 | 4 | 2 | 2 | 3 | 2 |
| 1305: | 2 | 3 | 5 | 1 | 1 | 4 | 6 | 5 |
| 1313: | 5 | 5 | 2 | 2 | 3 | 2 | 2 | 2 |
| 1321: | 1 | 4 | 4 | 7 | 5 | 2 | 5 | 1 |
| 1329: | 5 | 0 | 4 | 2 | 1 | 5 | 6 | 3 |
| 1337: | 1 | 0 | 1 | 2 | 4 | 1 | 1 | 3 |
| 1345: | 2 | 1 | 4 | 7 | 2 | 1 | 4 | 1 |
| 1353: | 5 | 2 | 0 | 1 | 3 | 3 | 2 | 4 |
| 1361: | 2 | 5 | 0 | 1 | 3 | 0 | 4 | 3 |
| 1369: | 1 | 5 | 0 | 2 | 1 | 3 | 1 | 2 |
| 1377: | 4 | 3 | 2 | 3 | 4 | 3 | 2 | 1 |
| 1385: | 3 | 4 | 0 | 1 | 0 | 3 | 3 | 0 |
| 1393: | 0 | 6 | 1 | 1 | 1 | 3 | 2 | 2 |
| 1401: | 2 | 4 | 2 | 2 | 4 | 1 | 3 | 5 |
| 1409: | 2 | 2 | 0 | 1 | 1 | 2 | 4 | 2 |
| 1417: | 2 | 0 | 0 | 4 | 0 | 0 | 4 | 4 |
| 1425: | 1 | 2 | 2 | 6 | 4 | 2 | 3 | 0 |
| 1433: | 1 | 4 | 1 | 0 | 1 | 1 | 0 | 3 |
| 1441: | 3 | 2 | 1 | 2 | 1 | 0 | 1 | 3 |
| 1449: | 4 | 1 | 1 | 0 | 3 | 1 | 2 | 2 |
| 1457: | 2 | 4 | 21 | 62 | 93 | 68 | 35 | 7 |
| 1465: | 1 | 1 | 0 | 0 | 1 | 2 | 1 | 1 |
| 1473: | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 0 |
| 1481: | 0 | 1 | 1 | 0 | 4 | 2 | 0 | 1 |
| 1489: | 2 | 2 | 1 | 0 | 2 | 0 | 1 | 2 |
| 1497: | 2 | 3 | 7 | 2 | 0 | 5 | 1 | 4 |
| 1505: | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 1 |
| 1513: | 1 | 2 | 3 | 3 | 0 | 1 | 2 | 3 |
| 1521: | 1 | 3 | 3 | 2 | 0 | 0 | 2 | 2 |
| 1529: | 1 | 4 | 1 | 1 | 5 | 1 | 0 | 2 |
| 1537: | 2 | 1 | 2 | 0 | 0 | 3 | 1 | 2 |
| 1545: | 1 | 0 | 3 | 3 | 2 | 1 | 1 | 2 |
| 1553: | 1 | 1 | 3 | 2 | 1 | 0 | 2 | 0 |
| 1561: | 0 | 1 | 2 | 0 | 1 | 1 | 3 | 0 |
| 1569: | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 3 |
| 1577: | 3 | 0 | 1 | 1 | 0 | 2 | 2 | 2 |
| 1585: | 1 | 0 | 2 | 0 | 1 | 3 | 0 | 4 |
| 1593: | 5 | 3 | 3 | 1 | 1 | 2 | 2 | 5 |
| 1601: | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 0 |
| 1609: | 0 | 0 | 2 | 1 | 1 | 1 | 2 | 0 |
| 1617: | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 1 |
| 1625: | 2 | 2 | 1 | 0 | 1 | 0 | 2 | 2 |
| 1633: | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 1641: | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| 1649: | 3 | 1 | 3 | 1 | 1 | 0 | 0 | 1 |
| 1657: | 0 | 2 | 1 | 1 | 3 | 2 | 1 | 1 |

1665: 2 1 1 1 1 1 0 0

Sample Title: CP5006S17-18

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|----|---|---|---|---|
| 1673: | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| 1681: | 0 | 0 | 1 | 0 | 4 | 1 | 2 | 0 | 0 |
| 1689: | 3 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 1 |
| 1697: | 1 | 2 | 2 | 0 | 2 | 0 | 1 | 2 | 2 |
| 1705: | 0 | 1 | 3 | 2 | 2 | 1 | 0 | 1 | 1 |
| 1713: | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 1721: | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 |
| 1729: | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1737: | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 |
| 1745: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 1753: | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 2 | 0 |
| 1761: | 1 | 2 | 0 | 8 | 10 | 9 | 6 | 0 | 0 |
| 1769: | 0 | 2 | 0 | 0 | 1 | 0 | 2 | 1 | 1 |
| 1777: | 0 | 0 | 1 | 2 | 1 | 2 | 0 | 0 | 1 |
| 1785: | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 |
| 1793: | 0 | 0 | 1 | 4 | 0 | 0 | 1 | 0 | 0 |
| 1801: | 2 | 0 | 0 | 0 | 5 | 1 | 0 | 2 | 2 |
| 1809: | 4 | 0 | 0 | 2 | 0 | 1 | 2 | 1 | 1 |
| 1817: | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 1825: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 2 |
| 1833: | 0 | 0 | 2 | 1 | 2 | 0 | 3 | 0 | 0 |
| 1841: | 1 | 1 | 0 | 2 | 3 | 1 | 2 | 1 | 1 |
| 1849: | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1857: | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 0 | 0 |
| 1865: | 0 | 1 | 3 | 1 | 0 | 0 | 2 | 0 | 0 |
| 1873: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| 1881: | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 |
| 1889: | 0 | 1 | 0 | 1 | 1 | 0 | 3 | 0 | 0 |
| 1897: | 1 | 0 | 1 | 0 | 0 | 1 | 3 | 1 | 1 |
| 1905: | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 1913: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 1921: | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1929: | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| 1937: | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 1 | 1 |
| 1945: | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 1953: | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 |
| 1961: | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 1 |
| 1969: | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| 1977: | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 1985: | 1 | 4 | 0 | 0 | 1 | 1 | 3 | 0 | 0 |
| 1993: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2001: | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2009: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2017: | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 2 |
| 2025: | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2033: | 1 | 3 | 2 | 0 | 1 | 0 | 0 | 1 | 1 |
| 2041: | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2049: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2057: | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 2065: | 0 | 3 | 0 | 1 | 0 | 2 | 2 | 1 | 1 |
| 2073: | 1 | 1 | 4 | 2 | 2 | 0 | 0 | 0 | 0 |
| 2081: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2089: | 2 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 0 |

2097: 0 0 0 1 0 3 3 0

Sample Title: CP5006S17-18

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2105: | 2 | 4 | 2 | 0 | 0 | 3 | 1 | 0 |
| 2113: | 0 | 1 | 1 | 0 | 0 | 0 | 3 | 0 |
| 2121: | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 |
| 2129: | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 |
| 2137: | 1 | 2 | 0 | 4 | 0 | 0 | 3 | 1 |
| 2145: | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 2153: | 2 | 0 | 3 | 0 | 2 | 0 | 4 | 1 |
| 2161: | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| 2169: | 0 | 1 | 0 | 2 | 1 | 3 | 0 | 1 |
| 2177: | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 1 |
| 2185: | 0 | 0 | 1 | 1 | 2 | 0 | 2 | 1 |
| 2193: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 |
| 2201: | 0 | 2 | 3 | 3 | 3 | 2 | 1 | 0 |
| 2209: | 1 | 0 | 2 | 2 | 0 | 0 | 2 | 0 |
| 2217: | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2225: | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 1 |
| 2233: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2241: | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| 2249: | 0 | 1 | 1 | 0 | 2 | 2 | 1 | 0 |
| 2257: | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 |
| 2265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2273: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2281: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 2 |
| 2289: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 2297: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2305: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 |
| 2313: | 4 | 1 | 0 | 1 | 1 | 0 | 0 | 1 |
| 2321: | 1 | 1 | 0 | 1 | 0 | 0 | 2 | 0 |
| 2329: | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2337: | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 |
| 2345: | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2353: | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 1 |
| 2361: | 2 | 0 | 2 | 0 | 3 | 2 | 1 | 0 |
| 2369: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 2377: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 2385: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| 2393: | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 3 |
| 2401: | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 2409: | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 1 |
| 2417: | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 0 |
| 2425: | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2433: | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2441: | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 |
| 2449: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2457: | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 2 |
| 2465: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 2473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2481: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2489: | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2497: | 1 | 1 | 0 | 0 | 4 | 0 | 1 | 0 |
| 2505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2513: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2521: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |

2529: 0 2 0 0 1 0 1 1

Sample Title: CP5006S17-18

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2545: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2553: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2561: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2569: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2577: | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2593: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2601: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2609: | 0 | 1 | 1 | 0 | 1 | 7 | 14 | 12 |
| 2617: | 3 | 6 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2633: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2641: | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 0 |
| 2649: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 2657: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2665: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2673: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2689: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2697: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2705: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2729: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2737: | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 |
| 2745: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2753: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2761: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2769: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2793: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| 2801: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2817: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2825: | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2849: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2857: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 2865: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2873: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2889: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2897: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2905: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2929: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2945: | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 2953: | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 |

2961: 0 0 0 0 1 0 0 1

Sample Title: CP5006S17-18

| Channel | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|---------|---|---|---|---|---|---|---|---|
| 2969: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2985: | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 |
| 2993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3009: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3033: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3081: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3089: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3097: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3121: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3153: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3169: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3177: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3209: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3233: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3241: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3249: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3265: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3281: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3297: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3321: | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| 3329: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3345: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3353: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3377: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

3393: 1 1 0 0 0 0 0 0

Sample Title: CP5006S17-18

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3425: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3473: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3537: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3577: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3585: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3601: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3641: | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3657: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3665: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3697: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3753: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3769: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3817: | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |

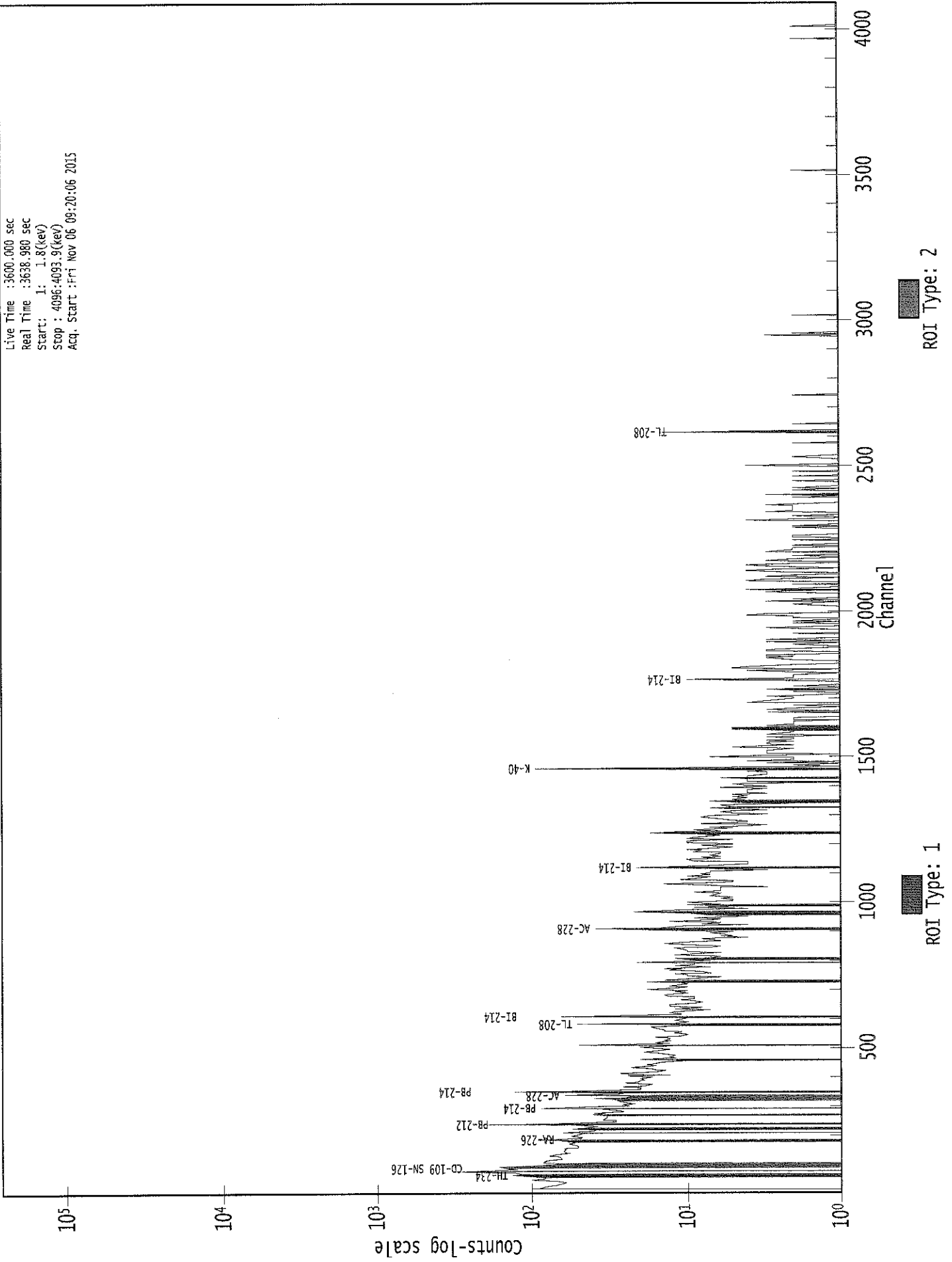
3825: 1 0 0 0 0 0 0 0 0

Sample Title: CP5006S17-18

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 3857: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3865: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3889: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3897: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3905: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3913: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3953: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4017: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4033: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4057: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |

0000029250.CNF

Live Time :3600.000 sec
Real Time :3638.980 sec
Start : 1: 1.8(keV)
Stop : 4096:4093.9(keV)
Acq. Start :Fri Nov 06 09:20:06 2015



Analysis Report for 1510085-19
CP5006S19-20

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-19
Sample Description : CP5006S19-20
Sample Type : SOIL

Sample Size : 5.393E+02 grams
Facility : Countroom

Sample Taken On : 10/7/2015 7:44:33AM
Acquisition Started : 11/6/2015 10:21:06AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE1
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.04 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 18 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 10/25/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29252

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-19
CP5006S19-20

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 11:21:11AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096
Peak Search Sensitivity : 2.50

| Peak No. | Energy (keV) | Centroid Channel | Centroid Uncertainty | Peak Significance |
|----------|--------------|------------------|----------------------|-------------------|
| 1 | 24.42 | 24.78 | 0.0000 | 0.00 |
| 2 | 62.85 | 63.20 | 0.0000 | 0.00 |
| 3 | 74.94 | 75.28 | 0.0000 | 0.00 |
| 4 | 77.38 | 77.72 | 0.0000 | 0.00 |
| 5 | 89.53 | 89.86 | 0.0000 | 0.00 |
| 6 | 92.80 | 93.14 | 0.0000 | 0.00 |
| 7 | 129.21 | 129.53 | 0.0000 | 0.00 |
| 8 | 145.16 | 145.47 | 0.0000 | 0.00 |
| 9 | 152.70 | 153.02 | 0.0000 | 0.00 |
| 10 | 164.95 | 165.26 | 0.0000 | 0.00 |
| 11 | 186.08 | 186.39 | 0.0000 | 0.00 |
| 12 | 209.56 | 209.86 | 0.0000 | 0.00 |
| 13 | 238.69 | 238.97 | 0.0000 | 0.00 |
| 14 | 241.73 | 242.01 | 0.0000 | 0.00 |
| 15 | 270.27 | 270.54 | 0.0000 | 0.00 |
| 16 | 277.46 | 277.74 | 0.0000 | 0.00 |
| 17 | 288.13 | 288.40 | 0.0000 | 0.00 |
| 18 | 295.46 | 295.73 | 0.0000 | 0.00 |
| 19 | 300.42 | 300.69 | 0.0000 | 0.00 |
| 20 | 327.65 | 327.91 | 0.0000 | 0.00 |
| 21 | 338.65 | 338.90 | 0.0000 | 0.00 |
| 22 | 352.15 | 352.40 | 0.0000 | 0.00 |
| 23 | 408.47 | 408.70 | 0.0000 | 0.00 |
| 24 | 463.21 | 463.42 | 0.0000 | 0.00 |
| 25 | 507.61 | 507.80 | 0.0000 | 0.00 |
| 26 | 510.95 | 511.15 | 0.0000 | 0.00 |
| 27 | 583.15 | 583.32 | 0.0000 | 0.00 |
| 28 | 609.56 | 609.73 | 0.0000 | 0.00 |
| 29 | 727.79 | 727.91 | 0.0000 | 0.00 |
| 30 | 768.68 | 768.78 | 0.0000 | 0.00 |
| 31 | 795.13 | 795.23 | 0.0000 | 0.00 |
| 32 | 860.35 | 860.42 | 0.0000 | 0.00 |
| 33 | 911.57 | 911.63 | 0.0000 | 0.00 |
| 34 | 969.59 | 969.63 | 0.0000 | 0.00 |
| 35 | 1121.06 | 1121.04 | 0.0000 | 0.00 |
| 36 | 1238.35 | 1238.29 | 0.0000 | 0.00 |
| 37 | 1377.80 | 1377.69 | 0.0000 | 0.00 |
| 38 | 1401.37 | 1401.25 | 0.0000 | 0.00 |
| 39 | 1408.51 | 1408.39 | 0.0000 | 0.00 |
| 40 | 1428.90 | 1428.77 | 0.0000 | 0.00 |
| 41 | 1461.52 | 1461.38 | 0.0000 | 0.00 |
| 42 | 1497.24 | 1497.08 | 0.0000 | 0.00 |

Analysis Report for 1510085-19
CP5006S19-20

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1563.76 | 1563.58 | 0.0000 | 0.00 |
| 44 | 1587.91 | 1587.72 | 0.0000 | 0.00 |
| 45 | 1593.94 | 1593.74 | 0.0000 | 0.00 |
| 46 | 1621.89 | 1621.68 | 0.0000 | 0.00 |
| 47 | 1731.22 | 1730.98 | 0.0000 | 0.00 |
| 48 | 1751.54 | 1751.29 | 0.0000 | 0.00 |
| 49 | 1765.17 | 1764.91 | 0.0000 | 0.00 |
| 50 | 1799.09 | 1798.82 | 0.0000 | 0.00 |
| 51 | 1848.18 | 1847.89 | 0.0000 | 0.00 |
| 52 | 1936.16 | 1935.84 | 0.0000 | 0.00 |
| 53 | 1987.19 | 1986.85 | 0.0000 | 0.00 |
| 54 | 2104.87 | 2104.49 | 0.0000 | 0.00 |
| 55 | 2194.18 | 2193.77 | 0.0000 | 0.00 |
| 56 | 2205.25 | 2204.82 | 0.0000 | 0.00 |
| 57 | 2276.74 | 2276.29 | 0.0000 | 0.00 |
| 58 | 2615.60 | 2615.02 | 0.0000 | 0.00 |

? = Adjacent peak noted
Errors quoted at 2.000sigma

Analysis Report for 1510085-19

CP5006S19-20

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 11:21:11AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|-----------|---------------|---------------|----------------------|------------------|------------|
| 1 | 24.42 | 23 - | 29 | 24.78 | 7.10E+01 | 78.91 | 1.04E+03 | 2.31 |
| 2 | 62.85 | 59 - | 66 | 63.20 | 2.56E+02 | 113.72 | 1.99E+03 | 1.37 |
| M | 3 | 74.94 | 72 - 80 | 75.28 | 5.03E+02 | 97.92 | 1.47E+03 | 1.60 |
| m | 4 | 77.38 | 72 - 80 | 77.72 | 7.71E+02 | 105.83 | 1.42E+03 | 1.53 |
| m | 5 | 89.53 | 82 - 97 | 89.86 | 1.54E+02 | 68.09 | 8.54E+02 | 1.49 |
| m | 6 | 92.80 | 82 - 97 | 93.14 | 3.37E+02 | 70.82 | 7.76E+02 | 1.49 |
| 7 | 129.21 | 127 - | 133 | 129.53 | 7.58E+01 | 78.51 | 1.07E+03 | 1.86 |
| 8 | 145.16 | 142 - | 148 | 145.47 | 8.05E+01 | 73.72 | 9.21E+02 | 4.26 |
| 9 | 152.70 | 150 - | 157 | 153.02 | 8.10E+01 | 79.60 | 1.01E+03 | 4.50 |
| 10 | 164.95 | 162 - | 168 | 165.26 | 6.61E+01 | 67.10 | 7.72E+02 | 1.57 |
| 11 | 186.08 | 184 - | 190 | 186.39 | 2.48E+02 | 71.39 | 7.54E+02 | 1.87 |
| 12 | 209.56 | 207 - | 213 | 209.86 | 9.76E+01 | 62.82 | 6.45E+02 | 1.48 |
| M | 13 | 238.69 | 233 - 253 | 238.97 | 9.85E+02 | 75.94 | 4.11E+02 | 1.66 |
| m | 14 | 241.73 | 233 - 253 | 242.01 | 3.14E+02 | 96.98 | 6.01E+02 | 2.95 |
| 15 | 270.27 | 267 - | 275 | 270.54 | 1.12E+02 | 64.37 | 5.72E+02 | 1.77 |
| 16 | 277.46 | 275 - | 281 | 277.74 | 5.68E+01 | 49.16 | 3.96E+02 | 3.10 |
| 17 | 288.13 | 285 - | 291 | 288.40 | 5.29E+01 | 49.24 | 4.02E+02 | 3.50 |
| M | 18 | 295.46 | 292 - 304 | 295.73 | 2.98E+02 | 49.65 | 2.76E+02 | 1.63 |
| m | 19 | 300.42 | 292 - 304 | 300.69 | 9.04E+01 | 50.55 | 3.71E+02 | 2.32 |
| 20 | 327.65 | 323 - | 331 | 327.91 | 6.89E+01 | 56.51 | 4.46E+02 | 1.85 |
| 21 | 338.65 | 336 - | 343 | 338.90 | 2.16E+02 | 56.32 | 3.94E+02 | 1.56 |
| 22 | 352.15 | 348 - | 357 | 352.40 | 5.42E+02 | 71.47 | 4.20E+02 | 1.98 |
| 23 | 408.47 | 405 - | 412 | 408.70 | 5.14E+01 | 42.61 | 2.69E+02 | 1.22 |
| 24 | 463.21 | 460 - | 467 | 463.42 | 8.80E+01 | 38.88 | 1.96E+02 | 2.45 |
| M | 25 | 507.61 | 506 - 514 | 507.80 | 2.85E+01 | 23.49 | 1.14E+02 | 2.54 |
| m | 26 | 510.95 | 506 - 514 | 511.15 | 2.11E+02 | 44.97 | 2.06E+02 | 2.48 |
| 27 | 583.15 | 578 - | 586 | 583.32 | 3.25E+02 | 49.74 | 1.81E+02 | 1.75 |
| 28 | 609.56 | 606 - | 614 | 609.73 | 3.39E+02 | 55.05 | 2.60E+02 | 1.72 |
| 29 | 727.79 | 724 - | 731 | 727.91 | 5.42E+01 | 34.64 | 1.64E+02 | 1.53 |
| 30 | 768.68 | 765 - | 773 | 768.78 | 3.74E+01 | 36.41 | 1.83E+02 | 1.41 |
| 31 | 795.13 | 792 - | 798 | 795.23 | 2.85E+01 | 27.65 | 1.17E+02 | 1.40 |
| 32 | 860.35 | 856 - | 863 | 860.42 | 5.21E+01 | 28.84 | 1.04E+02 | 1.26 |
| 33 | 911.57 | 906 - | 916 | 911.63 | 1.76E+02 | 43.60 | 1.59E+02 | 1.99 |
| 34 | 969.59 | 966 - | 973 | 969.63 | 9.68E+01 | 38.68 | 1.78E+02 | 1.97 |
| 35 | 1121.06 | 1117 - | 1125 | 1121.04 | 9.72E+01 | 34.68 | 1.24E+02 | 1.50 |
| 36 | 1238.35 | 1235 - | 1240 | 1238.29 | 2.06E+01 | 24.02 | 9.87E+01 | 1.97 |
| 37 | 1377.80 | 1374 - | 1381 | 1377.69 | 1.46E+01 | 15.75 | 3.07E+01 | 1.79 |
| 38 | 1401.37 | 1396 - | 1404 | 1401.25 | 1.62E+01 | 12.36 | 1.37E+01 | 1.46 |
| 39 | 1408.51 | 1405 - | 1416 | 1408.39 | 2.11E+01 | 20.78 | 4.78E+01 | 2.82 |
| 40 | 1428.90 | 1423 - | 1434 | 1428.77 | 2.31E+01 | 19.49 | 3.57E+01 | 2.14 |

Analysis Report for 1510085-19

CP5006S19-20

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-------------|---------|---------------|---------------|----------------------|------------------|------------|
| 41 | 1461.52 | 1455 - 1466 | | 1461.38 | 9.09E+02 | 65.64 | 8.47E+01 | 2.18 |
| 42 | 1497.24 | 1493 - 1501 | | 1497.08 | 1.24E+01 | 15.93 | 3.11E+01 | 1.69 |
| 43 | 1563.76 | 1562 - 1566 | | 1563.58 | 7.33E+00 | 6.50 | 3.33E+00 | 1.93 |
| M 44 | 1587.91 | 1583 - 1598 | | 1587.72 | 1.97E+01 | 13.59 | 1.57E+01 | 2.99 |
| m 45 | 1593.94 | 1583 - 1598 | | 1593.74 | 1.68E+01 | 14.17 | 1.13E+01 | 2.99 |
| 46 | 1621.89 | 1617 - 1626 | | 1621.68 | 2.04E+01 | 13.67 | 1.53E+01 | 4.01 |
| 47 | 1731.22 | 1725 - 1737 | | 1730.98 | 3.01E+01 | 13.20 | 5.88E+00 | 7.97 |
| 48 | 1751.54 | 1747 - 1753 | | 1751.29 | 7.00E+00 | 5.29 | 0.00E+00 | 2.09 |
| 49 | 1765.17 | 1760 - 1769 | | 1764.91 | 6.39E+01 | 19.90 | 2.01E+01 | 1.73 |
| 50 | 1799.09 | 1795 - 1802 | | 1798.82 | 1.10E+01 | 8.25 | 4.08E+00 | 1.96 |
| 51 | 1848.18 | 1844 - 1850 | | 1847.89 | 6.88E+00 | 9.21 | 1.03E+01 | 1.84 |
| 52 | 1936.16 | 1932 - 1939 | | 1935.84 | 7.00E+00 | 7.21 | 4.00E+00 | 2.77 |
| 53 | 1987.19 | 1984 - 1990 | | 1986.85 | 5.50E+00 | 7.78 | 7.00E+00 | 2.84 |
| 54 | 2104.87 | 2102 - 2107 | | 2104.49 | 1.36E+01 | 9.75 | 6.71E+00 | 2.76 |
| 55 | 2194.18 | 2191 - 2196 | | 2193.77 | 7.38E+00 | 8.66 | 9.25E+00 | 3.54 |
| 56 | 2205.25 | 2198 - 2209 | | 2204.82 | 1.79E+01 | 16.12 | 2.22E+01 | 4.32 |
| 57 | 2276.74 | 2272 - 2279 | | 2276.29 | 7.00E+00 | 5.29 | 0.00E+00 | 3.41 |
| 58 | 2615.60 | 2610 - 2619 | | 2615.02 | 1.10E+02 | 20.98 | 0.00E+00 | 2.70 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 11:21:11AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|---------|---------------|----------------------|------------------|----------------|
| 1 | 24.42 | 23 - | 29 | 7.10E+01 | 78.91 | 1.04E+03 | 6.34E+01 |
| 2 | 62.85 | 59 - | 66 | 2.56E+02 | 113.72 | 1.99E+03 | 8.97E+01 |
| M 3 | 74.94 | 72 - | 80 | 5.03E+02 | 97.92 | 1.47E+03 | 6.30E+01 |
| m 4 | 77.38 | 72 - | 80 | 7.71E+02 | 105.83 | 1.42E+03 | 6.19E+01 |
| m 5 | 89.53 | 82 - | 97 | 1.54E+02 | 68.09 | 8.54E+02 | 4.80E+01 |
| m 6 | 92.80 | 82 - | 97 | 3.37E+02 | 70.82 | 7.76E+02 | 4.58E+01 |
| 7 | 129.21 | 127 - | 133 | 7.58E+01 | 78.51 | 1.07E+03 | 6.29E+01 |
| 8 | 145.16 | 142 - | 148 | 8.05E+01 | 73.72 | 9.21E+02 | 5.88E+01 |
| 9 | 152.70 | 150 - | 157 | 8.10E+01 | 79.60 | 1.01E+03 | 6.37E+01 |
| 10 | 164.95 | 162 - | 168 | 6.61E+01 | 67.10 | 7.72E+02 | 5.35E+01 |

Analysis Report for 1510085-19

CP5006S19-20

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| | 11 | 186.08 | 184 - | 190 | 2.48E+02 | 71.39 | 7.54E+02 | 5.27E+01 |
| | 12 | 209.56 | 207 - | 213 | 9.76E+01 | 62.82 | 6.45E+02 | 4.90E+01 |
| M | 13 | 238.69 | 233 - | 253 | 9.85E+02 | 75.94 | 4.11E+02 | 3.33E+01 |
| m | 14 | 241.73 | 233 - | 253 | 3.14E+02 | 96.98 | 6.01E+02 | 4.03E+01 |
| | 15 | 270.27 | 267 - | 275 | 1.12E+02 | 64.37 | 5.72E+02 | 5.00E+01 |
| | 16 | 277.46 | 275 - | 281 | 5.68E+01 | 49.16 | 3.96E+02 | 3.85E+01 |
| | 17 | 288.13 | 285 - | 291 | 5.29E+01 | 49.24 | 4.02E+02 | 3.87E+01 |
| M | 18 | 295.46 | 292 - | 304 | 2.98E+02 | 49.65 | 2.76E+02 | 2.73E+01 |
| m | 19 | 300.42 | 292 - | 304 | 9.04E+01 | 50.55 | 3.71E+02 | 3.17E+01 |
| | 20 | 327.65 | 323 - | 331 | 6.89E+01 | 56.51 | 4.46E+02 | 4.44E+01 |
| | 21 | 338.65 | 336 - | 343 | 2.16E+02 | 56.32 | 3.94E+02 | 3.95E+01 |
| | 22 | 352.15 | 348 - | 357 | 5.42E+02 | 71.47 | 4.20E+02 | 4.46E+01 |
| | 23 | 408.47 | 405 - | 412 | 5.14E+01 | 42.61 | 2.69E+02 | 3.30E+01 |
| | 24 | 463.21 | 460 - | 467 | 8.80E+01 | 38.88 | 1.96E+02 | 2.80E+01 |
| M | 25 | 507.61 | 506 - | 514 | 2.85E+01 | 23.49 | 1.14E+02 | 1.75E+01 |
| m | 26 | 510.95 | 506 - | 514 | 2.11E+02 | 44.97 | 2.06E+02 | 2.36E+01 |
| | 27 | 583.15 | 578 - | 586 | 3.25E+02 | 49.74 | 1.81E+02 | 2.81E+01 |
| | 28 | 609.56 | 606 - | 614 | 3.39E+02 | 55.05 | 2.60E+02 | 3.36E+01 |
| | 29 | 727.79 | 724 - | 731 | 5.42E+01 | 34.64 | 1.64E+02 | 2.58E+01 |
| | 30 | 768.68 | 765 - | 773 | 3.74E+01 | 36.41 | 1.83E+02 | 2.82E+01 |
| | 31 | 795.13 | 792 - | 798 | 2.85E+01 | 27.65 | 1.17E+02 | 2.10E+01 |
| | 32 | 860.35 | 856 - | 863 | 5.21E+01 | 28.84 | 1.04E+02 | 2.05E+01 |
| | 33 | 911.57 | 906 - | 916 | 1.76E+02 | 43.60 | 1.59E+02 | 2.84E+01 |
| | 34 | 969.59 | 966 - | 973 | 9.68E+01 | 38.68 | 1.78E+02 | 2.74E+01 |
| | 35 | 1121.06 | 1117 - | 1125 | 9.72E+01 | 34.68 | 1.24E+02 | 2.35E+01 |
| | 36 | 1238.35 | 1235 - | 1240 | 2.06E+01 | 24.02 | 9.87E+01 | 1.83E+01 |
| | 37 | 1377.80 | 1374 - | 1381 | 1.46E+01 | 15.75 | 3.07E+01 | 1.13E+01 |
| | 38 | 1401.37 | 1396 - | 1404 | 1.62E+01 | 12.36 | 1.37E+01 | 7.71E+00 |
| | 39 | 1408.51 | 1405 - | 1416 | 2.11E+01 | 20.78 | 4.78E+01 | 1.53E+01 |
| | 40 | 1428.90 | 1423 - | 1434 | 2.31E+01 | 19.49 | 3.57E+01 | 1.39E+01 |
| | 41 | 1461.52 | 1455 - | 1466 | 9.09E+02 | 65.64 | 8.47E+01 | 2.13E+01 |
| | 42 | 1497.24 | 1493 - | 1501 | 1.24E+01 | 15.93 | 3.11E+01 | 1.17E+01 |
| | 43 | 1563.76 | 1562 - | 1566 | 7.33E+00 | 6.50 | 3.33E+00 | 2.95E+00 |
| M | 44 | 1587.91 | 1583 - | 1598 | 1.97E+01 | 13.59 | 1.57E+01 | 6.52E+00 |
| m | 45 | 1593.94 | 1583 - | 1598 | 1.68E+01 | 14.17 | 1.13E+01 | 5.53E+00 |
| | 46 | 1621.89 | 1617 - | 1626 | 2.04E+01 | 13.67 | 1.53E+01 | 8.44E+00 |
| | 47 | 1731.22 | 1725 - | 1737 | 3.01E+01 | 13.20 | 5.88E+00 | 6.04E+00 |
| | 48 | 1751.54 | 1747 - | 1753 | 7.00E+00 | 5.29 | 0.00E+00 | 0.00E+00 |
| | 49 | 1765.17 | 1760 - | 1769 | 6.39E+01 | 19.90 | 2.01E+01 | 9.73E+00 |
| | 50 | 1799.09 | 1795 - | 1802 | 1.10E+01 | 8.25 | 4.08E+00 | 4.04E+00 |
| | 51 | 1848.18 | 1844 - | 1850 | 6.88E+00 | 9.21 | 1.03E+01 | 6.22E+00 |
| | 52 | 1936.16 | 1932 - | 1939 | 7.00E+00 | 7.21 | 4.00E+00 | 4.03E+00 |
| | 53 | 1987.19 | 1984 - | 1990 | 5.50E+00 | 7.78 | 7.00E+00 | 5.10E+00 |
| | 54 | 2104.87 | 2102 - | 2107 | 1.36E+01 | 9.75 | 6.71E+00 | 5.23E+00 |
| | 55 | 2194.18 | 2191 - | 2196 | 7.38E+00 | 8.66 | 9.25E+00 | 5.54E+00 |
| | 56 | 2205.25 | 2198 - | 2209 | 1.79E+01 | 16.12 | 2.22E+01 | 1.13E+01 |
| | 57 | 2276.74 | 2272 - | 2279 | 7.00E+00 | 5.29 | 0.00E+00 | 0.00E+00 |
| | 58 | 2615.60 | 2610 - | 2619 | 1.10E+02 | 20.98 | 0.00E+00 | 0.00E+00 |

Analysis Report for 1510085-19
 CP5006S19-20

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 11:21:11AM

Peak Analysis From Channel : 1
 Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB
 Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| 1 | 24.42 | 23 - | 29 | 24.78 | 7.10E+01 | 78.91 | 1.04E+03 | ..... |
| 2 | 62.85 | 59 - | 66 | 63.20 | 2.56E+02 | 113.72 | 1.99E+03 | TH-230 TH-234 |
| M 3 | 74.94 | 72 - | 80 | 75.28 | 5.03E+02 | 97.92 | 1.47E+03 | AM-243 |
| m 4 | 77.38 | 72 - | 80 | 77.72 | 7.71E+02 | 105.83 | 1.42E+03 | TI-44 |
| m 5 | 89.53 | 82 - | 97 | 89.86 | 1.54E+02 | 68.09 | 8.54E+02 | ..... |
| m 6 | 92.80 | 82 - | 97 | 93.14 | 3.37E+02 | 70.82 | 7.76E+02 | GA-67 |
| 7 | 129.21 | 127 - | 133 | 129.53 | 7.58E+01 | 78.51 | 1.07E+03 | ..... |
| 8 | 145.16 | 142 - | 148 | 145.47 | 8.05E+01 | 73.72 | 9.21E+02 | CE-141 |
| 9 | 152.70 | 150 - | 157 | 153.02 | 8.10E+01 | 79.60 | 1.01E+03 | CS-136 |
| 10 | 164.95 | 162 - | 168 | 165.26 | 6.61E+01 | 67.10 | 7.72E+02 | CE-139 |
| 11 | 186.08 | 184 - | 190 | 186.39 | 2.48E+02 | 71.39 | 7.54E+02 | RA-226 |
| 12 | 209.56 | 207 - | 213 | 209.86 | 9.76E+01 | 62.82 | 6.45E+02 | CM-243 GA-67 |
| M 13 | 238.69 | 233 - | 253 | 238.97 | 9.85E+02 | 75.94 | 4.11E+02 | PB-212 |
| m 14 | 241.73 | 233 - | 253 | 242.01 | 3.14E+02 | 96.98 | 6.01E+02 | RA-224 |
| 15 | 270.27 | 267 - | 275 | 270.54 | 1.12E+02 | 64.37 | 5.72E+02 | ..... |
| 16 | 277.46 | 275 - | 281 | 277.74 | 5.68E+01 | 49.16 | 3.96E+02 | CM-243 NP-239 |
| 17 | 288.13 | 285 - | 291 | 288.40 | 5.29E+01 | 49.24 | 4.02E+02 | ..... |
| M 18 | 295.46 | 292 - | 304 | 295.73 | 2.98E+02 | 49.65 | 2.76E+02 | PB-214 |
| m 19 | 300.42 | 292 - | 304 | 300.69 | 9.04E+01 | 50.55 | 3.71E+02 | GA-67 PB-212 BI-210M |
| 20 | 327.65 | 323 - | 331 | 327.91 | 6.89E+01 | 56.51 | 4.46E+02 | ..... |
| 21 | 338.65 | 336 - | 343 | 338.90 | 2.16E+02 | 56.32 | 3.94E+02 | AC-228 |
| 22 | 352.15 | 348 - | 357 | 352.40 | 5.42E+02 | 71.47 | 4.20E+02 | PB-214 |
| 23 | 408.47 | 405 - | 412 | 408.70 | 5.14E+01 | 42.61 | 2.69E+02 | ..... |
| 24 | 463.21 | 460 - | 467 | 463.42 | 8.80E+01 | 38.88 | 1.96E+02 | SB-125 |
| M 25 | 507.61 | 506 - | 514 | 507.80 | 2.85E+01 | 23.49 | 1.14E+02 | ..... |

Analysis Report for 1510085-19

CP5006S19-20

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|---------------------------|
| m | 26 | 510.95 | 506 - | 514 | 511.15 | 2.11E+02 | 44.97 | 2.06E+02 | ..... |
| | 27 | 583.15 | 578 - | 586 | 583.32 | 3.25E+02 | 49.74 | 1.81E+02 | TL-208 |
| | 28 | 609.56 | 606 - | 614 | 609.73 | 3.39E+02 | 55.05 | 2.60E+02 | BI-214 |
| | 29 | 727.79 | 724 - | 731 | 727.91 | 5.42E+01 | 34.64 | 1.64E+02 | BI-212 |
| | 30 | 768.68 | 765 - | 773 | 768.78 | 3.74E+01 | 36.41 | 1.83E+02 | ..... |
| | 31 | 795.13 | 792 - | 798 | 795.23 | 2.85E+01 | 27.65 | 1.17E+02 | CS-134 |
| | 32 | 860.35 | 856 - | 863 | 860.42 | 5.21E+01 | 28.84 | 1.04E+02 | TL-208 |
| | 33 | 911.57 | 906 - | 916 | 911.63 | 1.76E+02 | 43.60 | 1.59E+02 | AC-228 LU-172 |
| | 34 | 969.59 | 966 - | 973 | 969.63 | 9.68E+01 | 38.68 | 1.78E+02 | AC-228 |
| | 35 | 1121.06 | 1117 - | 1125 | 1121.04 | 9.72E+01 | 34.68 | 1.24E+02 | TA-182 SC-46 BI-214 |
| | 36 | 1238.35 | 1235 - | 1240 | 1238.29 | 2.06E+01 | 24.02 | 9.87E+01 | CO-56 |
| | 37 | 1377.80 | 1374 - | 1381 | 1377.69 | 1.46E+01 | 15.75 | 3.07E+01 | ..... |
| | 38 | 1401.37 | 1396 - | 1404 | 1401.25 | 1.62E+01 | 12.36 | 1.37E+01 | ..... |
| | 39 | 1408.51 | 1405 - | 1416 | 1408.39 | 2.11E+01 | 20.78 | 4.78E+01 | EU-152 |
| | 40 | 1428.90 | 1423 - | 1434 | 1428.77 | 2.31E+01 | 19.49 | 3.57E+01 | ..... |
| | 41 | 1461.52 | 1455 - | 1466 | 1461.38 | 9.09E+02 | 65.64 | 8.47E+01 | K-40 |
| | 42 | 1497.24 | 1493 - | 1501 | 1497.08 | 1.24E+01 | 15.93 | 3.11E+01 | ..... |
| | 43 | 1563.76 | 1562 - | 1566 | 1563.58 | 7.33E+00 | 6.50 | 3.33E+00 | ..... |
| M | 44 | 1587.91 | 1583 - | 1598 | 1587.72 | 1.97E+01 | 13.59 | 1.57E+01 | ..... |
| m | 45 | 1593.94 | 1583 - | 1598 | 1593.74 | 1.68E+01 | 14.17 | 1.13E+01 | ..... |
| | 46 | 1621.89 | 1617 - | 1626 | 1621.68 | 2.04E+01 | 13.67 | 1.53E+01 | ..... |
| | 47 | 1731.22 | 1725 - | 1737 | 1730.98 | 3.01E+01 | 13.20 | 5.88E+00 | ..... |
| | 48 | 1751.54 | 1747 - | 1753 | 1751.29 | 7.00E+00 | 5.29 | 0.00E+00 | ..... |
| | 49 | 1765.17 | 1760 - | 1769 | 1764.91 | 6.39E+01 | 19.90 | 2.01E+01 | BI-214 |
| | 50 | 1799.09 | 1795 - | 1802 | 1798.82 | 1.10E+01 | 8.25 | 4.08E+00 | ..... |
| | 51 | 1848.18 | 1844 - | 1850 | 1847.89 | 6.88E+00 | 9.21 | 1.03E+01 | ..... |
| | 52 | 1936.16 | 1932 - | 1939 | 1935.84 | 7.00E+00 | 7.21 | 4.00E+00 | ..... |
| | 53 | 1987.19 | 1984 - | 1990 | 1986.85 | 5.50E+00 | 7.78 | 7.00E+00 | ..... |
| | 54 | 2104.87 | 2102 - | 2107 | 2104.49 | 1.36E+01 | 9.75 | 6.71E+00 | ..... |
| | 55 | 2194.18 | 2191 - | 2196 | 2193.77 | 7.38E+00 | 8.66 | 9.25E+00 | ..... |
| | 56 | 2205.25 | 2198 - | 2209 | 2204.82 | 1.79E+01 | 16.12 | 2.22E+01 | ..... |
| | 57 | 2276.74 | 2272 - | 2279 | 2276.29 | 7.00E+00 | 5.29 | 0.00E+00 | ..... |
| | 58 | 2615.60 | 2610 - | 2619 | 2615.02 | 1.10E+02 | 20.98 | 0.00E+00 | TL-208 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 11:21:11AM

: 01040

Analysis Report for 1510085-19

CP5006S19-20

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|-----------------|---------------------|----------------------|-----------------------------|------------------------|-------------------------------|
| | 1 | 24.42 | 7.10E+01 | 78.91 | 1.65E-03 | 1.78E-03 |
| | 2 | 62.85 | 2.56E+02 | 113.72 | 2.48E-02 | 1.89E-03 |
| M | 3 | 74.94 | 5.03E+02 | 97.92 | 2.75E-02 | 2.30E-03 |
| m | 4 | 77.38 | 7.71E+02 | 105.83 | 2.78E-02 | 2.38E-03 |
| m | 5 | 89.53 | 1.54E+02 | 68.09 | 2.85E-02 | 2.71E-03 |
| m | 6 | 92.80 | 3.37E+02 | 70.82 | 2.86E-02 | 2.65E-03 |
| | 7 | 129.21 | 7.58E+01 | 78.51 | 2.67E-02 | 2.09E-03 |
| | 8 | 145.16 | 8.05E+01 | 73.72 | 2.55E-02 | 2.13E-03 |
| | 9 | 152.70 | 8.10E+01 | 79.60 | 2.49E-02 | 2.14E-03 |
| | 10 | 164.95 | 6.61E+01 | 67.10 | 2.39E-02 | 2.17E-03 |
| | 11 | 186.08 | 2.48E+02 | 71.39 | 2.24E-02 | 2.03E-03 |
| | 12 | 209.56 | 9.76E+01 | 62.82 | 2.09E-02 | 1.85E-03 |
| M | 13 | 238.69 | 9.85E+02 | 75.94 | 1.92E-02 | 1.64E-03 |
| m | 14 | 241.73 | 3.14E+02 | 96.98 | 1.91E-02 | 1.62E-03 |
| | 15 | 270.27 | 1.12E+02 | 64.37 | 1.77E-02 | 1.40E-03 |
| | 16 | 277.46 | 5.68E+01 | 49.16 | 1.74E-02 | 1.35E-03 |
| | 17 | 288.13 | 5.29E+01 | 49.24 | 1.70E-02 | 1.32E-03 |
| M | 18 | 295.46 | 2.98E+02 | 49.65 | 1.67E-02 | 1.31E-03 |
| m | 19 | 300.42 | 9.04E+01 | 50.55 | 1.65E-02 | 1.30E-03 |
| | 20 | 327.65 | 6.89E+01 | 56.51 | 1.55E-02 | 1.24E-03 |
| | 21 | 338.65 | 2.16E+02 | 56.32 | 1.52E-02 | 1.22E-03 |
| | 22 | 352.15 | 5.42E+02 | 71.47 | 1.48E-02 | 1.19E-03 |
| | 23 | 408.47 | 5.14E+01 | 42.61 | 1.33E-02 | 1.10E-03 |
| | 24 | 463.21 | 8.80E+01 | 38.88 | 1.21E-02 | 1.04E-03 |
| M | 25 | 507.61 | 2.85E+01 | 23.49 | 1.13E-02 | 9.94E-04 |
| m | 26 | 510.95 | 2.11E+02 | 44.97 | 1.12E-02 | 9.90E-04 |
| | 27 | 583.15 | 3.25E+02 | 49.74 | 1.02E-02 | 9.16E-04 |
| | 28 | 609.56 | 3.39E+02 | 55.05 | 9.82E-03 | 8.88E-04 |
| | 29 | 727.79 | 5.42E+01 | 34.64 | 8.55E-03 | 7.75E-04 |
| | 30 | 768.68 | 3.74E+01 | 36.41 | 8.19E-03 | 7.38E-04 |
| | 31 | 795.13 | 2.85E+01 | 27.65 | 7.97E-03 | 7.15E-04 |
| | 32 | 860.35 | 5.21E+01 | 28.84 | 7.48E-03 | 6.56E-04 |
| | 33 | 911.57 | 1.76E+02 | 43.60 | 7.15E-03 | 6.15E-04 |
| | 34 | 969.59 | 9.68E+01 | 38.68 | 6.80E-03 | 5.85E-04 |
| | 35 | 1121.06 | 9.72E+01 | 34.68 | 6.06E-03 | 5.06E-04 |
| | 36 | 1238.35 | 2.06E+01 | 24.02 | 5.61E-03 | 4.68E-04 |
| | 37 | 1377.80 | 1.46E+01 | 15.75 | 5.18E-03 | 4.40E-04 |
| | 38 | 1401.37 | 1.62E+01 | 12.36 | 5.12E-03 | 4.34E-04 |
| | 39 | 1408.51 | 2.11E+01 | 20.78 | 5.10E-03 | 4.32E-04 |
| | 40 | 1428.90 | 2.31E+01 | 19.49 | 5.05E-03 | 4.27E-04 |
| | 41 | 1461.52 | 9.09E+02 | 65.64 | 4.97E-03 | 4.19E-04 |
| | 42 | 1497.24 | 1.24E+01 | 15.93 | 4.89E-03 | 4.10E-04 |
| | 43 | 1563.76 | 7.33E+00 | 6.50 | 4.74E-03 | 3.94E-04 |
| M | 44 | 1587.91 | 1.97E+01 | 13.59 | 4.70E-03 | 3.88E-04 |
| m | 45 | 1593.94 | 1.68E+01 | 14.17 | 4.68E-03 | 3.86E-04 |
| | 46 | 1621.89 | 2.04E+01 | 13.67 | 4.63E-03 | 3.79E-04 |
| | 47 | 1731.22 | 3.01E+01 | 13.20 | 4.45E-03 | 3.52E-04 |
| | 48 | 1751.54 | 7.00E+00 | 5.29 | 4.41E-03 | 3.47E-04 |
| | 49 | 1765.17 | 6.39E+01 | 19.90 | 4.39E-03 | 3.43E-04 |
| | 50 | 1799.09 | 1.10E+01 | 8.25 | 4.35E-03 | 3.35E-04 |

Analysis Report for 1510085-19
CP5006S19-20

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 51 | 1848.18 | 6.88E+00 | 9.21 | 4.28E-03 | 3.26E-04 |
| 52 | 1936.16 | 7.00E+00 | 7.21 | 4.18E-03 | 3.26E-04 |
| 53 | 1987.19 | 5.50E+00 | 7.78 | 4.12E-03 | 3.26E-04 |
| 54 | 2104.87 | 1.36E+01 | 9.75 | 4.02E-03 | 3.26E-04 |
| 55 | 2194.18 | 7.38E+00 | 8.66 | 3.96E-03 | 3.26E-04 |
| 56 | 2205.25 | 1.79E+01 | 16.12 | 3.95E-03 | 3.26E-04 |
| 57 | 2276.74 | 7.00E+00 | 5.29 | 3.91E-03 | 3.26E-04 |
| 58 | 2615.60 | 1.10E+02 | 20.98 | 3.79E-03 | 3.26E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 11:21:11AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| | 1 | 24.42 | 7.10E+01 | 78.91 | | 7.10E+01 | 7.89E+01 |
| | 2 | 62.85 | 2.56E+02 | 113.72 | 7.80E+01 | 1.33E+01 | 1.78E+02 |
| M | 3 | 74.94 | 5.03E+02 | 97.92 | 5.09E+00 | 4.37E+00 | 4.98E+02 |
| m | 4 | 77.38 | 7.71E+02 | 105.83 | 9.75E+00 | 8.28E+00 | 7.61E+02 |
| m | 5 | 89.53 | 1.54E+02 | 68.09 | | 1.54E+02 | 6.81E+01 |
| m | 6 | 92.80 | 3.37E+02 | 70.82 | 1.34E+02 | 9.83E+00 | 2.03E+02 |
| | 7 | 129.21 | 7.58E+01 | 78.51 | | 7.58E+01 | 7.85E+01 |
| | 8 | 145.16 | 8.05E+01 | 73.72 | | 8.05E+01 | 7.37E+01 |
| | 9 | 152.70 | 8.10E+01 | 79.60 | | 8.10E+01 | 7.96E+01 |
| | 10 | 164.95 | 6.61E+01 | 67.10 | | 6.61E+01 | 6.71E+01 |
| | 11 | 186.08 | 2.48E+02 | 71.39 | 6.41E+01 | 7.38E+00 | 1.84E+02 |
| | 12 | 209.56 | 9.76E+01 | 62.82 | | 9.76E+01 | 6.28E+01 |
| M | 13 | 238.69 | 9.85E+02 | 75.94 | 2.34E+01 | 6.34E+00 | 9.61E+02 |
| m | 14 | 241.73 | 3.14E+02 | 96.98 | | 3.14E+02 | 9.70E+01 |
| | 15 | 270.27 | 1.12E+02 | 64.37 | | 1.12E+02 | 6.44E+01 |
| | 16 | 277.46 | 5.68E+01 | 49.16 | | 5.68E+01 | 4.92E+01 |
| | 17 | 288.13 | 5.29E+01 | 49.24 | | 5.29E+01 | 4.92E+01 |
| M | 18 | 295.46 | 2.98E+02 | 49.65 | 4.17E+00 | 5.50E+00 | 2.94E+02 |
| m | 19 | 300.42 | 9.04E+01 | 50.55 | | 9.04E+01 | 5.05E+01 |
| | 20 | 327.65 | 6.89E+01 | 56.51 | | 6.89E+01 | 5.65E+01 |
| | 21 | 338.65 | 2.16E+02 | 56.32 | 2.22E-01 | 4.54E+00 | 2.16E+02 |
| | 22 | 352.15 | 5.42E+02 | 71.47 | 8.83E+00 | 4.91E+00 | 5.33E+02 |

Analysis Report for 1510085-19

CP5006S19-20

| | Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|---|-----------------|---------------------|----------------------|-------------------------------|---------------------------|------------------------|------------------------|---------------------------|
| | 23 | 408.47 | 5.14E+01 | 42.61 | | | 5.14E+01 | 4.26E+01 |
| | 24 | 463.21 | 8.80E+01 | 38.88 | | | 8.80E+01 | 3.89E+01 |
| M | 25 | 507.61 | 2.85E+01 | 23.49 | | | 2.85E+01 | 2.35E+01 |
| m | 26 | 510.95 | 2.11E+02 | 44.97 | 8.12E+01 | 5.49E+00 | 1.29E+02 | 4.53E+01 |
| | 27 | 583.15 | 3.25E+02 | 49.74 | 6.34E+00 | 3.74E+00 | 3.19E+02 | 4.99E+01 |
| | 28 | 609.56 | 3.39E+02 | 55.05 | 5.20E+00 | 3.69E+00 | 3.34E+02 | 5.52E+01 |
| | 29 | 727.79 | 5.42E+01 | 34.64 | | | 5.42E+01 | 3.46E+01 |
| | 30 | 768.68 | 3.74E+01 | 36.41 | | | 3.74E+01 | 3.64E+01 |
| | 31 | 795.13 | 2.85E+01 | 27.65 | | | 2.85E+01 | 2.76E+01 |
| | 32 | 860.35 | 5.21E+01 | 28.84 | | | 5.21E+01 | 2.88E+01 |
| | 33 | 911.57 | 1.76E+02 | 43.60 | 3.28E+00 | 2.53E+00 | 1.73E+02 | 4.37E+01 |
| | 34 | 969.59 | 9.68E+01 | 38.68 | | | 9.68E+01 | 3.87E+01 |
| | 35 | 1121.06 | 9.72E+01 | 34.68 | 2.28E+00 | 2.55E+00 | 9.49E+01 | 3.48E+01 |
| | 36 | 1238.35 | 2.06E+01 | 24.02 | | | 2.06E+01 | 2.40E+01 |
| | 37 | 1377.80 | 1.46E+01 | 15.75 | | | 1.46E+01 | 1.57E+01 |
| | 38 | 1401.37 | 1.62E+01 | 12.36 | | | 1.62E+01 | 1.24E+01 |
| | 39 | 1408.51 | 2.11E+01 | 20.78 | | | 2.11E+01 | 2.08E+01 |
| | 40 | 1428.90 | 2.31E+01 | 19.49 | | | 2.31E+01 | 1.95E+01 |
| | 41 | 1461.52 | 9.09E+02 | 65.64 | 6.46E+00 | 2.33E+00 | 9.02E+02 | 6.57E+01 |
| | 42 | 1497.24 | 1.24E+01 | 15.93 | | | 1.24E+01 | 1.59E+01 |
| | 43 | 1563.76 | 7.33E+00 | 6.50 | | | 7.33E+00 | 6.50E+00 |
| M | 44 | 1587.91 | 1.97E+01 | 13.59 | | | 1.97E+01 | 1.36E+01 |
| m | 45 | 1593.94 | 1.68E+01 | 14.17 | | | 1.68E+01 | 1.42E+01 |
| | 46 | 1621.89 | 2.04E+01 | 13.67 | | | 2.04E+01 | 1.37E+01 |
| | 47 | 1731.22 | 3.01E+01 | 13.20 | | | 3.01E+01 | 1.32E+01 |
| | 48 | 1751.54 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 49 | 1765.17 | 6.39E+01 | 19.90 | | | 6.39E+01 | 1.99E+01 |
| | 50 | 1799.09 | 1.10E+01 | 8.25 | | | 1.10E+01 | 8.25E+00 |
| | 51 | 1848.18 | 6.88E+00 | 9.21 | | | 6.88E+00 | 9.21E+00 |
| | 52 | 1936.16 | 7.00E+00 | 7.21 | | | 7.00E+00 | 7.21E+00 |
| | 53 | 1987.19 | 5.50E+00 | 7.78 | | | 5.50E+00 | 7.78E+00 |
| | 54 | 2104.87 | 1.36E+01 | 9.75 | | | 1.36E+01 | 9.75E+00 |
| | 55 | 2194.18 | 7.38E+00 | 8.66 | | | 7.38E+00 | 8.66E+00 |
| | 56 | 2205.25 | 1.79E+01 | 16.12 | | | 1.79E+01 | 1.61E+01 |
| | 57 | 2276.74 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 58 | 2615.60 | 1.10E+02 | 20.98 | 3.47E+00 | 1.48E+00 | 1.07E+02 | 2.10E+01 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510085-19
CP5006S19-20

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 11:21:11AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028941.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 1 | 24.42 | 7.10E+01 | 78.91 | | 7.10E+01 | 7.89E+01 |
| | 2 | 62.85 | 2.56E+02 | 113.72 | 7.80E+01 | 1.33E+01 | 1.14E+02 |
| M | 3 | 74.94 | 5.03E+02 | 97.92 | 5.09E+00 | 4.37E+00 | 9.80E+01 |
| m | 4 | 77.38 | 7.71E+02 | 105.83 | 9.75E+00 | 8.28E+00 | 1.06E+02 |
| m | 5 | 89.53 | 1.54E+02 | 68.09 | | 1.54E+02 | 6.81E+01 |
| m | 6 | 92.80 | 3.37E+02 | 70.82 | 1.34E+02 | 9.83E+00 | 7.15E+01 |
| | 7 | 129.21 | 7.58E+01 | 78.51 | | 7.58E+01 | 7.85E+01 |
| | 8 | 145.16 | 8.05E+01 | 73.72 | | 8.05E+01 | 7.37E+01 |
| | 9 | 152.70 | 8.10E+01 | 79.60 | | 8.10E+01 | 7.96E+01 |
| | 10 | 164.95 | 6.61E+01 | 67.10 | | 6.61E+01 | 6.71E+01 |
| | 11 | 186.08 | 2.48E+02 | 71.39 | 6.41E+01 | 7.38E+00 | 7.18E+01 |
| | 12 | 209.56 | 9.76E+01 | 62.82 | | 9.76E+01 | 6.28E+01 |
| M | 13 | 238.69 | 9.85E+02 | 75.94 | 2.34E+01 | 6.34E+00 | 9.61E+02 |
| m | 14 | 241.73 | 3.14E+02 | 96.98 | | 3.14E+02 | 9.70E+01 |
| | 15 | 270.27 | 1.12E+02 | 64.37 | | 1.12E+02 | 6.44E+01 |
| | 16 | 277.46 | 5.68E+01 | 49.16 | | 5.68E+01 | 4.92E+01 |
| | 17 | 288.13 | 5.29E+01 | 49.24 | | 5.29E+01 | 4.92E+01 |
| M | 18 | 295.46 | 2.98E+02 | 49.65 | 4.17E+00 | 5.50E+00 | 2.94E+02 |
| m | 19 | 300.42 | 9.04E+01 | 50.55 | | 9.04E+01 | 5.05E+01 |
| | 20 | 327.65 | 6.89E+01 | 56.51 | | 6.89E+01 | 5.65E+01 |
| | 21 | 338.65 | 2.16E+02 | 56.32 | 2.22E-01 | 4.54E+00 | 2.16E+02 |
| | 22 | 352.15 | 5.42E+02 | 71.47 | 8.83E+00 | 4.91E+00 | 5.33E+02 |
| | 23 | 408.47 | 5.14E+01 | 42.61 | | 5.14E+01 | 4.26E+01 |
| | 24 | 463.21 | 8.80E+01 | 38.88 | | 8.80E+01 | 3.89E+01 |
| M | 25 | 507.61 | 2.85E+01 | 23.49 | | 2.85E+01 | 2.35E+01 |
| m | 26 | 510.95 | 2.11E+02 | 44.97 | 8.12E+01 | 5.49E+00 | 1.29E+02 |
| | 27 | 583.15 | 3.25E+02 | 49.74 | 6.34E+00 | 3.74E+00 | 3.19E+02 |
| | 28 | 609.56 | 3.39E+02 | 55.05 | 5.20E+00 | 3.69E+00 | 3.34E+02 |
| | 29 | 727.79 | 5.42E+01 | 34.64 | | 5.42E+01 | 3.46E+01 |
| | 30 | 768.68 | 3.74E+01 | 36.41 | | 3.74E+01 | 3.64E+01 |
| | 31 | 795.13 | 2.85E+01 | 27.65 | | 2.85E+01 | 2.76E+01 |
| | 32 | 860.35 | 5.21E+01 | 28.84 | | 5.21E+01 | 2.88E+01 |
| | 33 | 911.57 | 1.76E+02 | 43.60 | 3.28E+00 | 2.53E+00 | 1.73E+02 |
| | 34 | 969.59 | 9.68E+01 | 38.68 | | 9.68E+01 | 3.87E+01 |
| | 35 | 1121.06 | 9.72E+01 | 34.68 | 2.28E+00 | 2.55E+00 | 9.49E+01 |
| | 36 | 1238.35 | 2.06E+01 | 24.02 | | 2.06E+01 | 2.40E+01 |
| | 37 | 1377.80 | 1.46E+01 | 15.75 | | 1.46E+01 | 1.57E+01 |
| | 38 | 1401.37 | 1.62E+01 | 12.36 | | 1.62E+01 | 1.24E+01 |
| | 39 | 1408.51 | 2.11E+01 | 20.78 | | 2.11E+01 | 2.08E+01 |
| | 40 | 1428.90 | 2.31E+01 | 19.49 | | 2.31E+01 | 1.95E+01 |
| | 41 | 1461.52 | 9.09E+02 | 65.64 | 6.46E+00 | 2.33E+00 | 9.02E+02 |

Analysis Report for 1510085-19

CP5006S19-20

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| | 42 1497.24 | 1.24E+01 | 15.93 | | | 1.24E+01 | 1.59E+01 |
| | 43 1563.76 | 7.33E+00 | 6.50 | | | 7.33E+00 | 6.50E+00 |
| M | 44 1587.91 | 1.97E+01 | 13.59 | | | 1.97E+01 | 1.36E+01 |
| m | 45 1593.94 | 1.68E+01 | 14.17 | | | 1.68E+01 | 1.42E+01 |
| | 46 1621.89 | 2.04E+01 | 13.67 | | | 2.04E+01 | 1.37E+01 |
| | 47 1731.22 | 3.01E+01 | 13.20 | | | 3.01E+01 | 1.32E+01 |
| | 48 1751.54 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 49 1765.17 | 6.39E+01 | 19.90 | | | 6.39E+01 | 1.99E+01 |
| | 50 1799.09 | 1.10E+01 | 8.25 | | | 1.10E+01 | 8.25E+00 |
| | 51 1848.18 | 6.88E+00 | 9.21 | | | 6.88E+00 | 9.21E+00 |
| | 52 1936.16 | 7.00E+00 | 7.21 | | | 7.00E+00 | 7.21E+00 |
| | 53 1987.19 | 5.50E+00 | 7.78 | | | 5.50E+00 | 7.78E+00 |
| | 54 2104.87 | 1.36E+01 | 9.75 | | | 1.36E+01 | 9.75E+00 |
| | 55 2194.18 | 7.38E+00 | 8.66 | | | 7.38E+00 | 8.66E+00 |
| | 56 2205.25 | 1.79E+01 | 16.12 | | | 1.79E+01 | 1.61E+01 |
| | 57 2276.74 | 7.00E+00 | 5.29 | | | 7.00E+00 | 5.29E+00 |
| | 58 2615.60 | 1.10E+02 | 20.98 | 3.47E+00 | 1.48E+00 | 1.07E+02 | 2.10E+01 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.922 | 1460.81 * | 10.67 | 2.37E+01 | 2.68E+00 |
| GA-67 | 0.632 | 93.31 * | 35.70 | 1.68E+02 | 6.88E+02 |
| | | 208.95 * | 2.24 | 1.76E+03 | 6.99E+03 |
| | | 300.22 * | 16.00 | 2.88E+02 | 1.19E+03 |
| CE-139 | 0.878 | 165.85 * | 80.35 | 5.58E-02 | 5.68E-02 |
| CE-141 | 0.983 | 145.44 * | 48.40 | 1.73E-01 | 1.64E-01 |
| TL-208 | 0.930 | 583.14 * | 30.22 | 1.45E+00 | 2.61E-01 |
| | | 860.37 * | 4.48 | 2.16E+00 | 1.21E+00 |
| | | 2614.66 * | 35.85 | 1.09E+00 | 2.35E-01 |
| BI-212 | 0.717 | 727.17 * | 11.80 | 7.48E-01 | 4.83E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.998 | 238.63 * | 44.60 | 1.56E+00 | 1.82E-01 |
| | | 300.09 * | 3.41 | 2.24E+00 | 1.26E+00 |
| BI-214 | 0.893 | 609.31 * | 46.30 | 1.02E+00 | 1.93E-01 |

Analysis Report for 1510085-19
CP5006S19-20

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| BI-214 | 0.893 | 1120.29 * | 15.10 | 1.44E+00 | 5.42E-01 |
| | | 1764.49 * | 15.80 | 1.28E+00 | 4.11E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.991 | 295.21 * | 19.19 | 1.28E+00 | 2.39E-01 |
| | | 351.92 * | 37.19 | 1.35E+00 | 2.12E-01 |
| RA-224 | 0.915 | 240.98 * | 3.95 | 5.80E+00 | 1.86E+00 |
| RA-226 | 0.997 | 186.21 * | 3.28 | 3.49E+00 | 6.54E+00 |
| AC-228 | 0.966 | 338.32 * | 11.40 | 1.73E+00 | 4.76E-01 |
| | | 911.07 * | 27.70 | 1.22E+00 | 3.25E-01 |
| | | 969.11 * | 16.60 | 1.19E+00 | 4.88E-01 |
| TH-234 | 0.970 | 63.29 * | 3.80 | 2.64E+00 | 1.70E+00 |
| AM-243 | 0.989 | 74.67 * | 66.00 | 3.82E-01 | 8.18E-02 |
| CM-243 | 0.372 | 209.75 * | 3.29 | 1.98E+00 | 1.29E+00 |
| | | 228.14 | 10.60 | | |
| | | 277.60 * | 14.00 | 3.25E-01 | 2.83E-01 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 11:21:11AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| 1 | 24.42 | 1.97210E-02 | 55.57 | | |
| m 4 | 77.38 | 2.11522E-01 | 6.97 | Tol. | TI-44 |
| m 5 | 89.53 | 4.27871E-02 | 22.10 | | |
| 7 | 129.21 | 2.10637E-02 | 51.77 | | |
| 9 | 152.70 | 2.25057E-02 | 49.12 | Tol. | CS-136 |
| 15 | 270.27 | 3.11327E-02 | 28.72 | | |
| 17 | 288.13 | 1.47064E-02 | 46.50 | | |
| 20 | 327.65 | 1.91486E-02 | 40.99 | | |
| 23 | 408.47 | 1.42742E-02 | 41.46 | | |
| 24 | 463.21 | 2.44355E-02 | 22.10 | Sum | |
| M 25 | 507.61 | 7.90864E-03 | 41.26 | | |
| m 26 | 510.95 | 3.59218E-02 | 17.52 | Sum | |
| 30 | 768.68 | 1.03941E-02 | 48.66 | Sum | |
| 31 | 795.13 | 7.91028E-03 | 48.55 | Sum | |

Analysis Report for 1510085-19
CP5006S19-20

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| 36 | 1238.35 | 5.73214E-03 | 58.20 | | |
| 37 | 1377.80 | 4.06481E-03 | 53.81 | | |
| 38 | 1401.37 | 4.49275E-03 | 38.21 | | |
| 39 | 1408.51 | 5.86420E-03 | 49.23 | Tol. | EU-152 |
| 40 | 1428.90 | 6.42954E-03 | 42.11 | | |
| 42 | 1497.24 | 3.45734E-03 | 63.99 | | |
| 43 | 1563.76 | 2.03704E-03 | 44.32 | | |
| M | 44 | 1587.91 | 5.47005E-03 | 34.51 | Sum |
| m | 45 | 1593.94 | 4.66676E-03 | 42.17 | D-Esc |
| 46 | 1621.89 | 5.65972E-03 | 33.56 | | |
| 47 | 1731.22 | 8.35017E-03 | 21.96 | Sum | |
| 48 | 1751.54 | 1.94444E-03 | 37.80 | | |
| 50 | 1799.09 | 3.04487E-03 | 37.61 | | |
| 51 | 1848.18 | 1.90972E-03 | 66.95 | Sum | |
| 52 | 1936.16 | 1.94444E-03 | 51.51 | | |
| 53 | 1987.19 | 1.52778E-03 | 70.71 | | |
| 54 | 2104.87 | 3.79085E-03 | 35.71 | S-Esc | |
| 55 | 2194.18 | 2.04861E-03 | 58.71 | | |
| 56 | 2205.25 | 4.97126E-03 | 45.05 | | |
| 57 | 2276.74 | 1.94444E-03 | 37.80 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|-----------------|------------------|-----------------|----------|-------------------------|-------------------------|
| K-40 | 0.92 | 1460.81 * | 10.67 | 2.37E+01 | 2.68E+00 |
| GA-67 | 0.63 | 93.31 * | 35.70 | 1.68E+02 | 6.88E+02 |
| | | 208.95 * | 2.24 | 1.76E+03 | 6.99E+03 |
| | | 300.22 * | 16.00 | 2.88E+02 | 1.19E+03 |
| CE-139 | 0.87 | 165.85 * | 80.35 | 5.58E-02 | 5.68E-02 |
| CE-141 | 0.98 | 145.44 * | 48.40 | 1.73E-01 | 1.64E-01 |
| TL-208 | 0.93 | 583.14 * | 30.22 | 1.45E+00 | 2.61E-01 |
| | | 860.37 * | 4.48 | 2.16E+00 | 1.21E+00 |

Analysis Report for 1510085-19
CP5006S19-20

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| TL-208 | 0.93 | 2614.66 * | 35.85 | 1.09E+00 | 2.35E-01 |
| BI-212 | 0.71 | 727.17 * | 11.80 | 7.48E-01 | 4.83E-01 |
| | | 1620.62 | 2.75 | | |
| PB-212 | 0.99 | 238.63 * | 44.60 | 1.56E+00 | 1.82E-01 |
| | | 300.09 * | 3.41 | 2.24E+00 | 1.26E+00 |
| BI-214 | 0.89 | 609.31 * | 46.30 | 1.02E+00 | 1.93E-01 |
| | | 1120.29 * | 15.10 | 1.44E+00 | 5.42E-01 |
| | | 1764.49 * | 15.80 | 1.28E+00 | 4.11E-01 |
| | | 2204.22 | 4.98 | | |
| PB-214 | 0.99 | 295.21 * | 19.19 | 1.28E+00 | 2.39E-01 |
| | | 351.92 * | 37.19 | 1.35E+00 | 2.12E-01 |
| RA-224 | 0.91 | 240.98 * | 3.95 | 5.80E+00 | 1.86E+00 |
| RA-226 | 0.99 | 186.21 * | 3.28 | 3.49E+00 | 6.54E+00 |
| AC-228 | 0.96 | 338.32 * | 11.40 | 1.73E+00 | 4.76E-01 |
| | | 911.07 * | 27.70 | 1.22E+00 | 3.25E-01 |
| | | 969.11 * | 16.60 | 1.19E+00 | 4.88E-01 |
| TH-234 | 0.97 | 63.29 * | 3.80 | 2.64E+00 | 1.70E+00 |
| AM-243 | 0.98 | 74.67 * | 66.00 | 3.82E-01 | 8.18E-02 |
| CM-243 | 0.37 | 209.75 * | 3.29 | 1.98E+00 | 1.29E+00 |
| | | 228.14 | 10.60 | | |
| | | 277.60 * | 14.00 | 3.25E-01 | 2.83E-01 |

* = Energy line found in the spectrum.

- = Manually added nuclide.

? = Manually edited nuclide.

@ = Energy line not used for Weighted Mean Activity

Energy Tolerance : 1.000 keV

Nuclide confidence index threshold = 0.30

Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | 0.922 | 2.37E+01 | 2.68E+00 | |
| GA-67 | 0.632 | 1.61E+02 | 6.35E+02 | |
| CE-139 | 0.878 | 5.58E-02 | 5.68E-02 | |
| CE-141 | 0.983 | 1.73E-01 | 1.64E-01 | |
| TL-208 | 0.930 | 1.27E+00 | 1.73E-01 | |
| BI-212 | 0.717 | 7.48E-01 | 4.83E-01 | |

Analysis Report for 1510085-19

CP5006S19-20

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-------------------------|--------------------------------------|---|---|-----------------|
| PB-212 | 0.998 | 1.55E+00 | 1.80E-01 | |
| BI-214 | 0.893 | 1.10E+00 | 1.66E-01 | |
| PB-214 | 0.991 | 1.32E+00 | 1.59E-01 | |
| RA-224 | 0.915 | 5.80E+00 | 1.86E+00 | |
| RA-226 | 0.997 | 3.49E+00 | 6.54E+00 | |
| AC-228 | 0.966 | 1.34E+00 | 2.35E-01 | |
| TH-234 | 0.970 | 2.64E+00 | 1.70E+00 | |
| AM-243 | 0.989 | 3.82E-01 | 8.18E-02 | |
| CM-243 | 0.372 | 3.93E-01 | 2.76E-01 | |

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-19
CP5006S19-20

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 11:21:11AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| | 1 | 24.42 | 1.97210E-02 | 55.57 | |
| m | 4 | 77.38 | 2.11522E-01 | 6.97 | Tol. TI-44 |
| m | 5 | 89.53 | 4.27871E-02 | 22.10 | |
| | 7 | 129.21 | 2.10637E-02 | 51.77 | |
| | 9 | 152.70 | 2.25057E-02 | 49.12 | Tol. CS-136 |
| | 15 | 270.27 | 3.11327E-02 | 28.72 | |
| | 17 | 288.13 | 1.47064E-02 | 46.50 | |
| | 20 | 327.65 | 1.91486E-02 | 40.99 | |
| | 23 | 408.47 | 1.42742E-02 | 41.46 | |
| | 24 | 463.21 | 2.44355E-02 | 22.10 | Sum |
| M | 25 | 507.61 | 7.90864E-03 | 41.26 | |
| m | 26 | 510.95 | 3.59218E-02 | 17.52 | Sum |
| | 30 | 768.68 | 1.03941E-02 | 48.66 | Sum |
| | 31 | 795.13 | 7.91028E-03 | 48.55 | Sum |
| | 36 | 1238.35 | 5.73214E-03 | 58.20 | |
| | 37 | 1377.80 | 4.06481E-03 | 53.81 | |
| | 38 | 1401.37 | 4.49275E-03 | 38.21 | |
| | 39 | 1408.51 | 5.86420E-03 | 49.23 | Tol. EU-152 |
| | 40 | 1428.90 | 6.42954E-03 | 42.11 | |
| | 42 | 1497.24 | 3.45734E-03 | 63.99 | |
| | 43 | 1563.76 | 2.03704E-03 | 44.32 | |
| M | 44 | 1587.91 | 5.47005E-03 | 34.51 | Sum |
| m | 45 | 1593.94 | 4.66676E-03 | 42.17 | D-Esc |
| | 46 | 1621.89 | 5.65972E-03 | 33.56 | |
| | 47 | 1731.22 | 8.35017E-03 | 21.96 | Sum |
| | 48 | 1751.54 | 1.94444E-03 | 37.80 | |
| | 50 | 1799.09 | 3.04487E-03 | 37.61 | |
| | 51 | 1848.18 | 1.90972E-03 | 66.95 | Sum |
| | 52 | 1936.16 | 1.94444E-03 | 51.51 | |
| | 53 | 1987.19 | 1.52778E-03 | 70.71 | |
| | 54 | 2104.87 | 3.79085E-03 | 35.71 | S-Esc |
| | 55 | 2194.18 | 2.04861E-03 | 58.71 | |
| | 56 | 2205.25 | 4.97126E-03 | 45.05 | |
| | 57 | 2276.74 | 1.94444E-03 | 37.80 | |

Analysis Report for 1510085-19
CP5006S19-20

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | BE-7 | 477.59 | 10.42 | 4.92E-01 | 9.17E-01 | 9.17E-01 |
| + | NA-22 | 1274.54 | 99.94 | 3.24E-03 | 7.52E-02 | 7.52E-02 |
| + | NA-24 | 1368.53 | 99.99 | -4.62E+12 | 3.24E+12 | 2.13E+13 |
| | | 2754.09 | 99.86 | 0.00E+00 | | 3.24E+12 |
| + | AL-26 | 1808.65 | 99.76 | -1.52E-02 | 5.37E-02 | 5.37E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.37E+01 | 1.22E+00 | 1.22E+00 |
| + | @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| + | TI-44 | 67.88 | 94.40 | -1.93E-02 | 7.05E-02 | 7.05E-02 |
| | | 78.34 | 96.00 | 2.53E-01 | | 9.17E-02 |
| + | SC-46 | 889.25 | 99.98 | 4.40E-02 | 9.64E-02 | 9.64E-02 |
| | | 1120.51 | 99.99 | 2.38E-01 | | 1.71E-01 |
| + | V-48 | 983.52 | 99.98 | -7.49E-02 | 2.60E-01 | 2.60E-01 |
| | | 1312.10 | 97.50 | 4.15E-02 | | 2.89E-01 |
| + | CR-51 | 320.08 | 9.83 | 5.43E-01 | 1.13E+00 | 1.13E+00 |
| + | MN-54 | 834.83 | 99.97 | 2.31E-02 | 8.56E-02 | 8.56E-02 |
| + | CO-56 | 846.75 | 99.96 | 8.23E-03 | 9.56E-02 | 9.56E-02 |
| | | 1037.75 | 14.03 | 1.10E-01 | | 7.15E-01 |
| | | 1238.25 | 67.00 | 5.97E-02 | | 2.11E-01 |
| | | 1771.40 | 15.51 | 1.20E-01 | | 4.23E-01 |
| | | 2598.48 | 16.90 | 7.95E-02 | | 4.25E-01 |
| + | CO-57 | 122.06 | 85.51 | -1.27E-02 | 6.11E-02 | 6.11E-02 |
| | | 136.48 | 10.60 | 1.67E-02 | | 5.20E-01 |
| + | CO-58 | 810.76 | 99.40 | 2.14E-02 | 9.91E-02 | 9.91E-02 |
| + | FE-59 | 1099.22 | 56.50 | 8.48E-02 | 2.57E-01 | 2.57E-01 |
| | | 1291.56 | 43.20 | -2.03E-01 | | 2.86E-01 |
| + | CO-60 | 1173.22 | 100.00 | 3.36E-02 | 8.21E-02 | 1.01E-01 |
| | | 1332.49 | 100.00 | 2.28E-02 | | 8.21E-02 |
| + | ZN-65 | 1115.52 | 50.75 | -1.05E-02 | 1.80E-01 | 1.80E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.68E+02 | 2.37E+02 | 2.37E+02 |
| | | 208.95 | * 2.24 | 1.76E+03 | | 1.82E+03 |
| | | 300.22 | * 16.00 | 2.88E+02 | | 3.92E+02 |
| + | SE-75 | 121.11 | 16.70 | -1.86E-01 | 9.83E-02 | 3.38E-01 |

Analysis Report for 1510085-19
CP5006S19-20

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | SE-75 | 136.00 | 59.20 | 3.43E-02 | 9.83E-02 | 1.03E-01 |
| | | 264.65 | 59.80 | 2.40E-02 | | 9.83E-02 |
| | | 279.53 | 25.20 | 1.98E-02 | | 2.45E-01 |
| | | 400.65 | 11.40 | 6.44E-02 | | 5.52E-01 |
| + | RB-82 | 776.52 | 13.00 | -9.99E-01 | 1.18E+00 | 1.18E+00 |
| + | RB-83 | 520.41 | 46.00 | 3.10E-02 | 1.74E-01 | 1.74E-01 |
| | | 529.64 | 30.30 | 8.32E-02 | | 2.55E-01 |
| | | 552.65 | 16.40 | -2.57E-02 | | 4.63E-01 |
| + | KR-85 | 513.99 | 0.43 | -1.09E+00 | 2.24E+01 | 2.24E+01 |
| + | SR-85 | 513.99 | 99.27 | -6.57E-03 | 1.35E-01 | 1.35E-01 |
| + | Y-88 | 898.02 | 93.40 | 5.62E-02 | 5.95E-02 | 9.94E-02 |
| | | 1836.01 | 99.38 | 6.23E-03 | | 5.95E-02 |
| + | NB-93M | 16.57 | 9.43 | -4.52E+01 | 8.08E+01 | 8.08E+01 |
| + | NB-94 | 702.63 | 100.00 | 1.24E-02 | 7.38E-02 | 7.38E-02 |
| | | 871.10 | 100.00 | 3.63E-02 | | 7.66E-02 |
| + | NB-95 | 765.79 | 99.81 | -2.26E-02 | 1.41E-01 | 1.41E-01 |
| + | NB-95M | 235.69 | 25.00 | -8.07E+02 | 8.63E+01 | 8.63E+01 |
| + | ZR-95 | 724.18 | 43.70 | -4.99E-02 | 1.79E-01 | 2.28E-01 |
| | | 756.72 | 55.30 | 5.48E-02 | | 1.79E-01 |
| + | MO-99 | 181.06 | 6.20 | 1.30E+03 | 1.13E+03 | 1.64E+03 |
| | | 739.58 | 12.80 | -4.60E+02 | | 1.13E+03 |
| | | 778.00 | 4.50 | -2.95E+03 | | 2.91E+03 |
| + | RU-103 | 497.08 | 89.00 | -6.37E-02 | 1.11E-01 | 1.11E-01 |
| + | RU-106 | 621.84 | 9.80 | -1.05E-01 | 5.93E-01 | 5.93E-01 |
| + | AG-108M | 433.93 | 89.90 | 4.46E-04 | 7.15E-02 | 7.26E-02 |
| | | 614.37 | 90.40 | 2.26E-02 | | 7.54E-02 |
| | | 722.95 | 90.50 | -2.33E-02 | | 7.15E-02 |
| + | CD-109 | 88.03 | 3.72 | 1.92E+00 | 1.97E+00 | 1.97E+00 |
| + | AG-110M | 657.75 | 93.14 | -4.38E-02 | 7.31E-02 | 7.31E-02 |
| | | 677.61 | 10.53 | 1.59E-01 | | 7.33E-01 |
| | | 706.67 | 16.46 | 7.88E-02 | | 4.87E-01 |
| | | 763.93 | 21.98 | -8.29E-02 | | 3.22E-01 |
| | | 884.67 | 71.63 | 7.18E-02 | | 1.23E-01 |
| | | 1384.27 | 23.94 | 9.50E-02 | | 2.75E-01 |
| + | CD-113M | 263.70 | 0.02 | 1.80E+01 | 2.18E+02 | 2.18E+02 |
| + | SN-113 | 255.12 | 1.93 | -5.82E-01 | 9.39E-02 | 2.98E+00 |
| | | 391.69 | 64.90 | -1.65E-02 | | 9.39E-02 |
| + | TE123M | 159.00 | 84.10 | 4.47E-02 | 6.95E-02 | 6.95E-02 |
| + | SB-124 | 602.71 | 97.87 | 2.80E-02 | 9.36E-02 | 9.36E-02 |
| | | 645.85 | 7.26 | -1.90E-01 | | 1.32E+00 |
| | | 722.78 | 11.10 | -2.69E-01 | | 8.24E-01 |
| | | 1691.02 | 49.00 | 2.41E-02 | | 1.55E-01 |
| + | I-125 | 35.49 | 6.49 | -1.35E+00 | 3.20E+00 | 3.20E+00 |
| + | SB-125 | 176.33 | 6.89 | -5.19E-01 | 2.23E-01 | 7.04E-01 |
| | | 427.89 | 29.33 | 1.83E-02 | | 2.23E-01 |
| | | 463.38 | 10.35 | 9.41E-01 | | 7.33E-01 |
| | | 600.56 | 17.80 | -6.47E-02 | | 3.76E-01 |
| | | 635.90 | 11.32 | 2.21E-02 | | 6.22E-01 |

Analysis Report for 1510085-19
CP5006S19-20

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SB-126 | 414.70 | 83.30 | 6.14E-02 | 3.71E-01 | 3.71E-01 |
| | | 666.33 | 99.60 | 2.71E-01 | | 4.14E-01 |
| | | 695.00 | 99.60 | 8.06E-02 | | 4.06E-01 |
| | | 720.50 | 53.80 | -4.97E-02 | | 7.00E-01 |
| + | SN-126 | 87.57 | 37.00 | 1.84E-01 | 1.89E-01 | 1.89E-01 |
| + | SB-127 | 473.00 | 25.00 | 2.38E+01 | 4.22E+01 | 5.67E+01 |
| | | 685.20 | 35.70 | -1.49E+01 | | 4.22E+01 |
| | | 783.80 | 14.70 | -1.44E+01 | | 1.18E+02 |
| + | I-129 | 29.78 | 57.00 | -1.73E-01 | 4.70E-01 | 4.70E-01 |
| | | 33.60 | 13.20 | 4.90E-02 | | 1.33E+00 |
| | | 39.58 | 7.52 | -1.85E-02 | | 1.48E+00 |
| + | I-131 | 284.30 | 6.05 | 4.59E-01 | 8.02E-01 | 1.10E+01 |
| | | 364.48 | 81.20 | -8.70E-02 | | 8.02E-01 |
| | | 636.97 | 7.26 | -8.12E-01 | | 1.27E+01 |
| | | 722.89 | 1.80 | -1.57E+01 | | 4.82E+01 |
| + | TE-132 | 49.72 | 13.10 | -5.73E+02 | 3.76E+01 | 3.55E+02 |
| | | 228.16 | 88.00 | 7.95E+00 | | 3.76E+01 |
| + | BA-133 | 81.00 | 33.00 | -1.43E+00 | 8.78E-02 | 1.85E-01 |
| | | 302.84 | 17.80 | 1.56E-01 | | 3.16E-01 |
| | | 356.01 | 60.00 | -6.16E-01 | | 8.78E-02 |
| + | I-133 | 529.87 | 86.30 | 6.69E+08 | 2.05E+09 | 2.05E+09 |
| + | XE-133 | 81.00 | 38.00 | -6.65E+01 | 8.60E+00 | 8.60E+00 |
| + | CS-134 | 563.23 | 8.38 | -1.50E-01 | 6.99E-02 | 7.86E-01 |
| | | 569.32 | 15.43 | 2.61E-01 | | 4.92E-01 |
| | | 604.70 | 97.60 | 1.27E-02 | | 6.99E-02 |
| | | 795.84 | 85.40 | 5.18E-02 | | 9.70E-02 |
| | | 801.93 | 8.73 | -1.37E-01 | | 8.33E-01 |
| + | CS-135 | 268.24 | 16.00 | 3.95E-01 | 3.82E-01 | 3.82E-01 |
| + | @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 |
| | @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 |
| | @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 |
| + | CS-136 | 153.22 | 7.46 | 2.15E+00 | 3.23E-01 | 3.44E+00 |
| | | 163.89 | 4.61 | 5.86E-01 | | 5.32E+00 |
| | | 176.55 | 13.56 | -1.26E+00 | | 1.71E+00 |
| | | 273.65 | 12.66 | -3.90E+00 | | 1.98E+00 |
| | | 340.57 | 48.50 | 1.25E+00 | | 7.61E-01 |
| | | 818.50 | 99.70 | -6.19E-02 | | 3.23E-01 |
| | | 1048.07 | 79.60 | -1.13E-01 | | 4.67E-01 |
| | | 1235.34 | 19.70 | -1.47E-01 | | 2.59E+00 |
| + | CS-137 | 661.65 | 85.12 | -6.14E-03 | 8.29E-02 | 8.29E-02 |
| + | LA-138 | 788.74 | 34.00 | 8.54E-02 | 8.94E-02 | 2.21E-01 |
| | | 1435.80 | 66.00 | -2.10E-02 | | 8.94E-02 |
| + | CE-139 | 165.85 | * 80.35 | 5.58E-02 | 9.26E-02 | 9.26E-02 |
| + | BA-140 | 162.64 | 6.70 | -1.35E-01 | 1.26E+00 | 3.78E+00 |
| | | 304.84 | 4.50 | 4.85E-02 | | 5.37E+00 |
| | | 423.70 | 3.20 | 2.71E+00 | | 9.75E+00 |
| | | 437.55 | 2.00 | -1.47E+00 | | 1.65E+01 |
| | | 537.32 | 25.00 | 3.33E-01 | | 1.26E+00 |
| + | LA-140 | 328.77 | 20.50 | 1.04E+00 | 3.99E-01 | 1.47E+00 |

Analysis Report for 1510085-19

CP5006S19-20

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | LA-140 | 487.03 | 45.50 | 3.44E-01 | 3.99E-01 | 7.24E-01 |
| | | 815.85 | 23.50 | -3.19E-02 | | 1.46E+00 |
| | | 1596.49 | 95.49 | 2.78E-01 | | 3.99E-01 |
| + | CE-141 | 145.44 | * 48.40 | 1.73E-01 | 2.58E-01 | 2.58E-01 |
| + | CE-143 | 57.36 | 11.80 | 1.18E+05 | 7.64E+05 | 2.28E+06 |
| | | 293.26 | 42.00 | 1.80E+06 | | 7.64E+05 |
| | | 664.55 | 5.20 | 3.84E+06 | | 5.74E+06 |
| + | CE-144 | 133.54 | 10.80 | 5.81E-02 | 5.08E-01 | 5.08E-01 |
| + | PM-144 | 476.78 | 42.00 | -2.60E-02 | 6.36E-02 | 1.56E-01 |
| | | 618.01 | 98.60 | -6.69E-05 | | 6.36E-02 |
| | | 696.49 | 99.49 | 2.12E-02 | | 8.01E-02 |
| + | PM-145 | 36.85 | 21.70 | -2.68E-02 | 3.32E-01 | 6.16E-01 |
| | | 37.36 | 39.70 | 1.39E-01 | | 3.32E-01 |
| | | 42.30 | 15.10 | -8.35E-01 | | 6.17E-01 |
| | | 72.40 | 2.31 | -9.55E-01 | | 3.49E+00 |
| + | PM-146 | 453.90 | 39.94 | -2.56E-02 | 1.52E-01 | 1.52E-01 |
| | | 735.90 | 14.01 | 9.12E-02 | | 5.43E-01 |
| | | 747.13 | 13.10 | -8.94E-02 | | 5.41E-01 |
| + | ND-147 | 91.11 | 28.90 | -3.58E+00 | 1.62E+00 | 1.62E+00 |
| | | 531.02 | 13.10 | 7.44E-03 | | 3.09E+00 |
| + | PM-149 | 285.90 | 3.10 | -1.33E+03 | 2.14E+04 | 2.14E+04 |
| + | EU-152 | 121.78 | 20.50 | -4.91E-02 | 2.37E-01 | 2.37E-01 |
| | | 244.69 | 5.40 | -1.03E+00 | | 1.08E+00 |
| | | 344.27 | 19.13 | -6.96E-02 | | 2.71E-01 |
| | | 778.89 | 9.20 | 1.32E-02 | | 7.76E-01 |
| | | 964.01 | 10.40 | 1.32E-01 | | 8.62E-01 |
| | | 1085.78 | 7.22 | -5.50E-01 | | 9.54E-01 |
| | | 1112.02 | 9.60 | -9.55E-02 | | 8.65E-01 |
| | | 1407.95 | 14.94 | 1.72E-01 | | 5.32E-01 |
| + | GD-153 | 97.43 | 31.30 | 4.33E-02 | 1.74E-01 | 1.74E-01 |
| | | 103.18 | 22.20 | -6.90E-02 | | 2.32E-01 |
| + | EU-154 | 123.07 | 40.50 | 1.26E-01 | 1.25E-01 | 1.25E-01 |
| | | 723.30 | 19.70 | -1.08E-01 | | 3.31E-01 |
| | | 873.19 | 11.50 | 2.63E-02 | | 6.48E-01 |
| | | 996.32 | 10.30 | -5.61E-01 | | 7.00E-01 |
| | | 1004.76 | 17.90 | -2.54E-01 | | 4.14E-01 |
| | | 1274.45 | 35.50 | 8.98E-03 | | 2.09E-01 |
| + | EU-155 | 86.50 | 30.90 | -3.04E-02 | 2.27E-01 | 2.27E-01 |
| | | 105.30 | 20.70 | -2.22E-02 | | 2.40E-01 |
| + | EU-156 | 811.77 | 10.40 | -1.00E-01 | 2.68E+00 | 2.68E+00 |
| | | 1153.47 | 7.20 | 1.76E-01 | | 4.68E+00 |
| | | 1230.71 | 8.90 | 2.74E-01 | | 4.31E+00 |
| + | HO-166M | 184.41 | 72.60 | 1.79E-01 | 9.22E-02 | 9.22E-02 |
| | | 280.45 | 29.60 | 9.37E-03 | | 1.65E-01 |
| | | 410.94 | 11.10 | -4.83E-02 | | 5.77E-01 |
| | | 711.69 | 54.10 | -4.81E-02 | | 1.30E-01 |
| + | TM-171 | 66.72 | 0.14 | 2.26E+01 | 4.99E+01 | 4.99E+01 |
| + | HF-172 | 81.75 | 4.52 | -1.74E+00 | 4.54E-01 | 1.39E+00 |
| | | 125.81 | 11.30 | 5.53E-02 | | 4.54E-01 |

Analysis Report for 1510085-19
CP5006S19-20

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | LU-172 | 181.53 | 20.60 | 6.04E+00 | 3.05E+00 | 5.54E+00 |
| | | 810.06 | 16.63 | -1.94E+00 | | 9.61E+00 |
| | | 912.12 | 15.25 | 5.14E+01 | | 2.11E+01 |
| | | 1093.66 | 62.50 | -3.49E-01 | | 3.05E+00 |
| + | LU-173 | 100.72 | 5.24 | 1.76E-01 | 3.10E-01 | 9.62E-01 |
| | | 272.11 | 21.20 | 3.93E-01 | | 3.10E-01 |
| + | HF-175 | 343.40 | 84.00 | 9.85E-03 | 8.64E-02 | 8.64E-02 |
| + | LU-176 | 88.34 | 13.30 | 1.22E+00 | 5.04E-02 | 5.35E-01 |
| | | 201.83 | 86.00 | -1.61E-02 | | 6.28E-02 |
| | | 306.78 | 94.00 | 1.83E-03 | | 5.04E-02 |
| + | TA-182 | 67.75 | 41.20 | -5.30E-02 | 1.94E-01 | 1.94E-01 |
| | | 1121.30 | 34.90 | 7.52E-01 | | 4.61E-01 |
| | | 1189.05 | 16.23 | 5.60E-01 | | 7.05E-01 |
| | | 1221.41 | 26.98 | 4.91E-02 | | 4.42E-01 |
| | | 1231.02 | 11.44 | 6.47E-02 | | 1.02E+00 |
| + | IR-192 | 308.46 | 29.68 | -8.23E-02 | 1.76E-01 | 2.13E-01 |
| | | 468.07 | 48.10 | 1.67E-03 | | 1.76E-01 |
| + | HG-203 | 279.19 | 77.30 | 4.96E-02 | 1.08E-01 | 1.08E-01 |
| + | BI-207 | 569.67 | 97.72 | 3.90E-02 | 7.49E-02 | 7.49E-02 |
| | | 1063.62 | 74.90 | -2.04E-02 | | 1.06E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.45E+00 | 9.52E-02 | 2.72E-01 |
| | | 860.37 | * 4.48 | 2.16E+00 | | 1.82E+00 |
| | | 2614.66 | * 35.85 | 1.09E+00 | | 9.52E-02 |
| + | BI-210M | 262.00 | 45.00 | -2.45E-02 | 1.12E-01 | 1.12E-01 |
| | | 300.00 | 23.00 | -4.55E-01 | | 2.63E-01 |
| + | PB-210 | 46.50 | 4.25 | 1.23E-01 | 2.09E+00 | 2.09E+00 |
| + | PB-211 | 404.84 | 2.90 | -3.54E-01 | 1.75E+00 | 1.75E+00 |
| | | 831.96 | 2.90 | 3.17E-01 | | 2.63E+00 |
| + | BI-212 | 727.17 | * 11.80 | 7.48E-01 | 7.49E-01 | 7.49E-01 |
| | | 1620.62 | 2.75 | 8.97E-01 | | 2.63E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.56E+00 | 3.57E-01 | 3.57E-01 |
| | | 300.09 | * 3.41 | 2.24E+00 | | 3.05E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.02E+00 | 2.16E-01 | 2.16E-01 |
| | | 1120.29 | * 15.10 | 1.44E+00 | | 7.62E-01 |
| | | 1764.49 | * 15.80 | 1.28E+00 | | 4.45E-01 |
| | | 2204.22 | 4.98 | 1.40E+00 | | 1.87E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.28E+00 | 2.35E-01 | 5.28E-01 |
| | | 351.92 | * 37.19 | 1.35E+00 | | 2.35E-01 |
| + | RN-219 | 401.80 | 6.50 | 5.21E-03 | 8.00E-01 | 8.00E-01 |
| + | RA-223 | 323.87 | 3.88 | -1.25E+00 | 1.33E+00 | 1.33E+00 |
| + | RA-224 | 240.98 | * 3.95 | 5.80E+00 | 4.09E+00 | 4.09E+00 |
| + | RA-225 | 40.00 | 31.00 | -1.79E-02 | 1.43E+00 | 1.43E+00 |
| + | RA-226 | 186.21 | * 3.28 | 3.49E+00 | 2.12E+00 | 2.12E+00 |
| + | TH-227 | 50.10 | 8.40 | -1.45E+00 | 5.77E-01 | 9.01E-01 |
| | | 236.00 | 11.50 | -5.39E+00 | | 5.77E-01 |
| | | 256.20 | 6.30 | -8.16E-02 | | 8.03E-01 |
| + | AC-228 | 338.32 | * 11.40 | 1.73E+00 | 4.22E-01 | 6.61E-01 |
| | | 911.07 | * 27.70 | 1.22E+00 | | 4.22E-01 |

Analysis Report for 1510085-19
CP5006S19-20

| | Nuclide Name | Energy (keV) | | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|---|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | AC-228 | 969.11 | * | 16.60 | 1.19E+00 | 4.22E-01 | 7.09E-01 |
| + | TH-230 | 48.44 | | 16.90 | -1.01E-02 | 5.01E-01 | 5.01E-01 |
| | | 62.85 | | 4.60 | 3.04E+00 | | 1.73E+00 |
| | | 67.67 | | 0.37 | -4.92E+00 | | 1.80E+01 |
| + | PA-231 | 283.67 | | 1.60 | 4.05E-01 | 2.43E+00 | 3.03E+00 |
| | | 302.67 | | 2.30 | 1.20E+00 | | 2.43E+00 |
| + | TH-231 | 25.64 | | 14.70 | 3.29E+00 | 1.03E+00 | 4.37E+00 |
| | | 84.21 | | 6.40 | -1.44E+00 | | 1.03E+00 |
| + | PA-233 | 311.98 | | 38.60 | 1.67E-02 | 2.81E-01 | 2.81E-01 |
| + | PA-234 | 131.20 | | 20.40 | -7.91E-02 | 2.55E-01 | 2.55E-01 |
| | | 733.99 | | 8.80 | 3.13E-01 | | 8.45E-01 |
| | | 946.00 | | 12.00 | -1.66E-01 | | 5.90E-01 |
| + | PA-234M | 1001.03 | | 0.92 | 1.20E+00 | 8.49E+00 | 8.49E+00 |
| + | TH-234 | 63.29 | * | 3.80 | 2.64E+00 | 2.75E+00 | 2.75E+00 |
| + | U-235 | 143.76 | | 10.50 | -7.90E-04 | 4.93E-01 | 4.93E-01 |
| | | 163.35 | | 4.70 | 1.17E-01 | | 1.07E+00 |
| | | 205.31 | | 4.70 | 5.41E-01 | | 1.11E+00 |
| + | NP-237 | 86.50 | | 12.60 | -7.36E-02 | 5.50E-01 | 5.50E-01 |
| + | NP-239 | 106.10 | | 22.70 | -1.42E+02 | 1.54E+03 | 1.54E+03 |
| | | 228.18 | | 10.70 | 7.65E+02 | | 3.61E+03 |
| | | 277.60 | | 14.10 | 2.73E+03 | | 2.82E+03 |
| + | AM-241 | 59.54 | | 35.90 | -2.41E-01 | 1.96E-01 | 1.96E-01 |
| + | AM-243 | 74.67 | * | 66.00 | 3.82E-01 | 2.51E-01 | 2.51E-01 |
| + | CM-243 | 209.75 | * | 3.29 | 1.98E+00 | 4.56E-01 | 2.05E+00 |
| | | 228.14 | | 10.60 | 1.09E-01 | | 5.14E-01 |
| | | 277.60 | * | 14.00 | 3.25E-01 | | 4.56E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction
 ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510085-19
CP5006S19-20

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|
| BE-7 | 477.59 | 10.42 | 9.17E-01 | 9.17E-01 | 4.92E-01 | 4.36E-01 |
| NA-22 | 1274.54 | 99.94 | 7.52E-02 | 7.52E-02 | 3.24E-03 | 3.41E-02 |
| NA-24 | 1368.53 | 99.99 | 2.13E+13 | 3.24E+12 | -4.62E+12 | 9.48E+12 |
| | 2754.09 | 99.86 | 3.24E+12 | | 0.00E+00 | 0.00E+00 |
| AL-26 | 1808.65 | 99.76 | 5.37E-02 | 5.37E-02 | -1.52E-02 | 2.25E-02 |
| + K-40 | 1460.81 | * | 1.22E+00 | 1.22E+00 | 2.37E+01 | 5.73E-01 |
| @ AR-41 | 1293.64 | 99.16 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 |
| TI-44 | 67.88 | 94.40 | 7.05E-02 | 7.05E-02 | -1.93E-02 | 3.45E-02 |
| | 78.34 | 96.00 | 9.17E-02 | | 2.53E-01 | 4.52E-02 |
| SC-46 | 889.25 | 99.98 | 9.64E-02 | 9.64E-02 | 4.40E-02 | 4.49E-02 |
| | 1120.51 | 99.99 | 1.71E-01 | | 2.38E-01 | 8.16E-02 |
| V-48 | 983.52 | 99.98 | 2.60E-01 | 2.60E-01 | -7.49E-02 | 1.19E-01 |
| | 1312.10 | 97.50 | 2.89E-01 | | 4.15E-02 | 1.31E-01 |
| CR-51 | 320.08 | 9.83 | 1.13E+00 | 1.13E+00 | 5.43E-01 | 5.38E-01 |
| MN-54 | 834.83 | 99.97 | 8.56E-02 | 8.56E-02 | 2.31E-02 | 4.02E-02 |
| CO-56 | 846.75 | 99.96 | 9.56E-02 | 9.56E-02 | 8.23E-03 | 4.46E-02 |
| | 1037.75 | 14.03 | 7.15E-01 | | 1.10E-01 | 3.30E-01 |
| | 1238.25 | 67.00 | 2.11E-01 | | 5.97E-02 | 9.91E-02 |
| | 1771.40 | 15.51 | 4.23E-01 | | 1.20E-01 | 1.76E-01 |
| | 2598.48 | 16.90 | 4.25E-01 | | 7.95E-02 | 1.74E-01 |
| CO-57 | 122.06 | 85.51 | 6.11E-02 | 6.11E-02 | -1.27E-02 | 2.97E-02 |
| | 136.48 | 10.60 | 5.20E-01 | | 1.67E-02 | 2.52E-01 |
| CO-58 | 810.76 | 99.40 | 9.91E-02 | 9.91E-02 | 2.14E-02 | 4.63E-02 |
| FE-59 | 1099.22 | 56.50 | 2.57E-01 | 2.57E-01 | 8.48E-02 | 1.20E-01 |
| | 1291.56 | 43.20 | 2.86E-01 | | -2.03E-01 | 1.30E-01 |
| CO-60 | 1173.22 | 100.00 | 1.01E-01 | 8.21E-02 | 3.36E-02 | 4.75E-02 |
| | 1332.49 | 100.00 | 8.21E-02 | | 2.28E-02 | 3.75E-02 |
| ZN-65 | 1115.52 | 50.75 | 1.80E-01 | 1.80E-01 | -1.05E-02 | 8.31E-02 |
| + GA-67 | 93.31 | * | 2.37E+02 | 2.37E+02 | 1.68E+02 | 1.18E+02 |
| | 208.95 | * | 1.82E+03 | | 1.76E+03 | 8.83E+02 |
| | 300.22 | * | 3.92E+02 | | 2.88E+02 | 1.92E+02 |
| SE-75 | 121.11 | 16.70 | 3.38E-01 | 9.83E-02 | -1.86E-01 | 1.64E-01 |
| | 136.00 | 59.20 | 1.03E-01 | | 3.43E-02 | 5.01E-02 |
| | 264.65 | 59.80 | 9.83E-02 | | 2.40E-02 | 4.71E-02 |
| | 279.53 | 25.20 | 2.45E-01 | | 1.98E-02 | 1.18E-01 |
| | 400.65 | 11.40 | 5.52E-01 | | 6.44E-02 | 2.61E-01 |
| RB-82 | 776.52 | 13.00 | 1.18E+00 | 1.18E+00 | -9.99E-01 | 5.51E-01 |
| RB-83 | 520.41 | 46.00 | 1.74E-01 | 1.74E-01 | 3.10E-02 | 8.21E-02 |
| | 529.64 | 30.30 | 2.55E-01 | | 8.32E-02 | 1.20E-01 |
| | 552.65 | 16.40 | 4.63E-01 | | -2.57E-02 | 2.18E-01 |
| KR-85 | 513.99 | 0.43 | 2.24E+01 | 2.24E+01 | -1.09E+00 | 1.08E+01 |
| SR-85 | 513.99 | 99.27 | 1.35E-01 | 1.35E-01 | -6.57E-03 | 6.50E-02 |
| Y-88 | 898.02 | 93.40 | 9.94E-02 | 5.95E-02 | 5.62E-02 | 4.63E-02 |
| | 1836.01 | 99.38 | 5.95E-02 | | 6.23E-03 | 2.44E-02 |
| NB-93M | 16.57 | 9.43 | 8.08E+01 | 8.08E+01 | -4.52E+01 | 3.80E+01 |
| NB-94 | 702.63 | 100.00 | 7.38E-02 | 7.38E-02 | 1.24E-02 | 3.48E-02 |
| | 871.10 | 100.00 | 7.66E-02 | | 3.63E-02 | 3.58E-02 |
| NB-95 | 765.79 | 99.81 | 1.41E-01 | 1.41E-01 | -2.26E-02 | 6.61E-02 |
| NB-95M | 235.69 | 25.00 | 8.63E+01 | 8.63E+01 | -8.07E+02 | 4.19E+01 |
| ZR-95 | 724.18 | 43.70 | 2.28E-01 | 1.79E-01 | -4.99E-02 | 1.07E-01 |
| | 756.72 | 55.30 | 1.79E-01 | | 5.48E-02 | 8.36E-02 |

Analysis Report for 1510085-19
 CP5006S19-20

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| MO-99 | 181.06 | 6.20 | 1.64E+03 | 1.13E+03 | 1.30E+03 | 7.91E+02 |
| | 739.58 | 12.80 | 1.13E+03 | | -4.60E+02 | 5.31E+02 |
| | 778.00 | 4.50 | 2.91E+03 | | -2.95E+03 | 1.35E+03 |
| RU-103 | 497.08 | 89.00 | 1.11E-01 | 1.11E-01 | -6.37E-02 | 5.25E-02 |
| RU-106 | 621.84 | 9.80 | 5.93E-01 | 5.93E-01 | -1.05E-01 | 2.75E-01 |
| AG-108M | 433.93 | 89.90 | 7.26E-02 | 7.15E-02 | 4.46E-04 | 3.47E-02 |
| | 614.37 | 90.40 | 7.54E-02 | | 2.26E-02 | 3.56E-02 |
| | 722.95 | 90.50 | 7.15E-02 | | -2.33E-02 | 3.33E-02 |
| CD-109 | 88.03 | 3.72 | 1.97E+00 | 1.97E+00 | 1.92E+00 | 9.66E-01 |
| AG-110M | 657.75 | 93.14 | 7.31E-02 | 7.31E-02 | -4.38E-02 | 3.42E-02 |
| | 677.61 | 10.53 | 7.33E-01 | | 1.59E-01 | 3.45E-01 |
| | 706.67 | 16.46 | 4.87E-01 | | 7.88E-02 | 2.29E-01 |
| | 763.93 | 21.98 | 3.22E-01 | | -8.29E-02 | 1.50E-01 |
| | 884.67 | 71.63 | 1.23E-01 | | 7.18E-02 | 5.74E-02 |
| | 1384.27 | 23.94 | 2.75E-01 | | 9.50E-02 | 1.21E-01 |
| CD-113M | 263.70 | 0.02 | 2.18E+02 | 2.18E+02 | 1.80E+01 | 1.04E+02 |
| SN-113 | 255.12 | 1.93 | 2.98E+00 | 9.39E-02 | -5.82E-01 | 1.43E+00 |
| | 391.69 | 64.90 | 9.39E-02 | | -1.65E-02 | 4.44E-02 |
| TE123M | 159.00 | 84.10 | 6.95E-02 | 6.95E-02 | 4.47E-02 | 3.37E-02 |
| SB-124 | 602.71 | 97.87 | 9.36E-02 | 9.36E-02 | 2.80E-02 | 4.41E-02 |
| | 645.85 | 7.26 | 1.32E+00 | | -1.90E-01 | 6.23E-01 |
| | 722.78 | 11.10 | 8.24E-01 | | -2.69E-01 | 3.84E-01 |
| | 1691.02 | 49.00 | 1.55E-01 | | 2.41E-02 | 6.56E-02 |
| I-125 | 35.49 | 6.49 | 3.20E+00 | 3.20E+00 | -1.35E+00 | 1.55E+00 |
| SB-125 | 176.33 | 6.89 | 7.04E-01 | 2.23E-01 | -5.19E-01 | 3.40E-01 |
| | 427.89 | 29.33 | 2.23E-01 | | 1.83E-02 | 1.07E-01 |
| | 463.38 | 10.35 | 7.33E-01 | | 9.41E-01 | 3.51E-01 |
| | 600.56 | 17.80 | 3.76E-01 | | -6.47E-02 | 1.77E-01 |
| | 635.90 | 11.32 | 6.22E-01 | | 2.21E-02 | 2.93E-01 |
| | 635.90 | 11.32 | 6.22E-01 | | 2.21E-02 | 2.93E-01 |
| SB-126 | 414.70 | 83.30 | 3.71E-01 | 3.71E-01 | 6.14E-02 | 1.76E-01 |
| | 666.33 | 99.60 | 4.14E-01 | | 2.71E-01 | 1.96E-01 |
| | 695.00 | 99.60 | 4.06E-01 | | 8.06E-02 | 1.92E-01 |
| | 720.50 | 53.80 | 7.00E-01 | | -4.97E-02 | 3.28E-01 |
| SN-126 | 87.57 | 37.00 | 1.89E-01 | 1.89E-01 | 1.84E-01 | 9.29E-02 |
| SB-127 | 473.00 | 25.00 | 5.67E+01 | 4.22E+01 | 2.38E+01 | 2.69E+01 |
| | 685.20 | 35.70 | 4.22E+01 | | -1.49E+01 | 1.97E+01 |
| | 783.80 | 14.70 | 1.18E+02 | | -1.44E+01 | 5.55E+01 |
| I-129 | 29.78 | 57.00 | 4.70E-01 | 4.70E-01 | -1.73E-01 | 2.28E-01 |
| | 33.60 | 13.20 | 1.33E+00 | | 4.90E-02 | 6.46E-01 |
| | 39.58 | 7.52 | 1.48E+00 | | -1.85E-02 | 7.18E-01 |
| I-131 | 284.30 | 6.05 | 1.10E+01 | 8.02E-01 | 4.59E-01 | 5.25E+00 |
| | 364.48 | 81.20 | 8.02E-01 | | -8.70E-02 | 3.79E-01 |
| | 636.97 | 7.26 | 1.27E+01 | | -8.12E-01 | 5.99E+00 |
| | 722.89 | 1.80 | 4.82E+01 | | -1.57E+01 | 2.25E+01 |
| TE-132 | 49.72 | 13.10 | 3.55E+02 | 3.76E+01 | -5.73E+02 | 1.73E+02 |
| BA-133 | 228.16 | 88.00 | 3.76E+01 | 8.78E-02 | 7.95E+00 | 1.81E+01 |
| | 81.00 | 33.00 | 1.85E-01 | | -1.43E+00 | 9.06E-02 |
| | 302.84 | 17.80 | 3.16E-01 | | 1.56E-01 | 1.51E-01 |
| | 356.01 | 60.00 | 8.78E-02 | | -6.16E-01 | 4.18E-02 |
| I-133 | 529.87 | 86.30 | 2.05E+09 | 2.05E+09 | 6.69E+08 | 9.66E+08 |
| XE-133 | 81.00 | 38.00 | 8.60E+00 | 8.60E+00 | -6.65E+01 | 4.20E+00 |
| CS-134 | 563.23 | 8.38 | 7.86E-01 | 6.99E-02 | -1.50E-01 | 3.71E-01 |
| | 569.32 | 15.43 | 4.92E-01 | | 2.61E-01 | 2.34E-01 |

Analysis Report for 1510085-19

CP5006S19-20

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|-----------|----------|
| CS-134 | 604.70 | 97.60 | 6.99E-02 | 6.99E-02 | 1.27E-02 | 3.29E-02 | | |
| | 795.84 | 85.40 | 9.70E-02 | | 5.18E-02 | 4.57E-02 | | |
| | 801.93 | 8.73 | 8.33E-01 | | -1.37E-01 | 3.88E-01 | | |
| CS-135 | 268.24 | 16.00 | 3.82E-01 | 3.82E-01 | 3.95E-01 | 1.84E-01 | | |
| @ I-135 | 1131.51 | 22.50 | 1.00E+26 | 1.00E+26 | 1.00E+26 | 1.00E+20 | | |
| @ | 1260.41 | 28.60 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | | |
| @ | 1678.03 | 9.54 | 1.00E+26 | | 1.00E+26 | 1.00E+20 | | |
| CS-136 | 153.22 | 7.46 | 3.44E+00 | 3.23E-01 | 2.15E+00 | 1.67E+00 | | |
| | 163.89 | 4.61 | 5.32E+00 | | 5.86E-01 | 2.58E+00 | | |
| | 176.55 | 13.56 | 1.71E+00 | | -1.26E+00 | 8.27E-01 | | |
| | 273.65 | 12.66 | 1.98E+00 | | -3.90E+00 | 9.47E-01 | | |
| | 340.57 | 48.50 | 7.61E-01 | | 1.25E+00 | 3.68E-01 | | |
| | 818.50 | 99.70 | 3.23E-01 | | -6.19E-02 | 1.50E-01 | | |
| | 1048.07 | 79.60 | 4.67E-01 | | -1.13E-01 | 2.16E-01 | | |
| | 1235.34 | 19.70 | 2.59E+00 | | -1.47E-01 | 1.21E+00 | | |
| | CS-137 | 661.65 | 85.12 | | 8.29E-02 | 8.29E-02 | -6.14E-03 | 3.90E-02 |
| | LA-138 | 788.74 | 34.00 | | 2.21E-01 | 8.94E-02 | 8.54E-02 | 1.04E-01 |
| 1435.80 | | 66.00 | 8.94E-02 | -2.10E-02 | 3.90E-02 | | | |
| + CE-139 | 165.85 | * 80.35 | 9.26E-02 | 9.26E-02 | 5.58E-02 | 4.51E-02 | | |
| BA-140 | 162.64 | 6.70 | 3.78E+00 | 1.26E+00 | -1.35E-01 | 1.83E+00 | | |
| | 304.84 | 4.50 | 5.37E+00 | | 4.85E-02 | 2.55E+00 | | |
| | 423.70 | 3.20 | 9.75E+00 | | 2.71E+00 | 4.64E+00 | | |
| | 437.55 | 2.00 | 1.65E+01 | | -1.47E+00 | 7.86E+00 | | |
| | 537.32 | 25.00 | 1.26E+00 | | 3.33E-01 | 5.94E-01 | | |
| LA-140 | 328.77 | 20.50 | 1.47E+00 | 3.99E-01 | 1.04E+00 | 7.02E-01 | | |
| | 487.03 | 45.50 | 7.24E-01 | | 3.44E-01 | 3.44E-01 | | |
| | 815.85 | 23.50 | 1.46E+00 | | -3.19E-02 | 6.76E-01 | | |
| | 1596.49 | 95.49 | 3.99E-01 | | 2.78E-01 | 1.78E-01 | | |
| + CE-141 | 145.44 | * 48.40 | 2.58E-01 | 2.58E-01 | 1.73E-01 | 1.26E-01 | | |
| CE-143 | 57.36 | 11.80 | 2.28E+06 | 7.64E+05 | 1.18E+05 | 1.11E+06 | | |
| | 293.26 | 42.00 | 7.64E+05 | | 1.80E+06 | 3.71E+05 | | |
| | 664.55 | 5.20 | 5.74E+06 | | 3.84E+06 | 2.72E+06 | | |
| | CE-144 | 133.54 | 10.80 | | 5.08E-01 | 5.08E-01 | 5.81E-02 | 2.47E-01 |
| PM-144 | 476.78 | 42.00 | 1.56E-01 | 6.36E-02 | -2.60E-02 | 7.40E-02 | | |
| | 618.01 | 98.60 | 6.36E-02 | | -6.69E-05 | 2.97E-02 | | |
| | 696.49 | 99.49 | 8.01E-02 | | 2.12E-02 | 3.78E-02 | | |
| PM-145 | 36.85 | 21.70 | 6.16E-01 | 3.32E-01 | -2.68E-02 | 2.99E-01 | | |
| | 37.36 | 39.70 | 3.32E-01 | | 1.39E-01 | 1.61E-01 | | |
| | 42.30 | 15.10 | 6.17E-01 | | -8.35E-01 | 2.99E-01 | | |
| | 72.40 | 2.31 | 3.49E+00 | | -9.55E-01 | 1.71E+00 | | |
| PM-146 | 453.90 | 39.94 | 1.52E-01 | 1.52E-01 | -2.56E-02 | 7.22E-02 | | |
| | 735.90 | 14.01 | 5.43E-01 | | 9.12E-02 | 2.56E-01 | | |
| | 747.13 | 13.10 | 5.41E-01 | | -8.94E-02 | 2.53E-01 | | |
| ND-147 | 91.11 | 28.90 | 1.62E+00 | 1.62E+00 | -3.58E+00 | 7.93E-01 | | |
| | 531.02 | 13.10 | 3.09E+00 | | 7.44E-03 | 1.45E+00 | | |
| PM-149 | 285.90 | 3.10 | 2.14E+04 | 2.14E+04 | -1.33E+03 | 1.03E+04 | | |
| EU-152 | 121.78 | 20.50 | 2.37E-01 | 2.37E-01 | -4.91E-02 | 1.15E-01 | | |
| | 244.69 | 5.40 | 1.08E+00 | | -1.03E+00 | 5.23E-01 | | |
| | 344.27 | 19.13 | 2.71E-01 | | -6.96E-02 | 1.29E-01 | | |
| | 778.89 | 9.20 | 7.76E-01 | | 1.32E-02 | 3.63E-01 | | |
| | 964.01 | 10.40 | 8.62E-01 | | 1.32E-01 | 4.04E-01 | | |
| | 1085.78 | 7.22 | 9.54E-01 | | -5.50E-01 | 4.35E-01 | | |
| | 1112.02 | 9.60 | 8.65E-01 | | -9.55E-02 | 4.00E-01 | | |

Analysis Report for 1510085-19
CP5006S19-20

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|----------|
| EU-152 | 1407.95 | 14.94 | 5.32E-01 | 2.37E-01 | 1.72E-01 | 2.41E-01 | |
| GD-153 | 97.43 | 31.30 | 1.74E-01 | 1.74E-01 | 4.33E-02 | 8.45E-02 | |
| | 103.18 | 22.20 | 2.32E-01 | | -6.90E-02 | 1.13E-01 | |
| EU-154 | 123.07 | 40.50 | 1.25E-01 | 1.25E-01 | 1.26E-01 | 6.07E-02 | |
| | 723.30 | 19.70 | 3.31E-01 | | -1.08E-01 | 1.54E-01 | |
| | 873.19 | 11.50 | 6.48E-01 | | 2.63E-02 | 3.02E-01 | |
| | 996.32 | 10.30 | 7.00E-01 | | -5.61E-01 | 3.22E-01 | |
| | 1004.76 | 17.90 | 4.14E-01 | | -2.54E-01 | 1.91E-01 | |
| | 1274.45 | 35.50 | 2.09E-01 | | 8.98E-03 | 9.46E-02 | |
| EU-155 | 86.50 | 30.90 | 2.27E-01 | 2.27E-01 | -3.04E-02 | 1.11E-01 | |
| | 105.30 | 20.70 | 2.40E-01 | | -2.22E-02 | 1.17E-01 | |
| EU-156 | 811.77 | 10.40 | 2.68E+00 | 2.68E+00 | -1.00E-01 | 1.25E+00 | |
| | 1153.47 | 7.20 | 4.68E+00 | | 1.76E-01 | 2.16E+00 | |
| | 1230.71 | 8.90 | 4.31E+00 | | 2.74E-01 | 2.01E+00 | |
| HO-166M | 184.41 | 72.60 | 9.22E-02 | 9.22E-02 | 1.79E-01 | 4.50E-02 | |
| | 280.45 | 29.60 | 1.65E-01 | | 9.37E-03 | 7.88E-02 | |
| | 410.94 | 11.10 | 5.77E-01 | | -4.83E-02 | 2.76E-01 | |
| | 711.69 | 54.10 | 1.30E-01 | | -4.81E-02 | 6.11E-02 | |
| TM-171 | 66.72 | 0.14 | 4.99E+01 | 4.99E+01 | 2.26E+01 | 2.44E+01 | |
| HF-172 | 81.75 | 4.52 | 1.39E+00 | 4.54E-01 | -1.74E+00 | 6.81E-01 | |
| | 125.81 | 11.30 | 4.54E-01 | | 5.53E-02 | 2.21E-01 | |
| LU-172 | 181.53 | 20.60 | 5.54E+00 | 3.05E+00 | 6.04E+00 | 2.68E+00 | |
| | 810.06 | 16.63 | 9.61E+00 | | -1.94E+00 | 4.48E+00 | |
| | 912.12 | 15.25 | 2.11E+01 | | 5.14E+01 | 1.02E+01 | |
| | 1093.66 | 62.50 | 3.05E+00 | | -3.49E-01 | 1.42E+00 | |
| LU-173 | 100.72 | 5.24 | 9.62E-01 | 3.10E-01 | 1.76E-01 | 4.68E-01 | |
| | 272.11 | 21.20 | 3.10E-01 | | 3.93E-01 | 1.50E-01 | |
| HF-175 | 343.40 | 84.00 | 8.64E-02 | 8.64E-02 | 9.85E-03 | 4.12E-02 | |
| LU-176 | 88.34 | 13.30 | 5.35E-01 | 5.04E-02 | 1.22E+00 | 2.62E-01 | |
| | 201.83 | 86.00 | 6.28E-02 | | -1.61E-02 | 3.04E-02 | |
| | 306.78 | 94.00 | 5.04E-02 | | 1.83E-03 | 2.40E-02 | |
| TA-182 | 67.75 | 41.20 | 1.94E-01 | 1.94E-01 | -5.30E-02 | 9.48E-02 | |
| | 1121.30 | 34.90 | 4.61E-01 | | 7.52E-01 | 2.20E-01 | |
| | 1189.05 | 16.23 | 7.05E-01 | | 5.60E-01 | 3.28E-01 | |
| | 1221.41 | 26.98 | 4.42E-01 | | 4.91E-02 | 2.06E-01 | |
| | 1231.02 | 11.44 | 1.02E+00 | | 6.47E-02 | 4.74E-01 | |
| IR-192 | 308.46 | 29.68 | 2.13E-01 | 1.76E-01 | -8.23E-02 | 1.01E-01 | |
| | 468.07 | 48.10 | 1.76E-01 | | 1.67E-03 | 8.38E-02 | |
| HG-203 | 279.19 | 77.30 | 1.08E-01 | 1.08E-01 | 4.96E-02 | 5.19E-02 | |
| BI-207 | 569.67 | 97.72 | 7.49E-02 | 7.49E-02 | 3.90E-02 | 3.56E-02 | |
| | 1063.62 | 74.90 | 1.06E-01 | | -2.04E-02 | 4.89E-02 | |
| + TL-208 | 583.14 | * | 30.22 | 2.72E-01 | 9.52E-02 | 1.45E+00 | 1.30E-01 |
| | 860.37 | * | 4.48 | 1.82E+00 | | 2.16E+00 | 8.53E-01 |
| | 2614.66 | * | 35.85 | 9.52E-02 | | 1.09E+00 | 3.37E-02 |
| BI-210M | 262.00 | | 45.00 | 1.12E-01 | 1.12E-01 | -2.45E-02 | 5.35E-02 |
| | 300.00 | | 23.00 | 2.63E-01 | | -4.55E-01 | 1.27E-01 |
| PB-210 | 46.50 | | 4.25 | 2.09E+00 | 2.09E+00 | 1.23E-01 | 1.02E+00 |
| PB-211 | 404.84 | | 2.90 | 1.75E+00 | 1.75E+00 | -3.54E-01 | 8.28E-01 |
| | 831.96 | | 2.90 | 2.63E+00 | | 3.17E-01 | 1.23E+00 |
| + BI-212 | 727.17 | * | 11.80 | 7.49E-01 | 7.49E-01 | 7.48E-01 | 3.56E-01 |
| | 1620.62 | | 2.75 | 2.63E+00 | | 8.97E-01 | 1.16E+00 |
| + PB-212 | 238.63 | * | 44.60 | 3.57E-01 | 3.57E-01 | 1.56E+00 | 1.76E-01 |
| | 300.09 | * | 3.41 | 3.05E+00 | | 2.24E+00 | 1.49E+00 |

Analysis Report for 1510085-19
CP5006S19-20

| | Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|---|---------------------|---------------------|--------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|----------|
| + | BI-214 | 609.31 | * | 46.30 | 2.16E-01 | 2.16E-01 | 1.02E+00 | 1.04E-01 | |
| | | 1120.29 | * | 15.10 | 7.62E-01 | | 1.44E+00 | 3.60E-01 | |
| | | 1764.49 | * | 15.80 | 4.45E-01 | | 1.28E+00 | 1.95E-01 | |
| | | 2204.22 | | 4.98 | 1.87E+00 | | 1.40E+00 | 8.40E-01 | |
| + | PB-214 | 295.21 | * | 19.19 | 5.28E-01 | 2.35E-01 | 1.28E+00 | 2.58E-01 | |
| | | 351.92 | * | 37.19 | 2.35E-01 | | 1.35E+00 | 1.14E-01 | |
| | RN-219 | 401.80 | | 6.50 | 8.00E-01 | 8.00E-01 | 5.21E-03 | 3.78E-01 | |
| | RA-223 | 323.87 | | 3.88 | 1.33E+00 | 1.33E+00 | -1.25E+00 | 6.35E-01 | |
| + | RA-224 | 240.98 | * | 3.95 | 4.09E+00 | 4.09E+00 | 5.80E+00 | 2.02E+00 | |
| | RA-225 | 40.00 | | 31.00 | 1.43E+00 | 1.43E+00 | -1.79E-02 | 6.95E-01 | |
| + | RA-226 | 186.21 | * | 3.28 | 2.12E+00 | 2.12E+00 | 3.49E+00 | 1.04E+00 | |
| | | TH-227 | 50.10 | | 8.40 | 9.01E-01 | 5.77E-01 | -1.45E+00 | 4.39E-01 |
| | | | 236.00 | | 11.50 | 5.77E-01 | | -5.39E+00 | 2.80E-01 |
| | | 256.20 | | 6.30 | 8.03E-01 | | -8.16E-02 | 3.85E-01 | |
| + | AC-228 | 338.32 | * | 11.40 | 6.61E-01 | 4.22E-01 | 1.73E+00 | 3.20E-01 | |
| | | 911.07 | * | 27.70 | 4.22E-01 | | 1.22E+00 | 2.02E-01 | |
| | | 969.11 | * | 16.60 | 7.09E-01 | | 1.19E+00 | 3.38E-01 | |
| | | TH-230 | 48.44 | | 16.90 | 5.01E-01 | 5.01E-01 | -1.01E-02 | 2.45E-01 |
| | | 62.85 | | 4.60 | 1.73E+00 | | 3.04E+00 | 8.48E-01 | |
| | | 67.67 | | 0.37 | 1.80E+01 | | -4.92E+00 | 8.80E+00 | |
| | PA-231 | 283.67 | | 1.60 | 3.03E+00 | 2.43E+00 | 4.05E-01 | 1.45E+00 | |
| | | 302.67 | | 2.30 | 2.43E+00 | | 1.20E+00 | 1.16E+00 | |
| | TH-231 | 25.64 | | 14.70 | 4.37E+00 | 1.03E+00 | 3.29E+00 | 2.12E+00 | |
| | | 84.21 | | 6.40 | 1.03E+00 | | -1.44E+00 | 5.06E-01 | |
| | PA-233 | 311.98 | | 38.60 | 2.81E-01 | 2.81E-01 | 1.67E-02 | 1.34E-01 | |
| | PA-234 | 131.20 | | 20.40 | 2.55E-01 | 2.55E-01 | -7.91E-02 | 1.24E-01 | |
| | | 733.99 | | 8.80 | 8.45E-01 | | 3.13E-01 | 3.97E-01 | |
| | | 946.00 | | 12.00 | 5.90E-01 | | -1.66E-01 | 2.72E-01 | |
| | PA-234M | 1001.03 | | 0.92 | 8.49E+00 | 8.49E+00 | 1.20E+00 | 3.94E+00 | |
| + | TH-234 | 63.29 | * | 3.80 | 2.75E+00 | 2.75E+00 | 2.64E+00 | 1.35E+00 | |
| | | U-235 | 143.76 | | 10.50 | 4.93E-01 | 4.93E-01 | -7.90E-04 | 2.39E-01 |
| | | 163.35 | | 4.70 | 1.07E+00 | | 1.17E-01 | 5.16E-01 | |
| | | 205.31 | | 4.70 | 1.11E+00 | | 5.41E-01 | 5.38E-01 | |
| | NP-237 | 86.50 | | 12.60 | 5.50E-01 | 5.50E-01 | -7.36E-02 | 2.70E-01 | |
| | NP-239 | 106.10 | | 22.70 | 1.54E+03 | 1.54E+03 | -1.42E+02 | 7.47E+02 | |
| | | 228.18 | | 10.70 | 3.61E+03 | | 7.65E+02 | 1.74E+03 | |
| | | 277.60 | | 14.10 | 2.82E+03 | | 2.73E+03 | 1.36E+03 | |
| | AM-241 | 59.54 | | 35.90 | 1.96E-01 | 1.96E-01 | -2.41E-01 | 9.56E-02 | |
| + | AM-243 | 74.67 | * | 66.00 | 2.51E-01 | 2.51E-01 | 3.82E-01 | 1.25E-01 | |
| + | CM-243 | 209.75 | * | 3.29 | 2.05E+00 | 4.56E-01 | 1.98E+00 | 9.97E-01 | |
| | | | | 10.60 | 5.14E-01 | | 1.09E-01 | 2.48E-01 | |
| | | | | 277.60 | * | 14.00 | 4.56E-01 | 3.25E-01 | 2.20E-01 |

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

Analysis Report for 1510085-19
CP5006S19-20

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S19-20

Elapsed Live time: 3600

Elapsed Real Time: 3601

| Channel | 1 | 9 | 17 | 25 | 33 | 41 | 49 | 57 | 65 | 73 | 81 | 89 | 97 | 105 | 113 | 121 | 129 | 137 | 145 | 153 | 161 | 169 | 177 | 185 | 193 | 201 | 209 | 217 | 225 | 233 | 241 | 249 | 257 | 265 | 273 | 281 | 289 | 297 | 305 | 313 | 321 | 329 | 337 | 345 | 353 | 361 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17: | 0 | 3 | 77 | 101 | 100 | 98 | 94 | 111 | 105 | 84 | 71 | 66 | 61 | 62 | 62 | 72 | 84 | 84 | 63 | 63 | 74 | 76 | 83 | 76 | 84 | 76 | 66 | 78 | 79 | 71 | 109 | 165 | 84 | 70 | 111 | 100 | 105 | 99 | 114 | 92 | 95 | 108 | 110 | 108 | 123 | 141 | 144 | 190 | 279 | 65 | 136 | 132 | 145 | 149 | 141 | 123 | 157 | 149 | 73 | 155 | 174 | 453 | 335 | 408 | 574 | 158 | 116 | 81 | 136 | 128 | 130 | 166 | 172 | 114 | 220 | 251 | 89 | 136 | 194 | 143 | 127 | 309 | 240 | 104 | 93 | 97 | 80 | 91 | 87 | 105 | 89 | 69 | 76 | 76 | 105 | 93 | 91 | 85 | 88 | 97 | 80 | 80 | 80 | 73 | 113 | 95 | 74 | 86 | 83 | 83 | 78 | 77 | 57 | 121 | 85 | 82 | 76 | 91 | 86 | 69 | 79 | 80 | 129 | 101 | 112 | 80 | 82 | 76 | 80 | 87 | 82 | 137 | 81 | 76 | 74 | 79 | 80 | 67 | 76 | 87 | 145 | 88 | 76 | 78 | 69 | 51 | 69 | 80 | 67 | 153 | 77 | 90 | 77 | 70 | 54 | 76 | 67 | 67 | 161 | 56 | 52 | 61 | 67 | 82 | 62 | 68 | 60 | 169 | 52 | 54 | 57 | 59 | 57 | 68 | 52 | 49 | 177 | 59 | 60 | 47 | 63 | 70 | 63 | 59 | 38 | 185 | 63 | 189 | 165 | 58 | 57 | 55 | 60 | 57 | 193 | 40 | 52 | 57 | 54 | 66 | 59 | 73 | 57 | 201 | 60 | 64 | 53 | 62 | 57 | 54 | 41 | 58 | 209 | 63 | 103 | 66 | 43 | 46 | 44 | 45 | 46 | 217 | 58 | 60 | 52 | 38 | 49 | 51 | 50 | 53 | 225 | 32 | 46 | 50 | 57 | 56 | 48 | 54 | 50 | 233 | 45 | 50 | 44 | 63 | 54 | 160 | 677 | 255 | 241 | 115 | 159 | 101 | 44 | 44 | 42 | 39 | 43 | 249 | 35 | 39 | 37 | 45 | 21 | 33 | 38 | 41 | 257 | 37 | 40 | 50 | 37 | 37 | 30 | 37 | 40 | 265 | 36 | 34 | 25 | 40 | 34 | 72 | 92 | 36 | 273 | 40 | 34 | 25 | 42 | 45 | 49 | 38 | 35 | 281 | 21 | 34 | 27 | 32 | 26 | 31 | 40 | 47 | 289 | 40 | 41 | 29 | 28 | 39 | 37 | 126 | 188 | 297 | 56 | 26 | 37 | 54 | 63 | 40 | 29 | 22 | 305 | 30 | 20 | 27 | 25 | 26 | 28 | 22 | 39 | 313 | 27 | 24 | 34 | 23 | 22 | 27 | 31 | 35 | 321 | 23 | 31 | 24 | 25 | 31 | 31 | 33 | 60 | 329 | 49 | 17 | 22 | 23 | 27 | 31 | 19 | 17 | 337 | 26 | 80 | 145 | 46 | 37 | 31 | 31 | 28 | 345 | 21 | 31 | 18 | 24 | 29 | 21 | 55 | 268 | 353 | 247 | 39 | 21 | 25 | 23 | 19 | 19 | 361 | 23 | 22 | 23 | 20 | 20 | 22 | 19 | 22 |

369: 21 25 21 20 32 23 17 15

Sample Title: CP5006S19-20

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 377: | 17 | 25 | 19 | 24 | 20 | 24 | 23 | 23 |
| 385: | 23 | 23 | 26 | 28 | 20 | 28 | 20 | 21 |
| 393: | 21 | 13 | 20 | 23 | 30 | 22 | 17 | 16 |
| 401: | 25 | 28 | 22 | 13 | 19 | 24 | 20 | 19 |
| 409: | 25 | 44 | 18 | 17 | 18 | 15 | 25 | 14 |
| 417: | 18 | 15 | 12 | 18 | 18 | 17 | 14 | 21 |
| 425: | 21 | 21 | 22 | 20 | 17 | 18 | 28 | 24 |
| 433: | 21 | 23 | 20 | 19 | 14 | 22 | 25 | 22 |
| 441: | 21 | 20 | 21 | 22 | 14 | 23 | 17 | 16 |
| 449: | 23 | 17 | 15 | 21 | 14 | 17 | 15 | 21 |
| 457: | 14 | 24 | 9 | 9 | 22 | 22 | 35 | 37 |
| 465: | 19 | 27 | 15 | 15 | 18 | 16 | 17 | 12 |
| 473: | 15 | 17 | 23 | 19 | 12 | 11 | 15 | 18 |
| 481: | 28 | 13 | 11 | 15 | 16 | 14 | 17 | 21 |
| 489: | 19 | 19 | 6 | 24 | 11 | 12 | 15 | 16 |
| 497: | 11 | 10 | 17 | 14 | 21 | 14 | 20 | 17 |
| 505: | 13 | 15 | 23 | 13 | 28 | 59 | 95 | 70 |
| 513: | 37 | 12 | 19 | 12 | 16 | 11 | 16 | 17 |
| 521: | 18 | 9 | 14 | 18 | 9 | 17 | 11 | 13 |
| 529: | 10 | 18 | 17 | 8 | 16 | 10 | 9 | 16 |
| 537: | 12 | 14 | 16 | 13 | 14 | 8 | 13 | 21 |
| 545: | 8 | 9 | 16 | 12 | 11 | 11 | 11 | 13 |
| 553: | 14 | 11 | 16 | 8 | 13 | 13 | 9 | 11 |
| 561: | 13 | 11 | 18 | 19 | 7 | 16 | 17 | 19 |
| 569: | 16 | 15 | 27 | 16 | 13 | 16 | 14 | 17 |
| 577: | 9 | 12 | 19 | 15 | 22 | 24 | 114 | 175 |
| 585: | 26 | 9 | 10 | 13 | 14 | 17 | 6 | 9 |
| 593: | 11 | 11 | 15 | 15 | 16 | 16 | 13 | 10 |
| 601: | 18 | 12 | 7 | 14 | 18 | 8 | 8 | 24 |
| 609: | 125 | 210 | 51 | 15 | 15 | 13 | 18 | 15 |
| 617: | 6 | 12 | 7 | 7 | 4 | 8 | 8 | 10 |
| 625: | 14 | 10 | 9 | 10 | 15 | 13 | 11 | 11 |
| 633: | 15 | 17 | 12 | 12 | 8 | 8 | 19 | 14 |
| 641: | 14 | 13 | 12 | 12 | 13 | 9 | 11 | 14 |
| 649: | 15 | 16 | 10 | 9 | 8 | 23 | 11 | 7 |
| 657: | 8 | 11 | 12 | 11 | 10 | 10 | 14 | 16 |
| 665: | 16 | 17 | 16 | 14 | 12 | 7 | 14 | 10 |
| 673: | 12 | 10 | 8 | 11 | 13 | 19 | 10 | 15 |
| 681: | 11 | 9 | 13 | 9 | 7 | 7 | 13 | 16 |
| 689: | 13 | 12 | 11 | 15 | 10 | 12 | 16 | 15 |
| 697: | 17 | 9 | 12 | 13 | 11 | 11 | 12 | 13 |
| 705: | 13 | 16 | 11 | 14 | 11 | 10 | 11 | 12 |
| 713: | 12 | 8 | 15 | 17 | 12 | 12 | 19 | 10 |
| 721: | 5 | 9 | 12 | 9 | 11 | 8 | 26 | 46 |
| 729: | 18 | 12 | 6 | 14 | 10 | 17 | 13 | 15 |
| 737: | 9 | 11 | 11 | 12 | 12 | 16 | 9 | 13 |
| 745: | 15 | 5 | 12 | 7 | 12 | 8 | 11 | 10 |
| 753: | 9 | 10 | 13 | 16 | 9 | 8 | 13 | 4 |
| 761: | 5 | 11 | 8 | 4 | 8 | 12 | 11 | 13 |
| 769: | 29 | 18 | 7 | 14 | 17 | 11 | 8 | 10 |
| 777: | 6 | 7 | 12 | 9 | 7 | 18 | 10 | 10 |
| 785: | 10 | 15 | 10 | 15 | 12 | 5 | 8 | 11 |
| 793: | 3 | 12 | 29 | 16 | 12 | 4 | 11 | 6 |

801: 11 5 12 10 10 14 10 9

Sample Title: CP5006S19-20

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|----|----|----|----|----|----|
| 809: | 9 | 7 | 9 | 11 | 9 | 15 | 3 | 8 |
| 817: | 10 | 5 | 6 | 5 | 9 | 11 | 9 | 8 |
| 825: | 12 | 7 | 6 | 7 | 7 | 10 | 8 | 14 |
| 833: | 6 | 7 | 20 | 18 | 7 | 7 | 9 | 11 |
| 841: | 13 | 8 | 4 | 10 | 5 | 11 | 14 | 11 |
| 849: | 7 | 6 | 9 | 12 | 8 | 9 | 5 | 9 |
| 857: | 7 | 13 | 13 | 8 | 31 | 14 | 9 | 3 |
| 865: | 7 | 7 | 5 | 11 | 9 | 4 | 8 | 12 |
| 873: | 11 | 12 | 7 | 8 | 6 | 9 | 8 | 8 |
| 881: | 4 | 10 | 16 | 8 | 7 | 12 | 9 | 11 |
| 889: | 5 | 10 | 4 | 11 | 5 | 6 | 12 | 9 |
| 897: | 5 | 11 | 10 | 10 | 6 | 6 | 6 | 12 |
| 905: | 10 | 6 | 8 | 9 | 7 | 16 | 75 | 93 |
| 913: | 25 | 8 | 5 | 4 | 9 | 8 | 11 | 6 |
| 921: | 8 | 9 | 8 | 11 | 5 | 12 | 6 | 7 |
| 929: | 11 | 3 | 10 | 8 | 8 | 12 | 12 | 11 |
| 937: | 10 | 11 | 7 | 7 | 5 | 7 | 6 | 6 |
| 945: | 12 | 8 | 7 | 6 | 4 | 8 | 12 | 9 |
| 953: | 2 | 9 | 5 | 7 | 8 | 8 | 10 | 11 |
| 961: | 8 | 8 | 8 | 13 | 21 | 11 | 9 | 16 |
| 969: | 61 | 55 | 17 | 9 | 8 | 7 | 8 | 14 |
| 977: | 3 | 9 | 5 | 5 | 7 | 5 | 6 | 7 |
| 985: | 7 | 7 | 6 | 10 | 10 | 6 | 5 | 7 |
| 993: | 7 | 6 | 7 | 8 | 9 | 5 | 4 | 11 |
| 1001: | 16 | 6 | 6 | 7 | 4 | 8 | 15 | 2 |
| 1009: | 11 | 3 | 10 | 6 | 3 | 5 | 7 | 6 |
| 1017: | 5 | 6 | 6 | 8 | 9 | 11 | 7 | 5 |
| 1025: | 8 | 10 | 10 | 5 | 7 | 4 | 7 | 6 |
| 1033: | 6 | 13 | 5 | 8 | 7 | 11 | 5 | 9 |
| 1041: | 5 | 6 | 2 | 11 | 7 | 7 | 12 | 8 |
| 1049: | 4 | 5 | 5 | 8 | 10 | 9 | 2 | 12 |
| 1057: | 10 | 8 | 7 | 9 | 6 | 7 | 5 | 12 |
| 1065: | 6 | 7 | 8 | 13 | 4 | 8 | 5 | 6 |
| 1073: | 8 | 7 | 4 | 7 | 4 | 3 | 5 | 7 |
| 1081: | 3 | 14 | 2 | 8 | 5 | 6 | 4 | 6 |
| 1089: | 5 | 8 | 6 | 5 | 7 | 15 | 5 | 7 |
| 1097: | 11 | 9 | 12 | 12 | 6 | 8 | 7 | 4 |
| 1105: | 11 | 7 | 9 | 7 | 13 | 12 | 6 | 4 |
| 1113: | 2 | 5 | 10 | 8 | 8 | 9 | 11 | 26 |
| 1121: | 60 | 23 | 5 | 9 | 8 | 4 | 6 | 11 |
| 1129: | 10 | 7 | 7 | 6 | 9 | 7 | 6 | 2 |
| 1137: | 14 | 5 | 6 | 9 | 7 | 8 | 7 | 5 |
| 1145: | 7 | 11 | 8 | 9 | 6 | 3 | 10 | 6 |
| 1153: | 8 | 11 | 4 | 10 | 8 | 6 | 3 | 6 |
| 1161: | 2 | 7 | 11 | 6 | 6 | 6 | 8 | 9 |
| 1169: | 6 | 6 | 7 | 13 | 10 | 14 | 12 | 10 |
| 1177: | 13 | 5 | 7 | 4 | 8 | 7 | 5 | 3 |
| 1185: | 6 | 7 | 8 | 16 | 7 | 10 | 8 | 7 |
| 1193: | 6 | 3 | 8 | 10 | 11 | 3 | 9 | 9 |
| 1201: | 5 | 5 | 11 | 9 | 9 | 9 | 9 | 13 |
| 1209: | 10 | 11 | 9 | 8 | 6 | 7 | 14 | 7 |
| 1217: | 10 | 8 | 8 | 15 | 11 | 4 | 9 | 11 |
| 1225: | 6 | 12 | 5 | 5 | 6 | 12 | 12 | 6 |

1233: 12 9 8 9 10 18 17 8

Sample Title: CP5006S19-20

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1241: | 8 | 12 | 5 | 12 | 12 | 10 | 5 | 4 |
| 1249: | 7 | 11 | 9 | 7 | 6 | 9 | 8 | 2 |
| 1257: | 11 | 9 | 3 | 5 | 7 | 7 | 6 | 6 |
| 1265: | 1 | 6 | 7 | 3 | 5 | 5 | 8 | 6 |
| 1273: | 2 | 0 | 6 | 6 | 4 | 2 | 6 | 8 |
| 1281: | 11 | 7 | 5 | 4 | 6 | 4 | 11 | 6 |
| 1289: | 5 | 4 | 5 | 2 | 7 | 6 | 7 | 10 |
| 1297: | 2 | 4 | 5 | 4 | 4 | 5 | 4 | 9 |
| 1305: | 6 | 7 | 2 | 5 | 5 | 8 | 2 | 6 |
| 1313: | 5 | 2 | 5 | 4 | 5 | 6 | 4 | 4 |
| 1321: | 3 | 5 | 4 | 0 | 3 | 3 | 4 | 6 |
| 1329: | 6 | 8 | 5 | 3 | 8 | 5 | 2 | 2 |
| 1337: | 5 | 6 | 5 | 4 | 7 | 6 | 2 | 5 |
| 1345: | 8 | 3 | 3 | 1 | 3 | 1 | 6 | 2 |
| 1353: | 3 | 4 | 2 | 3 | 4 | 7 | 1 | 8 |
| 1361: | 3 | 2 | 3 | 6 | 1 | 7 | 2 | 4 |
| 1369: | 4 | 1 | 3 | 4 | 3 | 2 | 2 | 5 |
| 1377: | 5 | 9 | 5 | 1 | 1 | 2 | 1 | 4 |
| 1385: | 5 | 2 | 3 | 4 | 0 | 2 | 4 | 0 |
| 1393: | 2 | 2 | 1 | 1 | 2 | 3 | 1 | 2 |
| 1401: | 3 | 4 | 7 | 0 | 1 | 3 | 6 | 9 |
| 1409: | 8 | 2 | 3 | 3 | 3 | 1 | 4 | 2 |
| 1417: | 4 | 2 | 3 | 3 | 0 | 2 | 0 | 1 |
| 1425: | 4 | 3 | 4 | 4 | 5 | 8 | 4 | 2 |
| 1433: | 4 | 2 | 2 | 3 | 2 | 0 | 3 | 3 |
| 1441: | 3 | 3 | 2 | 0 | 4 | 3 | 2 | 2 |
| 1449: | 4 | 0 | 4 | 2 | 1 | 3 | 5 | 2 |
| 1457: | 5 | 7 | 13 | 118 | 383 | 323 | 77 | 9 |
| 1465: | 5 | 4 | 2 | 1 | 1 | 1 | 3 | 3 |
| 1473: | 1 | 0 | 3 | 4 | 2 | 0 | 0 | 1 |
| 1481: | 2 | 3 | 1 | 2 | 0 | 0 | 4 | 2 |
| 1489: | 1 | 0 | 1 | 3 | 1 | 3 | 1 | 7 |
| 1497: | 5 | 3 | 4 | 2 | 2 | 1 | 4 | 3 |
| 1505: | 5 | 4 | 2 | 3 | 5 | 2 | 3 | 1 |
| 1513: | 2 | 5 | 1 | 1 | 4 | 3 | 1 | 1 |
| 1521: | 3 | 3 | 1 | 4 | 2 | 1 | 4 | 4 |
| 1529: | 1 | 3 | 1 | 3 | 6 | 2 | 2 | 2 |
| 1537: | 2 | 5 | 2 | 3 | 2 | 0 | 3 | 3 |
| 1545: | 2 | 4 | 0 | 2 | 3 | 1 | 0 | 3 |
| 1553: | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 3 |
| 1561: | 0 | 0 | 4 | 4 | 1 | 0 | 1 | 2 |
| 1569: | 1 | 3 | 2 | 1 | 4 | 2 | 1 | 1 |
| 1577: | 2 | 0 | 0 | 2 | 3 | 2 | 0 | 2 |
| 1585: | 0 | 1 | 8 | 8 | 7 | 2 | 3 | 1 |
| 1593: | 7 | 8 | 4 | 2 | 1 | 0 | 1 | 1 |
| 1601: | 0 | 1 | 1 | 2 | 0 | 4 | 1 | 2 |
| 1609: | 1 | 0 | 3 | 2 | 0 | 2 | 0 | 1 |
| 1617: | 0 | 2 | 3 | 2 | 5 | 6 | 3 | 5 |
| 1625: | 2 | 0 | 2 | 1 | 1 | 4 | 2 | 2 |
| 1633: | 3 | 0 | 1 | 0 | 0 | 1 | 3 | 3 |
| 1641: | 0 | 1 | 2 | 0 | 1 | 0 | 4 | 3 |
| 1649: | 1 | 1 | 2 | 2 | 2 | 2 | 1 | 0 |
| 1657: | 3 | 0 | 2 | 2 | 0 | 6 | 2 | 1 |

1665: 2 4 1 2 2 2 2 1

Sample Title: CP5006S19-20

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|----|----|----|---|---|---|
| 1673: | 1 | 1 | 2 | 1 | 1 | 0 | 1 | 0 | |
| 1681: | 3 | 1 | 1 | 3 | 4 | 3 | 0 | 1 | |
| 1689: | 1 | 1 | 0 | 1 | 5 | 1 | 1 | 0 | |
| 1697: | 3 | 1 | 3 | 2 | 3 | 2 | 0 | 1 | |
| 1705: | 1 | 0 | 1 | 0 | 1 | 3 | 0 | 3 | |
| 1713: | 0 | 0 | 2 | 3 | 0 | 3 | 0 | 3 | |
| 1721: | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | |
| 1729: | 8 | 5 | 5 | 2 | 2 | 1 | 1 | 4 | |
| 1737: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | |
| 1745: | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | |
| 1753: | 0 | 0 | 2 | 1 | 1 | 1 | 1 | 0 | |
| 1761: | 1 | 3 | 1 | 17 | 33 | 11 | 7 | 1 | |
| 1769: | 0 | 3 | 3 | 0 | 0 | 1 | 1 | 0 | |
| 1777: | 1 | 1 | 1 | 2 | 0 | 1 | 0 | 1 | |
| 1785: | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | |
| 1793: | 1 | 0 | 0 | 2 | 0 | 1 | 5 | 4 | |
| 1801: | 1 | 0 | 1 | 0 | 3 | 2 | 1 | 1 | |
| 1809: | 0 | 2 | 0 | 3 | 2 | 2 | 1 | 1 | |
| 1817: | 0 | 0 | 1 | 0 | 3 | 1 | 2 | 0 | |
| 1825: | 1 | 2 | 1 | 0 | 1 | 1 | 0 | 4 | |
| 1833: | 1 | 1 | 2 | 0 | 2 | 0 | 1 | 0 | |
| 1841: | 0 | 1 | 1 | 2 | 0 | 0 | 2 | 5 | |
| 1849: | 3 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | |
| 1857: | 0 | 1 | 3 | 0 | 1 | 0 | 1 | 3 | |
| 1865: | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 | |
| 1873: | 1 | 4 | 1 | 1 | 3 | 1 | 0 | 0 | |
| 1881: | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | |
| 1889: | 1 | 2 | 1 | 1 | 0 | 1 | 2 | 2 | |
| 1897: | 0 | 4 | 2 | 1 | 0 | 3 | 1 | 1 | |
| 1905: | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 4 | |
| 1913: | 2 | 0 | 3 | 0 | 1 | 0 | 1 | 0 | |
| 1921: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | |
| 1929: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | |
| 1937: | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | |
| 1945: | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | |
| 1953: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 1961: | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 3 | |
| 1969: | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 0 | |
| 1977: | 2 | 1 | 1 | 5 | 0 | 1 | 1 | 0 | |
| 1985: | 1 | 3 | 2 | 2 | 1 | 0 | 1 | 0 | |
| 1993: | 1 | 1 | 2 | 1 | 3 | 2 | 0 | 0 | |
| 2001: | 0 | 3 | 2 | 0 | 1 | 2 | 0 | 1 | |
| 2009: | 1 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | |
| 2017: | 1 | 2 | 1 | 1 | 3 | 0 | 1 | 0 | |
| 2025: | 2 | 3 | 2 | 0 | 1 | 1 | 1 | 1 | |
| 2033: | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | |
| 2041: | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | |
| 2049: | 2 | 0 | 2 | 1 | 1 | 0 | 2 | 0 | |
| 2057: | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | |
| 2065: | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 2 | |
| 2073: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | |
| 2081: | 2 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | |
| 2089: | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2 | |

2097: 0 2 3 3 2 1 4 4

Sample Title: CP5006S19-20

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2105: | 6 | 2 | 0 | 0 | 2 | 0 | 0 | 1 |
| 2113: | 0 | 2 | 2 | 0 | 0 | 1 | 3 | 1 |
| 2121: | 3 | 1 | 1 | 1 | 1 | 4 | 0 | 3 |
| 2129: | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| 2137: | 1 | 1 | 3 | 1 | 2 | 1 | 1 | 0 |
| 2145: | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 |
| 2153: | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 |
| 2161: | 0 | 0 | 0 | 4 | 1 | 0 | 2 | 1 |
| 2169: | 1 | 3 | 3 | 1 | 2 | 2 | 1 | 1 |
| 2177: | 1 | 1 | 1 | 0 | 2 | 2 | 0 | 0 |
| 2185: | 0 | 1 | 2 | 2 | 0 | 1 | 0 | 3 |
| 2193: | 1 | 4 | 4 | 0 | 2 | 2 | 1 | 2 |
| 2201: | 3 | 1 | 3 | 5 | 5 | 2 | 3 | 2 |
| 2209: | 0 | 0 | 2 | 2 | 2 | 1 | 0 | 4 |
| 2217: | 2 | 0 | 1 | 3 | 1 | 1 | 1 | 0 |
| 2225: | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 1 |
| 2233: | 1 | 1 | 2 | 3 | 0 | 1 | 2 | 1 |
| 2241: | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 0 |
| 2249: | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 2257: | 0 | 2 | 0 | 0 | 1 | 1 | 1 | 1 |
| 2265: | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 2273: | 0 | 0 | 2 | 2 | 2 | 1 | 0 | 0 |
| 2281: | 0 | 3 | 1 | 1 | 2 | 0 | 2 | 1 |
| 2289: | 2 | 1 | 1 | 1 | 2 | 3 | 0 | 3 |
| 2297: | 1 | 0 | 2 | 2 | 2 | 2 | 3 | 2 |
| 2305: | 1 | 1 | 0 | 1 | 0 | 2 | 1 | 1 |
| 2313: | 2 | 1 | 3 | 1 | 0 | 0 | 2 | 2 |
| 2321: | 1 | 3 | 2 | 2 | 4 | 1 | 1 | 1 |
| 2329: | 1 | 0 | 0 | 0 | 3 | 1 | 2 | 3 |
| 2337: | 2 | 3 | 0 | 0 | 1 | 0 | 3 | 1 |
| 2345: | 0 | 2 | 0 | 1 | 2 | 0 | 1 | 1 |
| 2353: | 2 | 3 | 0 | 2 | 3 | 3 | 2 | 1 |
| 2361: | 1 | 3 | 2 | 2 | 1 | 2 | 2 | 1 |
| 2369: | 1 | 0 | 3 | 3 | 4 | 0 | 4 | 0 |
| 2377: | 2 | 4 | 0 | 0 | 0 | 2 | 2 | 1 |
| 2385: | 0 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |
| 2393: | 1 | 2 | 1 | 2 | 0 | 0 | 1 | 1 |
| 2401: | 0 | 2 | 0 | 1 | 0 | 2 | 2 | 1 |
| 2409: | 0 | 3 | 1 | 1 | 0 | 1 | 0 | 0 |
| 2417: | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 |
| 2425: | 0 | 2 | 0 | 0 | 4 | 1 | 2 | 1 |
| 2433: | 1 | 1 | 2 | 1 | 0 | 3 | 0 | 0 |
| 2441: | 1 | 2 | 0 | 1 | 0 | 1 | 1 | 7 |
| 2449: | 2 | 0 | 2 | 1 | 1 | 0 | 0 | 0 |
| 2457: | 0 | 2 | 1 | 1 | 2 | 2 | 0 | 0 |
| 2465: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2473: | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2481: | 0 | 0 | 0 | 2 | 1 | 0 | 2 | 1 |
| 2489: | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 3 |
| 2497: | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2505: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2513: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2521: | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 1 |

2529: 0 0 1 0 0 0 0 0

Sample Title: CP5006S19-20

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|----|----|----|---|
| 2537: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | |
| 2545: | 0 | 2 | 0 | 3 | 1 | 1 | 2 | 0 | |
| 2553: | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | |
| 2561: | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | |
| 2569: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2585: | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | |
| 2593: | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | |
| 2601: | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | |
| 2609: | 0 | 0 | 1 | 2 | 8 | 22 | 38 | 29 | |
| 2617: | 9 | 1 | 0 | 0 | 2 | 0 | 2 | 0 | |
| 2625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2633: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2641: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2649: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2657: | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | |
| 2665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2673: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 2681: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2689: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | |
| 2697: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| 2705: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 2713: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | |
| 2721: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | |
| 2729: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 2737: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2745: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2753: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| 2761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 2769: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2777: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | |
| 2785: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2793: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2801: | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | |
| 2809: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | |
| 2817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2825: | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | |
| 2833: | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | |
| 2841: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | |
| 2849: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | |
| 2857: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 2865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2873: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 2881: | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | |
| 2889: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2897: | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | |
| 2905: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | |
| 2913: | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | |
| 2921: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2929: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | |
| 2937: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| 2945: | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | |
| 2953: | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | |

2961: 1 2 0 0 0 0 0 0

Sample Title: CP5006S19-20

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 2969: | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 |
| 2977: | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2985: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2993: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 3001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3009: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3017: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3033: | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 0 |
| 3041: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3049: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 3065: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3073: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3081: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3089: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3097: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3105: | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| 3113: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3121: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3137: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3153: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3161: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3177: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3193: | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3209: | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 3217: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3233: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 3241: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3257: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3273: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 3281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3289: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3313: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3321: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3329: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3345: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3377: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3385: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

3393: 1 1 0 0 0 0 0 0

Sample Title: CP5006S19-20

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3417: | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 3425: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3441: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3465: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3473: | 1 | 1 | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3505: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3513: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3529: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3545: | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3553: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3561: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3569: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3593: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3601: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3609: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3625: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3657: | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3665: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3673: | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3697: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3705: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3729: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3761: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3785: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3801: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

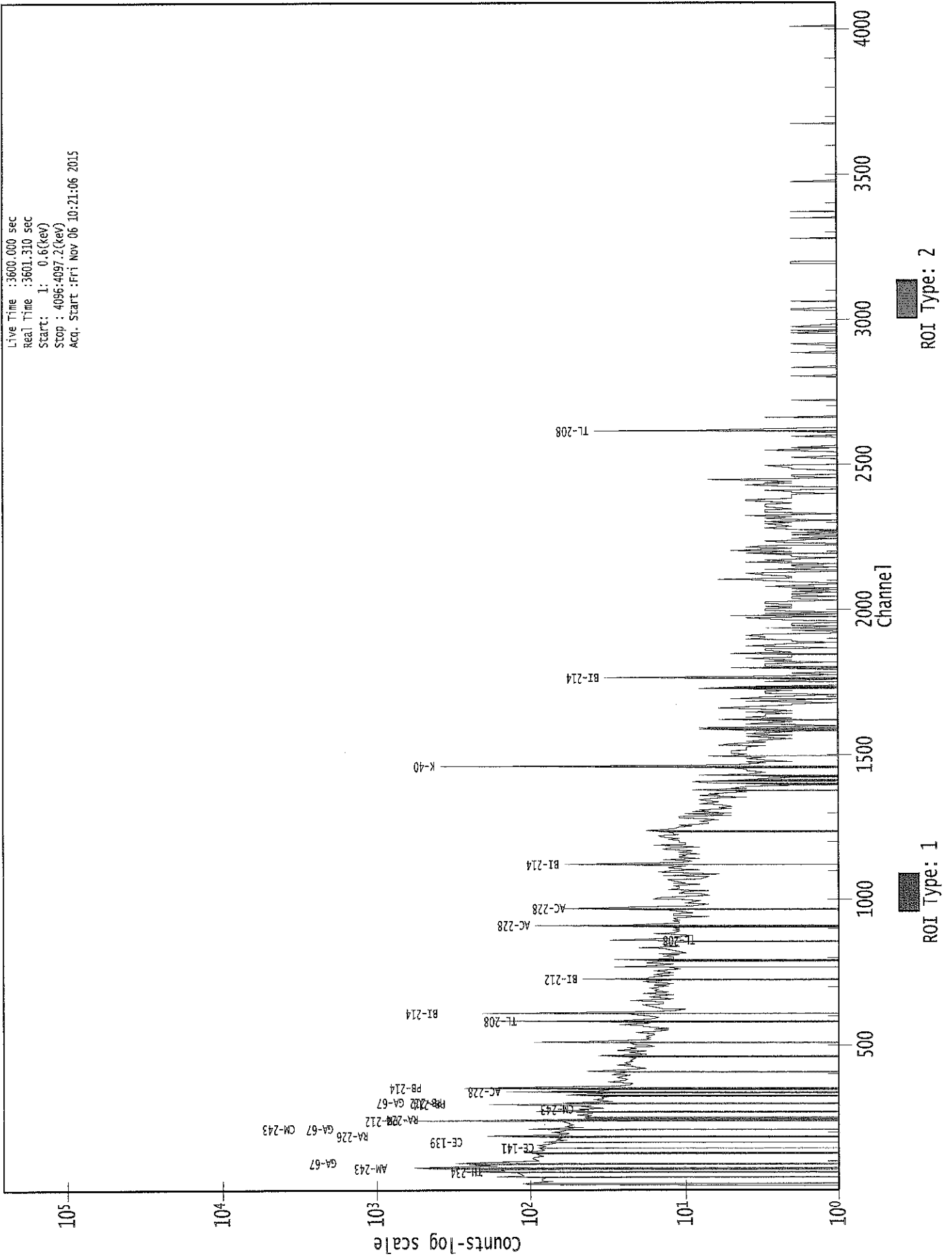
3825: 0 0 0 0 0 0 0 0 0

Sample Title: CP5006S19-20

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 3841: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3857: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3865: | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3889: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3897: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3921: | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3937: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3961: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3985: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4009: | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4017: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 4025: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4057: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4081: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

0000029252.CNF

Live Time :3600.000 sec
Real Time :3601.310 sec
Start: 1: 0.6(kev)
Stop : 4096:4097.2(kev)
Acq. Start :Fri Nov 06 10:21:06 2015



Analysis Report for 1510085-20
CP5006S22-23

GAMMA SPECTRUM ANALYSIS

Sample Identification : 1510085-20
Sample Description : CP5006S22-23
Sample Type : SOIL

Sample Size : 5.872E+02 grams
Facility : Countroom

Sample Taken On : 11/7/2015 7:45:04AM
Acquisition Started : 11/6/2015 10:21:16AM

Procedure : GAS-1402 pCi
Operator : Administrator
Detector Name : GE2
Geometry : GAS-1402
Live Time : 3600.0 seconds
Real Time : 3601.3 seconds

Dead Time : 0.04 %

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 7 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 11/2/2014
Efficiency Calibration Used Done On : 10/25/2014
Efficiency Calibration Description :

Sample Number : 29253

PEAK-TO-TOTAL CALIBRATION REPORT

Peak-to-Total Efficiency Calibration Equation

AG
11/6/15

Analysis Report for 1510085-20
CP5006S22-23

PEAK LOCATE REPORT

Peak Locate Performed on : 11/6/2015 11:21:30AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096
 Peak Search Sensitivity : 2.50

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 1 | 46.63 | 46.73 | 0.0000 | 0.00 |
| 2 | 62.46 | 62.56 | 0.0000 | 0.00 |
| 3 | 76.31 | 76.40 | 0.0000 | 0.00 |
| 4 | 85.13 | 85.21 | 0.0000 | 0.00 |
| 5 | 89.71 | 89.79 | 0.0000 | 0.00 |
| 6 | 93.08 | 93.15 | 0.0000 | 0.00 |
| 7 | 185.97 | 185.99 | 0.0000 | 0.00 |
| 8 | 209.53 | 209.54 | 0.0000 | 0.00 |
| 9 | 220.12 | 220.13 | 0.0000 | 0.00 |
| 10 | 238.73 | 238.73 | 0.0000 | 0.00 |
| 11 | 241.87 | 241.86 | 0.0000 | 0.00 |
| 12 | 270.09 | 270.07 | 0.0000 | 0.00 |
| 13 | 276.83 | 276.81 | 0.0000 | 0.00 |
| 14 | 295.32 | 295.28 | 0.0000 | 0.00 |
| 15 | 300.10 | 300.07 | 0.0000 | 0.00 |
| 16 | 338.45 | 338.40 | 0.0000 | 0.00 |
| 17 | 351.92 | 351.86 | 0.0000 | 0.00 |
| 18 | 462.02 | 461.90 | 0.0000 | 0.00 |
| 19 | 511.24 | 511.10 | 0.0000 | 0.00 |
| 20 | 583.24 | 583.06 | 0.0000 | 0.00 |
| 21 | 609.33 | 609.14 | 0.0000 | 0.00 |
| 22 | 638.34 | 638.14 | 0.0000 | 0.00 |
| 23 | 726.93 | 726.69 | 0.0000 | 0.00 |
| 24 | 768.70 | 768.44 | 0.0000 | 0.00 |
| 25 | 795.20 | 794.92 | 0.0000 | 0.00 |
| 26 | 860.45 | 860.14 | 0.0000 | 0.00 |
| 27 | 911.20 | 910.87 | 0.0000 | 0.00 |
| 28 | 971.14 | 970.79 | 0.0000 | 0.00 |
| 29 | 996.56 | 996.20 | 0.0000 | 0.00 |
| 30 | 1000.56 | 1000.20 | 0.0000 | 0.00 |
| 31 | 1039.11 | 1038.73 | 0.0000 | 0.00 |
| 32 | 1120.20 | 1119.79 | 0.0000 | 0.00 |
| 33 | 1125.20 | 1124.79 | 0.0000 | 0.00 |
| 34 | 1131.20 | 1130.79 | 0.0000 | 0.00 |
| 35 | 1152.14 | 1151.72 | 0.0000 | 0.00 |
| 36 | 1238.50 | 1238.05 | 0.0000 | 0.00 |
| 37 | 1246.92 | 1246.47 | 0.0000 | 0.00 |
| 38 | 1377.89 | 1377.39 | 0.0000 | 0.00 |
| 39 | 1408.94 | 1408.43 | 0.0000 | 0.00 |
| 40 | 1460.87 | 1460.35 | 0.0000 | 0.00 |
| 41 | 1509.61 | 1509.08 | 0.0000 | 0.00 |
| 42 | 1520.81 | 1520.27 | 0.0000 | 0.00 |

Analysis Report for 1510085-20

CP5006S22-23

| <i>Peak No.</i> | <i>Energy (keV)</i> | <i>Centroid Channel</i> | <i>Centroid Uncertainty</i> | <i>Peak Significance</i> |
|-----------------|---------------------|-------------------------|-----------------------------|--------------------------|
| 43 | 1581.14 | 1580.59 | 0.0000 | 0.00 |
| 44 | 1620.90 | 1620.33 | 0.0000 | 0.00 |
| 45 | 1626.37 | 1625.80 | 0.0000 | 0.00 |
| 46 | 1680.72 | 1680.13 | 0.0000 | 0.00 |
| 47 | 1764.27 | 1763.67 | 0.0000 | 0.00 |
| 48 | 1846.82 | 1846.20 | 0.0000 | 0.00 |
| 49 | 2002.61 | 2001.95 | 0.0000 | 0.00 |
| 50 | 2024.44 | 2023.78 | 0.0000 | 0.00 |
| 51 | 2054.05 | 2053.38 | 0.0000 | 0.00 |
| 52 | 2102.96 | 2102.29 | 0.0000 | 0.00 |
| 53 | 2119.73 | 2119.05 | 0.0000 | 0.00 |
| 54 | 2158.49 | 2157.81 | 0.0000 | 0.00 |
| 55 | 2203.91 | 2203.22 | 0.0000 | 0.00 |
| 56 | 2232.05 | 2231.36 | 0.0000 | 0.00 |
| 57 | 2367.06 | 2366.34 | 0.0000 | 0.00 |
| 58 | 2614.05 | 2613.31 | 0.0000 | 0.00 |

? = Adjacent peak noted

Errors quoted at 2.000sigma

Analysis Report for 1510085-20

CP5006S22-23

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 11:21:30AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) | |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|------|
| 1 | 46.63 | 44 - | 50 | 46.73 | 2.14E+02 | 101.20 | 1.70E+03 | 1.44 | |
| 2 | 62.46 | 59 - | 67 | 62.56 | 1.65E+02 | 123.78 | 2.28E+03 | 2.44 | |
| 3 | 76.31 | 72 - | 81 | 76.40 | 1.22E+03 | 154.25 | 2.70E+03 | 3.69 | |
| M | 4 | 85.13 | 83 - | 97 | 85.21 | 9.21E+01 | 62.10 | 9.10E+02 | 1.21 |
| m | 5 | 89.71 | 83 - | 97 | 89.79 | 1.23E+02 | 64.81 | 8.36E+02 | 1.23 |
| m | 6 | 93.08 | 83 - | 97 | 93.15 | 2.06E+02 | 68.12 | 7.88E+02 | 1.23 |
| | 7 | 185.97 | 182 - | 190 | 185.99 | 2.36E+02 | 89.47 | 1.08E+03 | 1.43 |
| | 8 | 209.53 | 205 - | 214 | 209.54 | 1.21E+02 | 87.03 | 1.01E+03 | 2.11 |
| | 9 | 220.12 | 217 - | 223 | 220.13 | 5.30E+01 | 64.77 | 7.24E+02 | 2.75 |
| M | 10 | 238.73 | 235 - | 247 | 238.73 | 9.89E+02 | 76.52 | 4.67E+02 | 1.56 |
| m | 11 | 241.87 | 235 - | 247 | 241.86 | 2.93E+02 | 90.07 | 5.54E+02 | 2.28 |
| | 12 | 270.09 | 266 - | 273 | 270.07 | 6.94E+01 | 63.34 | 6.19E+02 | 1.80 |
| | 13 | 276.83 | 274 - | 279 | 276.81 | 5.43E+01 | 46.23 | 3.79E+02 | 3.25 |
| M | 14 | 295.32 | 292 - | 304 | 295.28 | 3.49E+02 | 49.86 | 2.33E+02 | 1.65 |
| m | 15 | 300.10 | 292 - | 304 | 300.07 | 8.91E+01 | 38.44 | 2.48E+02 | 1.66 |
| | 16 | 338.45 | 334 - | 342 | 338.40 | 1.70E+02 | 61.90 | 4.81E+02 | 1.69 |
| | 17 | 351.92 | 347 - | 356 | 351.86 | 5.63E+02 | 72.71 | 4.31E+02 | 1.42 |
| | 18 | 462.02 | 457 - | 467 | 461.90 | 7.40E+01 | 52.68 | 3.32E+02 | 1.93 |
| | 19 | 511.24 | 506 - | 517 | 511.10 | 2.29E+02 | 60.70 | 3.41E+02 | 2.26 |
| | 20 | 583.24 | 579 - | 587 | 583.06 | 3.36E+02 | 48.67 | 1.58E+02 | 1.72 |
| | 21 | 609.33 | 605 - | 613 | 609.14 | 4.06E+02 | 55.79 | 2.27E+02 | 1.49 |
| | 22 | 638.34 | 635 - | 642 | 638.14 | 3.10E+01 | 29.87 | 1.28E+02 | 5.43 |
| | 23 | 726.93 | 723 - | 730 | 726.69 | 6.40E+01 | 35.27 | 1.66E+02 | 1.30 |
| | 24 | 768.70 | 764 - | 773 | 768.44 | 4.31E+01 | 43.08 | 2.42E+02 | 1.73 |
| | 25 | 795.20 | 791 - | 799 | 794.92 | 5.20E+01 | 32.92 | 1.34E+02 | 1.68 |
| | 26 | 860.45 | 857 - | 864 | 860.14 | 2.45E+01 | 29.93 | 1.35E+02 | 2.04 |
| | 27 | 911.20 | 906 - | 914 | 910.87 | 1.78E+02 | 42.35 | 1.67E+02 | 1.79 |
| | 28 | 971.14 | 965 - | 985 | 970.79 | 1.20E+02 | 77.61 | 3.47E+02 | 1.82 |
| M | 29 | 996.56 | 993 - | 1004 | 996.20 | 2.51E+01 | 22.21 | 5.72E+01 | 2.21 |
| m | 30 | 1000.56 | 993 - | 1004 | 1000.20 | 1.82E+01 | 22.92 | 8.75E+01 | 2.22 |
| | 31 | 1039.11 | 1034 - | 1043 | 1038.73 | 3.53E+01 | 28.20 | 8.95E+01 | 3.20 |
| M | 32 | 1120.20 | 1115 - | 1136 | 1119.79 | 9.06E+01 | 27.94 | 7.07E+01 | 2.31 |
| m | 33 | 1125.20 | 1115 - | 1136 | 1124.79 | 1.66E+01 | 22.56 | 6.35E+01 | 2.31 |
| m | 34 | 1131.20 | 1115 - | 1136 | 1130.79 | 2.83E+01 | 21.65 | 5.98E+01 | 2.32 |
| | 35 | 1152.14 | 1144 - | 1158 | 1151.72 | 4.11E+01 | 42.45 | 1.72E+02 | 8.88 |
| | 36 | 1238.50 | 1232 - | 1241 | 1238.05 | 3.42E+01 | 36.30 | 1.66E+02 | 2.30 |
| | 37 | 1246.92 | 1243 - | 1249 | 1246.47 | 2.20E+01 | 23.37 | 8.19E+01 | 1.75 |
| | 38 | 1377.89 | 1374 - | 1380 | 1377.39 | 2.61E+01 | 18.85 | 4.57E+01 | 1.36 |
| | 39 | 1408.94 | 1404 - | 1412 | 1408.43 | 1.84E+01 | 20.47 | 5.13E+01 | 2.97 |
| | 40 | 1460.87 | 1455 - | 1466 | 1460.35 | 8.27E+02 | 59.97 | 3.60E+01 | 2.32 |

Analysis Report for 1510085-20

CP5006S22-23

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | FWHM (keV) |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|------------|
| 41 | 1509.61 | 1503 - | 1514 | 1509.08 | 2.37E+01 | 18.22 | 2.86E+01 | 2.14 |
| 42 | 1520.81 | 1518 - | 1523 | 1520.27 | 9.18E+00 | 7.28 | 3.64E+00 | 1.50 |
| 43 | 1581.14 | 1578 - | 1585 | 1580.59 | 1.44E+01 | 9.17 | 5.24E+00 | 1.17 |
| 44 | 1620.90 | 1618 - | 1623 | 1620.33 | 1.10E+01 | 8.60 | 6.00E+00 | 2.20 |
| 45 | 1626.37 | 1624 - | 1628 | 1625.80 | 9.89E+00 | 8.65 | 8.21E+00 | 2.82 |
| 46 | 1680.72 | 1677 - | 1683 | 1680.13 | 7.58E+00 | 9.42 | 1.08E+01 | 1.86 |
| 47 | 1764.27 | 1759 - | 1768 | 1763.67 | 7.88E+01 | 19.65 | 1.04E+01 | 2.81 |
| 48 | 1846.82 | 1841 - | 1850 | 1846.20 | 2.00E+01 | 8.94 | 0.00E+00 | 2.50 |
| 49 | 2002.61 | 1999 - | 2004 | 2001.95 | 5.50E+00 | 6.08 | 3.00E+00 | 2.87 |
| 50 | 2024.44 | 2020 - | 2027 | 2023.78 | 9.77E+00 | 9.17 | 6.46E+00 | 1.85 |
| 51 | 2054.05 | 2050 - | 2057 | 2053.38 | 8.77E+00 | 7.75 | 4.45E+00 | 4.62 |
| 52 | 2102.96 | 2097 - | 2107 | 2102.29 | 2.37E+01 | 14.79 | 1.66E+01 | 3.86 |
| 53 | 2119.73 | 2112 - | 2126 | 2119.05 | 2.02E+01 | 12.34 | 7.62E+00 | 6.78 |
| 54 | 2158.49 | 2153 - | 2161 | 2157.81 | 9.79E+00 | 9.82 | 8.43E+00 | 1.55 |
| 55 | 2203.91 | 2197 - | 2210 | 2203.22 | 3.30E+01 | 13.89 | 6.03E+00 | 2.84 |
| 56 | 2232.05 | 2228 - | 2234 | 2231.36 | 5.43E+00 | 6.34 | 3.14E+00 | 2.49 |
| 57 | 2367.06 | 2361 - | 2371 | 2366.34 | 1.35E+01 | 11.68 | 1.10E+01 | 6.61 |
| 58 | 2614.05 | 2606 - | 2618 | 2613.31 | 1.49E+02 | 25.50 | 5.66E+00 | 2.98 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 11/6/2015 11:21:30AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

| Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|----------|--------------|-----------|-----------|---------------|----------------------|------------------|----------------|
| | 1 | 46.63 | 44 - 50 | 2.14E+02 | 101.20 | 1.70E+03 | 7.96E+01 |
| | 2 | 62.46 | 59 - 67 | 1.65E+02 | 123.78 | 2.28E+03 | 9.95E+01 |
| | 3 | 76.31 | 72 - 81 | 1.22E+03 | 154.25 | 2.70E+03 | 4.73E+01 |
| M | 4 | 85.13 | 83 - 97 | 9.21E+01 | 62.10 | 9.10E+02 | 4.96E+01 |
| m | 5 | 89.71 | 83 - 97 | 1.23E+02 | 64.81 | 8.36E+02 | 4.75E+01 |
| m | 6 | 93.08 | 83 - 97 | 2.06E+02 | 68.12 | 7.88E+02 | 4.62E+01 |
| | 7 | 185.97 | 182 - 190 | 2.36E+02 | 89.47 | 1.08E+03 | 6.91E+01 |
| | 8 | 209.53 | 205 - 214 | 1.21E+02 | 87.03 | 1.01E+03 | 2.40E+01 |
| | 9 | 220.12 | 217 - 223 | 5.30E+01 | 64.77 | 7.24E+02 | 5.19E+01 |
| M | 10 | 238.73 | 235 - 247 | 9.89E+02 | 76.52 | 4.67E+02 | 3.55E+01 |

Analysis Report for 1510085-20

CP5006S22-23

| | Peak No. | Energy (keV) | ROI start | ROI end | Net Peak Area | Net Area Uncertainty | Continuum Counts | Critical Level |
|---|-----------------|---------------------|------------------|----------------|----------------------|-----------------------------|-------------------------|-----------------------|
| m | 11 | 241.87 | 235 - | 247 | 2.93E+02 | 90.07 | 5.54E+02 | 3.87E+01 |
| | 12 | 270.09 | 266 - | 273 | 6.94E+01 | 63.34 | 6.19E+02 | 5.02E+01 |
| | 13 | 276.83 | 274 - | 279 | 5.43E+01 | 46.23 | 3.79E+02 | 3.60E+01 |
| M | 14 | 295.32 | 292 - | 304 | 3.49E+02 | 49.86 | 2.33E+02 | 2.51E+01 |
| m | 15 | 300.10 | 292 - | 304 | 8.91E+01 | 38.44 | 2.48E+02 | 2.59E+01 |
| | 16 | 338.45 | 334 - | 342 | 1.70E+02 | 61.90 | 4.81E+02 | 4.61E+01 |
| | 17 | 351.92 | 347 - | 356 | 5.63E+02 | 72.71 | 4.31E+02 | 4.53E+01 |
| | 18 | 462.02 | 457 - | 467 | 7.40E+01 | 52.68 | 3.32E+02 | 4.09E+01 |
| | 19 | 511.24 | 506 - | 517 | 2.29E+02 | 60.70 | 3.41E+02 | 4.33E+01 |
| | 20 | 583.24 | 579 - | 587 | 3.36E+02 | 48.67 | 1.58E+02 | 2.63E+01 |
| | 21 | 609.33 | 605 - | 613 | 4.06E+02 | 55.79 | 2.27E+02 | 3.17E+01 |
| | 22 | 638.34 | 635 - | 642 | 3.10E+01 | 29.87 | 1.28E+02 | 2.28E+01 |
| | 23 | 726.93 | 723 - | 730 | 6.40E+01 | 35.27 | 1.66E+02 | 2.58E+01 |
| | 24 | 768.70 | 764 - | 773 | 4.31E+01 | 43.08 | 2.42E+02 | 3.37E+01 |
| | 25 | 795.20 | 791 - | 799 | 5.20E+01 | 32.92 | 1.34E+02 | 2.43E+01 |
| | 26 | 860.45 | 857 - | 864 | 2.45E+01 | 29.93 | 1.35E+02 | 2.32E+01 |
| | 27 | 911.20 | 906 - | 914 | 1.78E+02 | 42.35 | 1.67E+02 | 2.70E+01 |
| | 28 | 971.14 | 965 - | 985 | 1.20E+02 | 77.61 | 3.47E+02 | 1.91E+01 |
| M | 29 | 996.56 | 993 - | 1004 | 2.51E+01 | 22.21 | 5.72E+01 | 1.24E+01 |
| m | 30 | 1000.56 | 993 - | 1004 | 1.82E+01 | 22.92 | 8.75E+01 | 1.54E+01 |
| | 31 | 1039.11 | 1034 - | 1043 | 3.53E+01 | 28.20 | 8.95E+01 | 2.10E+01 |
| M | 32 | 1120.20 | 1115 - | 1136 | 9.06E+01 | 27.94 | 7.07E+01 | 1.38E+01 |
| m | 33 | 1125.20 | 1115 - | 1136 | 1.66E+01 | 22.56 | 6.35E+01 | 1.31E+01 |
| m | 34 | 1131.20 | 1115 - | 1136 | 2.83E+01 | 21.65 | 5.98E+01 | 1.27E+01 |
| | 35 | 1152.14 | 1144 - | 1158 | 4.11E+01 | 42.45 | 1.72E+02 | 3.33E+01 |
| | 36 | 1238.50 | 1232 - | 1241 | 3.42E+01 | 36.30 | 1.66E+02 | 2.83E+01 |
| | 37 | 1246.92 | 1243 - | 1249 | 2.20E+01 | 23.37 | 8.19E+01 | 1.76E+01 |
| | 38 | 1377.89 | 1374 - | 1380 | 2.61E+01 | 18.85 | 4.57E+01 | 1.30E+01 |
| | 39 | 1408.94 | 1404 - | 1412 | 1.84E+01 | 20.47 | 5.13E+01 | 1.53E+01 |
| | 40 | 1460.87 | 1455 - | 1466 | 8.27E+02 | 59.97 | 3.60E+01 | 1.39E+01 |
| | 41 | 1509.61 | 1503 - | 1514 | 2.37E+01 | 18.22 | 2.86E+01 | 1.27E+01 |
| | 42 | 1520.81 | 1518 - | 1523 | 9.18E+00 | 7.28 | 3.64E+00 | 3.32E+00 |
| | 43 | 1581.14 | 1578 - | 1585 | 1.44E+01 | 9.17 | 5.24E+00 | 4.23E+00 |
| | 44 | 1620.90 | 1618 - | 1623 | 1.10E+01 | 8.60 | 6.00E+00 | 4.50E+00 |
| | 45 | 1626.37 | 1624 - | 1628 | 9.89E+00 | 8.65 | 8.21E+00 | 4.88E+00 |
| | 46 | 1680.72 | 1677 - | 1683 | 7.58E+00 | 9.42 | 1.08E+01 | 6.28E+00 |
| | 47 | 1764.27 | 1759 - | 1768 | 7.88E+01 | 19.65 | 1.04E+01 | 6.92E+00 |
| | 48 | 1846.82 | 1841 - | 1850 | 2.00E+01 | 8.94 | 0.00E+00 | 0.00E+00 |
| | 49 | 2002.61 | 1999 - | 2004 | 5.50E+00 | 6.08 | 3.00E+00 | 3.18E+00 |
| | 50 | 2024.44 | 2020 - | 2027 | 9.77E+00 | 9.17 | 6.46E+00 | 5.51E+00 |
| | 51 | 2054.05 | 2050 - | 2057 | 8.77E+00 | 7.75 | 4.45E+00 | 4.10E+00 |
| | 52 | 2102.96 | 2097 - | 2107 | 2.37E+01 | 14.79 | 1.66E+01 | 9.15E+00 |
| | 53 | 2119.73 | 2112 - | 2126 | 2.02E+01 | 12.34 | 7.62E+00 | 6.95E+00 |
| | 54 | 2158.49 | 2153 - | 2161 | 9.79E+00 | 9.82 | 8.43E+00 | 6.23E+00 |
| | 55 | 2203.91 | 2197 - | 2210 | 3.30E+01 | 13.89 | 6.03E+00 | 6.42E+00 |
| | 56 | 2232.05 | 2228 - | 2234 | 5.43E+00 | 6.34 | 3.14E+00 | 3.54E+00 |
| | 57 | 2367.06 | 2361 - | 2371 | 1.35E+01 | 11.68 | 1.10E+01 | 7.47E+00 |
| | 58 | 2614.05 | 2606 - | 2618 | 1.49E+02 | 25.50 | 5.66E+00 | 6.02E+00 |

Analysis Report for 1510085-20

CP5006S22-23

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 2.000sigma

PEAK WITH NID REPORT

Peak Analysis Performed on : 11/6/2015 11:21:30AM

Peak Analysis From Channel : 1

Peak Analysis To Channel : 4096

Tentative NID Library : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Peak Match Tolerance : 1.000 keV

| Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|----------------------------|
| 1 | 46.63 | 44 - | 50 | 46.73 | 2.14E+02 | 101.20 | 1.70E+03 | PB-210 |
| 2 | 62.46 | 59 - | 67 | 62.56 | 1.65E+02 | 123.78 | 2.28E+03 | TH-230 TH-234 |
| 3 | 76.31 | 72 - | 81 | 76.40 | 1.22E+03 | 154.25 | 2.70E+03 | ..... |
| M 4 | 85.13 | 83 - | 97 | 85.21 | 9.21E+01 | 62.10 | 9.10E+02 | TH-231 |
| m 5 | 89.71 | 83 - | 97 | 89.79 | 1.23E+02 | 64.81 | 8.36E+02 | ..... |
| m 6 | 93.08 | 83 - | 97 | 93.15 | 2.06E+02 | 68.12 | 7.88E+02 | GA-67 |
| 7 | 185.97 | 182 - | 190 | 185.99 | 2.36E+02 | 89.47 | 1.08E+03 | RA-226 |
| 8 | 209.53 | 205 - | 214 | 209.54 | 1.21E+02 | 87.03 | 1.01E+03 | CM-243 GA-67 |
| 9 | 220.12 | 217 - | 223 | 220.13 | 5.30E+01 | 64.77 | 7.24E+02 | ..... |
| M 10 | 238.73 | 235 - | 247 | 238.73 | 9.89E+02 | 76.52 | 4.67E+02 | PB-212 |
| m 11 | 241.87 | 235 - | 247 | 241.86 | 2.93E+02 | 90.07 | 5.54E+02 | RA-224 |
| 12 | 270.09 | 266 - | 273 | 270.07 | 6.94E+01 | 63.34 | 6.19E+02 | ..... |
| 13 | 276.83 | 274 - | 279 | 276.81 | 5.43E+01 | 46.23 | 3.79E+02 | CM-243 NP-239 |
| M 14 | 295.32 | 292 - | 304 | 295.28 | 3.49E+02 | 49.86 | 2.33E+02 | PB-214 |
| m 15 | 300.10 | 292 - | 304 | 300.07 | 8.91E+01 | 38.44 | 2.48E+02 | PB-212 BI-210M GA-67 |
| 16 | 338.45 | 334 - | 342 | 338.40 | 1.70E+02 | 61.90 | 4.81E+02 | AC-228 |
| 17 | 351.92 | 347 - | 356 | 351.86 | 5.63E+02 | 72.71 | 4.31E+02 | PB-214 |
| 18 | 462.02 | 457 - | 467 | 461.90 | 7.40E+01 | 52.68 | 3.32E+02 | ..... |
| 19 | 511.24 | 506 - | 517 | 511.10 | 2.29E+02 | 60.70 | 3.41E+02 | ..... |
| 20 | 583.24 | 579 - | 587 | 583.06 | 3.36E+02 | 48.67 | 1.58E+02 | TL-208 |
| 21 | 609.33 | 605 - | 613 | 609.14 | 4.06E+02 | 55.79 | 2.27E+02 | BI-214 |
| 22 | 638.34 | 635 - | 642 | 638.14 | 3.10E+01 | 29.87 | 1.28E+02 | ..... |
| 23 | 726.93 | 723 - | 730 | 726.69 | 6.40E+01 | 35.27 | 1.66E+02 | BI-212 |
| 24 | 768.70 | 764 - | 773 | 768.44 | 4.31E+01 | 43.08 | 2.42E+02 | ..... |
| 25 | 795.20 | 791 - | 799 | 794.92 | 5.20E+01 | 32.92 | 1.34E+02 | CS-134 |

Analysis Report for 1510085-20

CP5006S22-23

| | Peak No. | Energy (keV) | ROI start | ROI end | Peak Centroid | Net Peak Area | Net Area Uncertainty | Continuum Counts | Tentative Nuclide |
|---|----------|--------------|-----------|---------|---------------|---------------|----------------------|------------------|-------------------|
| | 26 | 860.45 | 857 - | 864 | 860.14 | 2.45E+01 | 29.93 | 1.35E+02 | TL-208 |
| | 27 | 911.20 | 906 - | 914 | 910.87 | 1.78E+02 | 42.35 | 1.67E+02 | AC-228 LU-172 |
| | 28 | 971.14 | 965 - | 985 | 970.79 | 1.20E+02 | 77.61 | 3.47E+02 | ..... |
| M | 29 | 996.56 | 993 - | 1004 | 996.20 | 2.51E+01 | 22.21 | 5.72E+01 | EU-154 |
| m | 30 | 1000.56 | 993 - | 1004 | 1000.20 | 1.82E+01 | 22.92 | 8.75E+01 | PA-234M |
| | 31 | 1039.11 | 1034 - | 1043 | 1038.73 | 3.53E+01 | 28.20 | 8.95E+01 | ..... |
| M | 32 | 1120.20 | 1115 - | 1136 | 1119.79 | 9.06E+01 | 27.94 | 7.07E+01 | BI-214 SC-46 |
| m | 33 | 1125.20 | 1115 - | 1136 | 1124.79 | 1.66E+01 | 22.56 | 6.35E+01 | ..... |
| m | 34 | 1131.20 | 1115 - | 1136 | 1130.79 | 2.83E+01 | 21.65 | 5.98E+01 | I-135 |
| | 35 | 1152.14 | 1144 - | 1158 | 1151.72 | 4.11E+01 | 42.45 | 1.72E+02 | ..... |
| | 36 | 1238.50 | 1232 - | 1241 | 1238.05 | 3.42E+01 | 36.30 | 1.66E+02 | CO-56 |
| | 37 | 1246.92 | 1243 - | 1249 | 1246.47 | 2.20E+01 | 23.37 | 8.19E+01 | ..... |
| | 38 | 1377.89 | 1374 - | 1380 | 1377.39 | 2.61E+01 | 18.85 | 4.57E+01 | ..... |
| | 39 | 1408.94 | 1404 - | 1412 | 1408.43 | 1.84E+01 | 20.47 | 5.13E+01 | EU-152 |
| | 40 | 1460.87 | 1455 - | 1466 | 1460.35 | 8.27E+02 | 59.97 | 3.60E+01 | K-40 |
| | 41 | 1509.61 | 1503 - | 1514 | 1509.08 | 2.37E+01 | 18.22 | 2.86E+01 | ..... |
| | 42 | 1520.81 | 1518 - | 1523 | 1520.27 | 9.18E+00 | 7.28 | 3.64E+00 | ..... |
| | 43 | 1581.14 | 1578 - | 1585 | 1580.59 | 1.44E+01 | 9.17 | 5.24E+00 | ..... |
| | 44 | 1620.90 | 1618 - | 1623 | 1620.33 | 1.10E+01 | 8.60 | 6.00E+00 | BI-212 |
| | 45 | 1626.37 | 1624 - | 1628 | 1625.80 | 9.89E+00 | 8.65 | 8.21E+00 | ..... |
| | 46 | 1680.72 | 1677 - | 1683 | 1680.13 | 7.58E+00 | 9.42 | 1.08E+01 | ..... |
| | 47 | 1764.27 | 1759 - | 1768 | 1763.67 | 7.88E+01 | 19.65 | 1.04E+01 | BI-214 |
| | 48 | 1846.82 | 1841 - | 1850 | 1846.20 | 2.00E+01 | 8.94 | 0.00E+00 | ..... |
| | 49 | 2002.61 | 1999 - | 2004 | 2001.95 | 5.50E+00 | 6.08 | 3.00E+00 | ..... |
| | 50 | 2024.44 | 2020 - | 2027 | 2023.78 | 9.77E+00 | 9.17 | 6.46E+00 | ..... |
| | 51 | 2054.05 | 2050 - | 2057 | 2053.38 | 8.77E+00 | 7.75 | 4.45E+00 | ..... |
| | 52 | 2102.96 | 2097 - | 2107 | 2102.29 | 2.37E+01 | 14.79 | 1.66E+01 | ..... |
| | 53 | 2119.73 | 2112 - | 2126 | 2119.05 | 2.02E+01 | 12.34 | 7.62E+00 | ..... |
| | 54 | 2158.49 | 2153 - | 2161 | 2157.81 | 9.79E+00 | 9.82 | 8.43E+00 | ..... |
| | 55 | 2203.91 | 2197 - | 2210 | 2203.22 | 3.30E+01 | 13.89 | 6.03E+00 | BI-214 |
| | 56 | 2232.05 | 2228 - | 2234 | 2231.36 | 5.43E+00 | 6.34 | 3.14E+00 | ..... |
| | 57 | 2367.06 | 2361 - | 2371 | 2366.34 | 1.35E+01 | 11.68 | 1.10E+01 | ..... |
| | 58 | 2614.05 | 2606 - | 2618 | 2613.31 | 1.49E+02 | 25.50 | 5.66E+00 | TL-208 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

PEAK EFFICIENCY REPORT

Peak Analysis Performed on : 11/6/2015 11:21:30AM

: 01004

Analysis Report for 1510085-20
CP5006S22-23

| | Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|---|----------|--------------|---------------|----------------------|-----------------|------------------------|
| | 1 | 46.63 | 2.14E+02 | 101.20 | 1.35E-02 | 1.68E-03 |
| | 2 | 62.46 | 1.65E+02 | 123.78 | 2.34E-02 | 1.97E-03 |
| | 3 | 76.31 | 1.22E+03 | 154.25 | 2.74E-02 | 3.34E-03 |
| M | 4 | 85.13 | 9.21E+01 | 62.10 | 2.83E-02 | 4.22E-03 |
| m | 5 | 89.71 | 1.23E+02 | 64.81 | 2.85E-02 | 4.43E-03 |
| m | 6 | 93.08 | 2.06E+02 | 68.12 | 2.85E-02 | 4.28E-03 |
| | 7 | 185.97 | 2.36E+02 | 89.47 | 2.11E-02 | 1.65E-03 |
| | 8 | 209.53 | 1.21E+02 | 87.03 | 1.95E-02 | 1.63E-03 |
| | 9 | 220.12 | 5.30E+01 | 64.77 | 1.89E-02 | 1.62E-03 |
| M | 10 | 238.73 | 9.89E+02 | 76.52 | 1.79E-02 | 1.60E-03 |
| m | 11 | 241.87 | 2.93E+02 | 90.07 | 1.77E-02 | 1.60E-03 |
| | 12 | 270.09 | 6.94E+01 | 63.34 | 1.64E-02 | 1.57E-03 |
| | 13 | 276.83 | 5.43E+01 | 46.23 | 1.62E-02 | 1.56E-03 |
| M | 14 | 295.32 | 3.49E+02 | 49.86 | 1.55E-02 | 1.48E-03 |
| m | 15 | 300.10 | 8.91E+01 | 38.44 | 1.53E-02 | 1.46E-03 |
| | 16 | 338.45 | 1.70E+02 | 61.90 | 1.41E-02 | 1.27E-03 |
| | 17 | 351.92 | 5.63E+02 | 72.71 | 1.37E-02 | 1.21E-03 |
| | 18 | 462.02 | 7.40E+01 | 52.68 | 1.14E-02 | 9.48E-04 |
| | 19 | 511.24 | 2.29E+02 | 60.70 | 1.06E-02 | 8.98E-04 |
| | 20 | 583.24 | 3.36E+02 | 48.67 | 9.58E-03 | 8.25E-04 |
| | 21 | 609.33 | 4.06E+02 | 55.79 | 9.27E-03 | 7.98E-04 |
| | 22 | 638.34 | 3.10E+01 | 29.87 | 8.95E-03 | 7.69E-04 |
| | 23 | 726.93 | 6.40E+01 | 35.27 | 8.09E-03 | 7.03E-04 |
| | 24 | 768.70 | 4.31E+01 | 43.08 | 7.74E-03 | 6.76E-04 |
| | 25 | 795.20 | 5.20E+01 | 32.92 | 7.53E-03 | 6.59E-04 |
| | 26 | 860.45 | 2.45E+01 | 29.93 | 7.07E-03 | 6.17E-04 |
| | 27 | 911.20 | 1.78E+02 | 42.35 | 6.75E-03 | 5.87E-04 |
| | 28 | 971.14 | 1.20E+02 | 77.61 | 6.40E-03 | 5.56E-04 |
| M | 29 | 996.56 | 2.51E+01 | 22.21 | 6.27E-03 | 5.43E-04 |
| m | 30 | 1000.56 | 1.82E+01 | 22.92 | 6.25E-03 | 5.41E-04 |
| | 31 | 1039.11 | 3.53E+01 | 28.20 | 6.06E-03 | 5.21E-04 |
| M | 32 | 1120.20 | 9.06E+01 | 27.94 | 5.70E-03 | 4.80E-04 |
| m | 33 | 1125.20 | 1.66E+01 | 22.56 | 5.68E-03 | 4.77E-04 |
| m | 34 | 1131.20 | 2.83E+01 | 21.65 | 5.66E-03 | 4.74E-04 |
| | 35 | 1152.14 | 4.11E+01 | 42.45 | 5.58E-03 | 4.64E-04 |
| | 36 | 1238.50 | 3.42E+01 | 36.30 | 5.27E-03 | 4.83E-04 |
| | 37 | 1246.92 | 2.20E+01 | 23.37 | 5.24E-03 | 4.87E-04 |
| | 38 | 1377.89 | 2.61E+01 | 18.85 | 4.87E-03 | 5.08E-04 |
| | 39 | 1408.94 | 1.84E+01 | 20.47 | 4.79E-03 | 4.95E-04 |
| | 40 | 1460.87 | 8.27E+02 | 59.97 | 4.67E-03 | 4.73E-04 |
| | 41 | 1509.61 | 2.37E+01 | 18.22 | 4.57E-03 | 4.53E-04 |
| | 42 | 1520.81 | 9.18E+00 | 7.28 | 4.55E-03 | 4.48E-04 |
| | 43 | 1581.14 | 1.44E+01 | 9.17 | 4.44E-03 | 4.23E-04 |
| | 44 | 1620.90 | 1.10E+01 | 8.60 | 4.38E-03 | 4.07E-04 |
| | 45 | 1626.37 | 9.89E+00 | 8.65 | 4.37E-03 | 4.05E-04 |
| | 46 | 1680.72 | 7.58E+00 | 9.42 | 4.29E-03 | 3.82E-04 |
| | 47 | 1764.27 | 7.88E+01 | 19.65 | 4.19E-03 | 3.48E-04 |
| | 48 | 1846.82 | 2.00E+01 | 8.94 | 4.10E-03 | 3.18E-04 |
| | 49 | 2002.61 | 5.50E+00 | 6.08 | 3.99E-03 | 3.18E-04 |
| | 50 | 2024.44 | 9.77E+00 | 9.17 | 3.98E-03 | 3.18E-04 |
| | 51 | 2054.05 | 8.77E+00 | 7.75 | 3.97E-03 | 3.18E-04 |
| | 52 | 2102.96 | 2.37E+01 | 14.79 | 3.95E-03 | 3.18E-04 |
| | 53 | 2119.73 | 2.02E+01 | 12.34 | 3.95E-03 | 3.18E-04 |

Analysis Report for 1510085-20
CP5006S22-23

| Peak No. | Energy (keV) | Net Peak Area | Net Area Uncertainty | Peak Efficiency | Efficiency Uncertainty |
|----------|--------------|---------------|----------------------|-----------------|------------------------|
| 54 | 2158.49 | 9.79E+00 | 9.82 | 3.94E-03 | 3.18E-04 |
| 55 | 2203.91 | 3.30E+01 | 13.89 | 3.93E-03 | 3.18E-04 |
| 56 | 2232.05 | 5.43E+00 | 6.34 | 3.93E-03 | 3.18E-04 |
| 57 | 2367.06 | 1.35E+01 | 11.68 | 3.94E-03 | 3.18E-04 |
| 58 | 2614.05 | 1.49E+02 | 25.50 | 4.05E-03 | 3.18E-04 |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000 sigma

BACKGROUND SUBTRACT REPORT

Peak Analysis Performed on : 11/6/2015 11:21:30AM

Env. Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 1 | 46.63 | 2.14E+02 | 101.20 | 6.46E+01 | 1.16E+01 | 1.49E+02 | 1.02E+02 |
| 2 | 62.46 | 1.65E+02 | 123.78 | | | 1.65E+02 | 1.24E+02 |
| 3 | 76.31 | 1.22E+03 | 154.25 | | | 1.22E+03 | 1.54E+02 |
| M 4 | 85.13 | 9.21E+01 | 62.10 | | | 9.21E+01 | 6.21E+01 |
| m 5 | 89.71 | 1.23E+02 | 64.81 | | | 1.23E+02 | 6.48E+01 |
| m 6 | 93.08 | 2.06E+02 | 68.12 | 5.70E+01 | 9.03E+00 | 1.49E+02 | 6.87E+01 |
| 7 | 185.97 | 2.36E+02 | 89.47 | 4.72E+01 | 7.97E+00 | 1.88E+02 | 8.98E+01 |
| 8 | 209.53 | 1.21E+02 | 87.03 | | | 1.21E+02 | 8.70E+01 |
| 9 | 220.12 | 5.30E+01 | 64.77 | | | 5.30E+01 | 6.48E+01 |
| M 10 | 238.73 | 9.89E+02 | 76.52 | 2.36E+01 | 1.35E+01 | 9.65E+02 | 7.77E+01 |
| m 11 | 241.87 | 2.93E+02 | 90.07 | 6.38E+00 | 3.91E+00 | 2.86E+02 | 9.02E+01 |
| 12 | 270.09 | 6.94E+01 | 63.34 | | | 6.94E+01 | 6.33E+01 |
| 13 | 276.83 | 5.43E+01 | 46.23 | | | 5.43E+01 | 4.62E+01 |
| M 14 | 295.32 | 3.49E+02 | 49.86 | 8.57E+00 | 6.10E+00 | 3.41E+02 | 5.02E+01 |
| m 15 | 300.10 | 8.91E+01 | 38.44 | | | 8.91E+01 | 3.84E+01 |
| 16 | 338.45 | 1.70E+02 | 61.90 | | | 1.70E+02 | 6.19E+01 |
| 17 | 351.92 | 5.63E+02 | 72.71 | 1.40E+01 | 5.55E+00 | 5.49E+02 | 7.29E+01 |
| 18 | 462.02 | 7.40E+01 | 52.68 | | | 7.40E+01 | 5.27E+01 |
| 19 | 511.24 | 2.29E+02 | 60.70 | 8.41E+01 | 5.50E+00 | 1.44E+02 | 6.09E+01 |
| 20 | 583.24 | 3.36E+02 | 48.67 | 7.32E+00 | 4.08E+00 | 3.29E+02 | 4.88E+01 |
| 21 | 609.33 | 4.06E+02 | 55.79 | 1.30E+01 | 3.89E+00 | 3.93E+02 | 5.59E+01 |
| 22 | 638.34 | 3.10E+01 | 29.87 | | | 3.10E+01 | 2.99E+01 |
| 23 | 726.93 | 6.40E+01 | 35.27 | | | 6.40E+01 | 3.53E+01 |
| 24 | 768.70 | 4.31E+01 | 43.08 | | | 4.31E+01 | 4.31E+01 |
| 25 | 795.20 | 5.20E+01 | 32.92 | | | 5.20E+01 | 3.29E+01 |

Analysis Report for 1510085-20

CP5006S22-23

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Subtracted Area | Subtracted Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|-----------------|--------------------|
| 26 | 860.45 | 2.45E+01 | 29.93 | | | 2.45E+01 | 2.99E+01 |
| 27 | 911.20 | 1.78E+02 | 42.35 | 5.60E+00 | 3.32E+00 | 1.72E+02 | 4.25E+01 |
| 28 | 971.14 | 1.20E+02 | 77.61 | | | 1.20E+02 | 7.76E+01 |
| M 29 | 996.56 | 2.51E+01 | 22.21 | | | 2.51E+01 | 2.22E+01 |
| m 30 | 1000.56 | 1.82E+01 | 22.92 | | | 1.82E+01 | 2.29E+01 |
| 31 | 1039.11 | 3.53E+01 | 28.20 | | | 3.53E+01 | 2.82E+01 |
| M 32 | 1120.20 | 9.06E+01 | 27.94 | 3.93E+00 | 2.96E+00 | 8.66E+01 | 2.81E+01 |
| m 33 | 1125.20 | 1.66E+01 | 22.56 | | | 1.66E+01 | 2.26E+01 |
| m 34 | 1131.20 | 2.83E+01 | 21.65 | | | 2.83E+01 | 2.17E+01 |
| 35 | 1152.14 | 4.11E+01 | 42.45 | | | 4.11E+01 | 4.24E+01 |
| 36 | 1238.50 | 3.42E+01 | 36.30 | | | 3.42E+01 | 3.63E+01 |
| 37 | 1246.92 | 2.20E+01 | 23.37 | | | 2.20E+01 | 2.34E+01 |
| 38 | 1377.89 | 2.61E+01 | 18.85 | | | 2.61E+01 | 1.88E+01 |
| 39 | 1408.94 | 1.84E+01 | 20.47 | | | 1.84E+01 | 2.05E+01 |
| 40 | 1460.87 | 8.27E+02 | 59.97 | 1.12E+01 | 2.55E+00 | 8.16E+02 | 6.00E+01 |
| 41 | 1509.61 | 2.37E+01 | 18.22 | | | 2.37E+01 | 1.82E+01 |
| 42 | 1520.81 | 9.18E+00 | 7.28 | | | 9.18E+00 | 7.28E+00 |
| 43 | 1581.14 | 1.44E+01 | 9.17 | | | 1.44E+01 | 9.17E+00 |
| 44 | 1620.90 | 1.10E+01 | 8.60 | | | 1.10E+01 | 8.60E+00 |
| 45 | 1626.37 | 9.89E+00 | 8.65 | | | 9.89E+00 | 8.65E+00 |
| 46 | 1680.72 | 7.58E+00 | 9.42 | | | 7.58E+00 | 9.42E+00 |
| 47 | 1764.27 | 7.88E+01 | 19.65 | 4.23E+00 | 2.21E+00 | 7.46E+01 | 1.98E+01 |
| 48 | 1846.82 | 2.00E+01 | 8.94 | | | 2.00E+01 | 8.94E+00 |
| 49 | 2002.61 | 5.50E+00 | 6.08 | | | 5.50E+00 | 6.08E+00 |
| 50 | 2024.44 | 9.77E+00 | 9.17 | | | 9.77E+00 | 9.17E+00 |
| 51 | 2054.05 | 8.77E+00 | 7.75 | | | 8.77E+00 | 7.75E+00 |
| 52 | 2102.96 | 2.37E+01 | 14.79 | | | 2.37E+01 | 1.48E+01 |
| 53 | 2119.73 | 2.02E+01 | 12.34 | | | 2.02E+01 | 1.23E+01 |
| 54 | 2158.49 | 9.79E+00 | 9.82 | | | 9.79E+00 | 9.82E+00 |
| 55 | 2203.91 | 3.30E+01 | 13.89 | 5.94E-01 | 1.16E+00 | 3.24E+01 | 1.39E+01 |
| 56 | 2232.05 | 5.43E+00 | 6.34 | | | 5.43E+00 | 6.34E+00 |
| 57 | 2367.06 | 1.35E+01 | 11.68 | | | 1.35E+01 | 1.17E+01 |
| 58 | 2614.05 | 1.49E+02 | 25.50 | 7.38E+00 | 1.57E+00 | 1.42E+02 | 2.55E+01 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

Analysis Report for 1510085-20

CP5006S22-23

AREA CORRECTION REPORT REFERENCE PEAK / BKG. SUBTRACT

Peak Analysis Performed on : 11/6/2015 11:21:30AM
 Ref. Peak Energy : 0.00 Reference Date :
 Peak Ratio : 0.00 Uncertainty : 0.00
 Background File : \\OR-GAMMA1\ApexRoot\Countroom\Data\0000028942.CNF

Corrected Area is: Original * Peak Ratio - Background

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. | |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|----------|
| | 1 | 46.63 | 2.14E+02 | 101.20 | 6.46E+01 | 1.16E+01 | 1.49E+02 | 1.02E+02 |
| | 2 | 62.46 | 1.65E+02 | 123.78 | | | 1.65E+02 | 1.24E+02 |
| | 3 | 76.31 | 1.22E+03 | 154.25 | | | 1.22E+03 | 1.54E+02 |
| M | 4 | 85.13 | 9.21E+01 | 62.10 | | | 9.21E+01 | 6.21E+01 |
| m | 5 | 89.71 | 1.23E+02 | 64.81 | | | 1.23E+02 | 6.48E+01 |
| m | 6 | 93.08 | 2.06E+02 | 68.12 | 5.70E+01 | 9.03E+00 | 1.49E+02 | 6.87E+01 |
| | 7 | 185.97 | 2.36E+02 | 89.47 | 4.72E+01 | 7.97E+00 | 1.88E+02 | 8.98E+01 |
| | 8 | 209.53 | 1.21E+02 | 87.03 | | | 1.21E+02 | 8.70E+01 |
| | 9 | 220.12 | 5.30E+01 | 64.77 | | | 5.30E+01 | 6.48E+01 |
| M | 10 | 238.73 | 9.89E+02 | 76.52 | 2.36E+01 | 1.35E+01 | 9.65E+02 | 7.77E+01 |
| m | 11 | 241.87 | 2.93E+02 | 90.07 | 6.38E+00 | 3.91E+00 | 2.86E+02 | 9.02E+01 |
| | 12 | 270.09 | 6.94E+01 | 63.34 | | | 6.94E+01 | 6.33E+01 |
| | 13 | 276.83 | 5.43E+01 | 46.23 | | | 5.43E+01 | 4.62E+01 |
| M | 14 | 295.32 | 3.49E+02 | 49.86 | 8.57E+00 | 6.10E+00 | 3.41E+02 | 5.02E+01 |
| m | 15 | 300.10 | 8.91E+01 | 38.44 | | | 8.91E+01 | 3.84E+01 |
| | 16 | 338.45 | 1.70E+02 | 61.90 | | | 1.70E+02 | 6.19E+01 |
| | 17 | 351.92 | 5.63E+02 | 72.71 | 1.40E+01 | 5.55E+00 | 5.49E+02 | 7.29E+01 |
| | 18 | 462.02 | 7.40E+01 | 52.68 | | | 7.40E+01 | 5.27E+01 |
| | 19 | 511.24 | 2.29E+02 | 60.70 | 8.41E+01 | 5.50E+00 | 1.44E+02 | 6.09E+01 |
| | 20 | 583.24 | 3.36E+02 | 48.67 | 7.32E+00 | 4.08E+00 | 3.29E+02 | 4.88E+01 |
| | 21 | 609.33 | 4.06E+02 | 55.79 | 1.30E+01 | 3.89E+00 | 3.93E+02 | 5.59E+01 |
| | 22 | 638.34 | 3.10E+01 | 29.87 | | | 3.10E+01 | 2.99E+01 |
| | 23 | 726.93 | 6.40E+01 | 35.27 | | | 6.40E+01 | 3.53E+01 |
| | 24 | 768.70 | 4.31E+01 | 43.08 | | | 4.31E+01 | 4.31E+01 |
| | 25 | 795.20 | 5.20E+01 | 32.92 | | | 5.20E+01 | 3.29E+01 |
| | 26 | 860.45 | 2.45E+01 | 29.93 | | | 2.45E+01 | 2.99E+01 |
| | 27 | 911.20 | 1.78E+02 | 42.35 | 5.60E+00 | 3.32E+00 | 1.72E+02 | 4.25E+01 |
| | 28 | 971.14 | 1.20E+02 | 77.61 | | | 1.20E+02 | 7.76E+01 |
| M | 29 | 996.56 | 2.51E+01 | 22.21 | | | 2.51E+01 | 2.22E+01 |
| m | 30 | 1000.56 | 1.82E+01 | 22.92 | | | 1.82E+01 | 2.29E+01 |
| | 31 | 1039.11 | 3.53E+01 | 28.20 | | | 3.53E+01 | 2.82E+01 |
| M | 32 | 1120.20 | 9.06E+01 | 27.94 | 3.93E+00 | 2.96E+00 | 8.66E+01 | 2.81E+01 |
| m | 33 | 1125.20 | 1.66E+01 | 22.56 | | | 1.66E+01 | 2.26E+01 |
| m | 34 | 1131.20 | 2.83E+01 | 21.65 | | | 2.83E+01 | 2.17E+01 |
| | 35 | 1152.14 | 4.11E+01 | 42.45 | | | 4.11E+01 | 4.24E+01 |
| | 36 | 1238.50 | 3.42E+01 | 36.30 | | | 3.42E+01 | 3.63E+01 |
| | 37 | 1246.92 | 2.20E+01 | 23.37 | | | 2.20E+01 | 2.34E+01 |
| | 38 | 1377.89 | 2.61E+01 | 18.85 | | | 2.61E+01 | 1.88E+01 |
| | 39 | 1408.94 | 1.84E+01 | 20.47 | | | 1.84E+01 | 2.05E+01 |
| | 40 | 1460.87 | 8.27E+02 | 59.97 | 1.12E+01 | 2.55E+00 | 8.16E+02 | 6.00E+01 |
| | 41 | 1509.61 | 2.37E+01 | 18.22 | | | 2.37E+01 | 1.82E+01 |

Analysis Report for 1510085-20

CP5006S22-23

| Peak No. | Energy (keV) | Original Area | Orig. Area Uncertainty | Ambient Background | Backgr. Uncert. | Corrected Area | Corrected Uncert. |
|----------|--------------|---------------|------------------------|--------------------|-----------------|----------------|-------------------|
| 42 | 1520.81 | 9.18E+00 | 7.28 | | | 9.18E+00 | 7.28E+00 |
| 43 | 1581.14 | 1.44E+01 | 9.17 | | | 1.44E+01 | 9.17E+00 |
| 44 | 1620.90 | 1.10E+01 | 8.60 | | | 1.10E+01 | 8.60E+00 |
| 45 | 1626.37 | 9.89E+00 | 8.65 | | | 9.89E+00 | 8.65E+00 |
| 46 | 1680.72 | 7.58E+00 | 9.42 | | | 7.58E+00 | 9.42E+00 |
| 47 | 1764.27 | 7.88E+01 | 19.65 | 4.23E+00 | 2.21E+00 | 7.46E+01 | 1.98E+01 |
| 48 | 1846.82 | 2.00E+01 | 8.94 | | | 2.00E+01 | 8.94E+00 |
| 49 | 2002.61 | 5.50E+00 | 6.08 | | | 5.50E+00 | 6.08E+00 |
| 50 | 2024.44 | 9.77E+00 | 9.17 | | | 9.77E+00 | 9.17E+00 |
| 51 | 2054.05 | 8.77E+00 | 7.75 | | | 8.77E+00 | 7.75E+00 |
| 52 | 2102.96 | 2.37E+01 | 14.79 | | | 2.37E+01 | 1.48E+01 |
| 53 | 2119.73 | 2.02E+01 | 12.34 | | | 2.02E+01 | 1.23E+01 |
| 54 | 2158.49 | 9.79E+00 | 9.82 | | | 9.79E+00 | 9.82E+00 |
| 55 | 2203.91 | 3.30E+01 | 13.89 | 5.94E-01 | 1.16E+00 | 3.24E+01 | 1.39E+01 |
| 56 | 2232.05 | 5.43E+00 | 6.34 | | | 5.43E+00 | 6.34E+00 |
| 57 | 2367.06 | 1.35E+01 | 11.68 | | | 1.35E+01 | 1.17E+01 |
| 58 | 2614.05 | 1.49E+02 | 25.50 | 7.38E+00 | 1.57E+00 | 1.42E+02 | 2.55E+01 |

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| K-40 | 0.999 | 1460.81 | * 10.67 | 2.09E+01 | 2.65E+00 |
| GA-67 | 0.991 | 93.31 | * 35.70 | 1.55E-01 | 1.91E-01 |
| | | 208.95 | * 2.24 | 2.94E+00 | 2.16E+00 |
| | | 300.22 | * 16.00 | 3.87E-01 | 4.70E-01 |
| TL-208 | 0.970 | 583.14 | * 30.22 | 1.45E+00 | 2.49E-01 |
| | | 860.37 | * 4.48 | 9.88E-01 | 1.21E+00 |
| | | 2614.66 | * 35.85 | 1.25E+00 | 2.45E-01 |
| PB-210 | 0.997 | 46.50 | * 4.25 | 3.33E+00 | 2.31E+00 |
| BI-212 | 0.990 | 727.17 | * 11.80 | 8.58E-01 | 4.78E-01 |
| | | 1620.62 | * 2.75 | 1.17E+00 | 9.20E-01 |
| PB-212 | 0.998 | 238.63 | * 44.60 | 1.55E+00 | 1.86E-01 |
| | | 300.09 | * 3.41 | 2.18E+00 | 9.65E-01 |
| BI-214 | 0.997 | 609.31 | * 46.30 | 1.17E+00 | 1.95E-01 |
| | | 1120.29 | * 15.10 | 1.29E+00 | 4.31E-01 |

Analysis Report for 1510085-20
CP5006S22-23

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|--------------|---------------|--------------|----------|----------------------|----------------------|
| BI-214 | 0.997 | 1764.49 * | 15.80 | 1.44E+00 | 4.01E-01 |
| | | 2204.22 * | 4.98 | 2.12E+00 | 9.26E-01 |
| PB-214 | 0.999 | 295.21 * | 19.19 | 1.47E+00 | 2.58E-01 |
| | | 351.92 * | 37.19 | 1.37E+00 | 2.19E-01 |
| RA-224 | 0.882 | 240.98 * | 3.95 | 5.24E+00 | 1.71E+00 |
| RA-226 | 0.991 | 186.21 * | 3.28 | 3.48E+00 | 6.59E+00 |
| AC-228 | 0.569 | 338.32 * | 11.40 | 1.36E+00 | 5.08E-01 |
| | | 911.07 * | 27.70 | 1.18E+00 | 3.08E-01 |
| | | 969.11 | 16.60 | | |
| TH-231 | 0.572 | 25.64 | 14.70 | | |
| | | 84.21 * | 6.40 | 6.50E-01 | 4.49E-01 |
| PA-234M | 0.966 | 1001.03 * | 0.92 | 4.05E+00 | 5.11E+00 |
| TH-234 | 0.897 | 63.29 * | 3.80 | 2.38E+00 | 1.79E+00 |
| CM-243 | 0.326 | 209.75 * | 3.29 | 2.41E+00 | 1.75E+00 |
| | | 228.14 | 10.60 | | |
| | | 277.60 * | 14.00 | 3.07E-01 | 2.63E-01 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 11:21:30AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|-------------------|
| | 3 | 76.31 | 3.38548E-01 | 6.33 | |
| m | 5 | 89.71 | 3.41105E-02 | 26.39 | |
| | 9 | 220.12 | 1.47249E-02 | 61.10 | |
| | 12 | 270.09 | 1.92795E-02 | 45.63 | |
| | 18 | 462.02 | 2.05417E-02 | 35.62 | Sum |
| | 19 | 511.24 | 4.01066E-02 | 21.11 | |
| | 22 | 638.34 | 8.61111E-03 | 48.17 | Sum |
| | 24 | 768.70 | 1.19851E-02 | 49.92 | Sum |
| | 25 | 795.20 | 1.44421E-02 | 31.66 | Sum |
| | 28 | 971.14 | 3.31992E-02 | 32.47 | |
| M | 29 | 996.56 | 6.96125E-03 | 44.31 | Sum |
| | 31 | 1039.11 | 9.79340E-03 | 39.99 | |
| m | 33 | 1125.20 | 4.60596E-03 | 68.01 | |

Analysis Report for 1510085-20
CP5006S22-23

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|-----------|----------------------|
| m 34 | 1131.20 | 7.85697E-03 | 38.27 | Tol. | I-135 |
| 35 | 1152.14 | 1.14097E-02 | 51.67 | Sum | |
| 36 | 1238.50 | 9.48718E-03 | 53.15 | Sum | |
| 37 | 1246.92 | 6.11993E-03 | 53.03 | | |
| 38 | 1377.89 | 7.25907E-03 | 36.06 | | EU-152 |
| 39 | 1408.94 | 5.10101E-03 | 55.73 | Tol. | |
| 41 | 1509.61 | 6.58626E-03 | 38.42 | | |
| 42 | 1520.81 | 2.55051E-03 | 39.64 | Sum | |
| 43 | 1581.14 | 3.99510E-03 | 31.86 | | |
| 45 | 1626.37 | 2.74802E-03 | 43.70 | | |
| 46 | 1680.72 | 2.10470E-03 | 62.17 | | |
| 48 | 1846.82 | 5.55556E-03 | 22.36 | Sum | |
| 49 | 2002.61 | 1.52778E-03 | 55.30 | Sum | |
| 50 | 2024.44 | 2.71368E-03 | 46.91 | | |
| 51 | 2054.05 | 2.43687E-03 | 44.15 | | S-Esc |
| 52 | 2102.96 | 6.58420E-03 | 31.20 | | |
| 53 | 2119.73 | 5.60764E-03 | 30.56 | | |
| 54 | 2158.49 | 2.71825E-03 | 50.19 | | |
| 56 | 2232.05 | 1.50794E-03 | 58.43 | | |
| 57 | 2367.06 | 3.75000E-03 | 43.27 | | |

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE IDENTIFICATION REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

IDENTIFIED NUCLIDES

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|-----------------|------------------|-----------------|----------|-------------------------|-------------------------|
| K-40 | 0.99 | 1460.81 * | 10.67 | 2.09E+01 | 2.65E+00 |
| GA-67 | 0.99 | 93.31 * | 35.70 | 1.55E-01 | 1.91E-01 |
| | | 208.95 * | 2.24 | 2.94E+00 | 2.16E+00 |
| | | 300.22 * | 16.00 | 3.87E-01 | 4.70E-01 |
| | | 583.14 * | 30.22 | 1.45E+00 | 2.49E-01 |
| TL-208 | 0.97 | 860.37 * | 4.48 | 9.88E-01 | 1.21E+00 |
| | | 2614.66 * | 35.85 | 1.25E+00 | 2.45E-01 |
| | | 46.50 * | 4.25 | 3.33E+00 | 2.31E+00 |
| PB-210 | 0.99 | | | | |

Analysis Report for 1510085-20
CP5006S22-23

| Nuclide Name | Id Confidence | Energy (keV) | Yield(%) | Activity (pCi/grams) | Activity Uncertainty |
|---------------------|----------------------|---------------------|-----------------|-----------------------------|-----------------------------|
| BI-212 | 0.99 | 727.17 * | 11.80 | 8.58E-01 | 4.78E-01 |
| | | 1620.62 * | 2.75 | 1.17E+00 | 9.20E-01 |
| PB-212 | 0.99 | 238.63 * | 44.60 | 1.55E+00 | 1.86E-01 |
| | | 300.09 * | 3.41 | 2.18E+00 | 9.65E-01 |
| BI-214 | 0.99 | 609.31 * | 46.30 | 1.17E+00 | 1.95E-01 |
| | | 1120.29 * | 15.10 | 1.29E+00 | 4.31E-01 |
| | | 1764.49 * | 15.80 | 1.44E+00 | 4.01E-01 |
| | | 2204.22 * | 4.98 | 2.12E+00 | 9.26E-01 |
| PB-214 | 0.99 | 295.21 * | 19.19 | 1.47E+00 | 2.58E-01 |
| | | 351.92 * | 37.19 | 1.37E+00 | 2.19E-01 |
| RA-224 | 0.88 | 240.98 * | 3.95 | 5.24E+00 | 1.71E+00 |
| RA-226 | 0.99 | 186.21 * | 3.28 | 3.48E+00 | 6.59E+00 |
| AC-228 | 0.56 | 338.32 * | 11.40 | 1.36E+00 | 5.08E-01 |
| | | 911.07 * | 27.70 | 1.18E+00 | 3.08E-01 |
| | | 969.11 | 16.60 | | |
| TH-231 | 0.57 | 25.64 | 14.70 | | |
| | | 84.21 * | 6.40 | 6.50E-01 | 4.49E-01 |
| PA-234M | 0.96 | 1001.03 * | 0.92 | 4.05E+00 | 5.11E+00 |
| TH-234 | 0.89 | 63.29 * | 3.80 | 2.38E+00 | 1.79E+00 |
| CM-243 | 0.32 | 209.75 * | 3.29 | 2.41E+00 | 1.75E+00 |
| | | 228.14 | 10.60 | | |
| | | 277.60 * | 14.00 | 3.07E-01 | 2.63E-01 |

* = Energy line found in the spectrum.
 - = Manually added nuclide.
 ? = Manually edited nuclide.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000sigma

INTERFERENCE CORRECTED REPORT

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|---------------------|------------------------------|-------------------------------------|-------------------------------------|-----------------|
| K-40 | 0.999 | 2.09E+01 | 2.65E+00 | |
| GA-67 | 0.991 | 1.51E-01 | 7.14E-02 | |
| TL-208 | 0.970 | 1.34E+00 | 1.73E-01 | |
| PB-210 | 0.997 | 3.33E+00 | 2.31E+00 | |
| BI-212 | 0.990 | 9.24E-01 | 4.24E-01 | |

Analysis Report for 1510085-20
CP5006S22-23

| Nuclide Name | Nuclide Id Confidence | Wt mean Activity (pCi/grams) | Wt mean Activity Uncertainty | Comments |
|-------------------------|--------------------------------------|---|---|-----------------|
| PB-212 | 0.998 | 1.54E+00 | 1.84E-01 | |
| BI-214 | 0.997 | 1.26E+00 | 1.60E-01 | |
| PB-214 | 0.999 | 1.41E+00 | 1.67E-01 | |
| RA-224 | 0.882 | 5.24E+00 | 1.71E+00 | |
| RA-226 | 0.991 | 3.48E+00 | 6.59E+00 | |
| AC-228 | 0.569 | 1.23E+00 | 2.63E-01 | |
| TH-231 | 0.572 | 6.50E-01 | 4.49E-01 | |
| PA-234M | 0.966 | 4.05E+00 | 5.11E+00 | |
| TH-234 | 0.897 | 2.38E+00 | 1.79E+00 | |
| CM-243 | 0.326 | 3.51E-01 | 2.60E-01 | |

- ? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000sigma

Analysis Report for 1510085-20
CP5006S22-23

UNIDENTIFIED PEAKS

Peak Locate Performed on : 11/6/2015 11:21:30AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

| Peak No. | Energy (keV) | Peak Size (CPS) | Peak CPS (%) Uncertainty | Peak Type | Tolerance Nuclide |
|----------|--------------|-----------------|-----------------------------|--------------|----------------------|
| | 3 | 76.31 | 3.38548E-01 | 6.33 | |
| m | 5 | 89.71 | 3.41105E-02 | 26.39 | |
| | 9 | 220.12 | 1.47249E-02 | 61.10 | |
| | 12 | 270.09 | 1.92795E-02 | 45.63 | |
| | 18 | 462.02 | 2.05417E-02 | 35.62 | Sum |
| | 19 | 511.24 | 4.01066E-02 | 21.11 | |
| | 22 | 638.34 | 8.61111E-03 | 48.17 | Sum |
| | 24 | 768.70 | 1.19851E-02 | 49.92 | Sum |
| | 25 | 795.20 | 1.44421E-02 | 31.66 | Sum |
| | 28 | 971.14 | 3.31992E-02 | 32.47 | |
| M | 29 | 996.56 | 6.96125E-03 | 44.31 | Sum |
| | 31 | 1039.11 | 9.79340E-03 | 39.99 | |
| m | 33 | 1125.20 | 4.60596E-03 | 68.01 | |
| m | 34 | 1131.20 | 7.85697E-03 | 38.27 | Tol. I-135 |
| | 35 | 1152.14 | 1.14097E-02 | 51.67 | Sum |
| | 36 | 1238.50 | 9.48718E-03 | 53.15 | Sum |
| | 37 | 1246.92 | 6.11993E-03 | 53.03 | |
| | 38 | 1377.89 | 7.25907E-03 | 36.06 | |
| | 39 | 1408.94 | 5.10101E-03 | 55.73 | Tol. EU-152 |
| | 41 | 1509.61 | 6.58626E-03 | 38.42 | |
| | 42 | 1520.81 | 2.55051E-03 | 39.64 | Sum |
| | 43 | 1581.14 | 3.99510E-03 | 31.86 | |
| | 45 | 1626.37 | 2.74802E-03 | 43.70 | |
| | 46 | 1680.72 | 2.10470E-03 | 62.17 | |
| | 48 | 1846.82 | 5.55556E-03 | 22.36 | Sum |
| | 49 | 2002.61 | 1.52778E-03 | 55.30 | Sum |
| | 50 | 2024.44 | 2.71368E-03 | 46.91 | |
| | 51 | 2054.05 | 2.43687E-03 | 44.15 | |
| | 52 | 2102.96 | 6.58420E-03 | 31.20 | S-Esc |
| | 53 | 2119.73 | 5.60764E-03 | 30.56 | |
| | 54 | 2158.49 | 2.71825E-03 | 50.19 | |
| | 56 | 2232.05 | 1.50794E-03 | 58.43 | |
| | 57 | 2367.06 | 3.75000E-03 | 43.27 | |

Analysis Report for 1510085-20
CP5006S22-23

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 2.000sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | BE-7 | 477.59 | 10.42 | -1.26E-01 | 5.04E-01 | 5.04E-01 |
| + | NA-22 | 1274.54 | 99.94 | 1.71E-02 | 8.50E-02 | 8.50E-02 |
| + | NA-24 | 1368.53 | 99.99 | -7.31E-03 | 1.41E-02 | 2.44E-02 |
| | | 2754.09 | 99.86 | -1.37E-03 | | 1.41E-02 |
| + | AL-26 | 1808.65 | 99.76 | -9.29E-03 | 4.65E-02 | 4.65E-02 |
| + | K-40 | 1460.81 | * 10.67 | 2.09E+01 | 8.47E-01 | 8.47E-01 |
| + | AR-41 | 1293.64 | 99.16 | 3.31E-06 | 3.04E-05 | 3.04E-05 |
| + | TI-44 | 67.88 | 94.40 | 4.77E-03 | 5.23E-02 | 5.23E-02 |
| | | 78.34 | 96.00 | 3.04E-01 | | 7.54E-02 |
| + | SC-46 | 889.25 | 99.98 | -5.75E-02 | 6.32E-02 | 6.32E-02 |
| | | 1120.51 | 99.99 | 1.72E-01 | | 1.26E-01 |
| + | V-48 | 983.52 | 99.98 | -4.19E-02 | 6.02E-02 | 6.02E-02 |
| | | 1312.10 | 97.50 | 1.10E-02 | | 7.76E-02 |
| + | CR-51 | 320.08 | 9.83 | -5.04E-01 | 4.95E-01 | 4.95E-01 |
| + | MN-54 | 834.83 | 99.97 | -4.32E-02 | 6.78E-02 | 6.78E-02 |
| + | CO-56 | 846.75 | 99.96 | 2.52E-02 | 6.92E-02 | 6.92E-02 |
| | | 1037.75 | 14.03 | 2.53E-01 | | 6.04E-01 |
| | | 1238.25 | 67.00 | 1.19E-01 | | 1.67E-01 |
| | | 1771.40 | 15.51 | 3.92E-02 | | 3.55E-01 |
| | | 2598.48 | 16.90 | 3.72E-02 | | 2.44E-01 |
| + | CO-57 | 122.06 | 85.51 | 3.90E-02 | 5.57E-02 | 5.57E-02 |
| | | 136.48 | 10.60 | -9.89E-04 | | 4.52E-01 |
| + | CO-58 | 810.76 | 99.40 | -2.63E-02 | 6.29E-02 | 6.29E-02 |
| + | FE-59 | 1099.22 | 56.50 | -7.83E-03 | 1.36E-01 | 1.36E-01 |
| | | 1291.56 | 43.20 | -8.53E-02 | | 1.71E-01 |
| + | CO-60 | 1173.22 | 100.00 | -7.57E-03 | 7.44E-02 | 9.15E-02 |
| | | 1332.49 | 100.00 | 2.23E-02 | | 7.44E-02 |
| + | ZN-65 | 1115.52 | 50.75 | -1.50E-03 | 1.53E-01 | 1.53E-01 |
| + | GA-67 | 93.31 | * 35.70 | 1.55E-01 | 2.77E-01 | 2.77E-01 |
| | | 208.95 | * 2.24 | 2.94E+00 | | 3.44E+00 |
| | | 300.22 | * 16.00 | 3.87E-01 | | 4.91E-01 |
| + | SE-75 | 121.11 | 16.70 | 9.64E-03 | 8.01E-02 | 2.78E-01 |

Analysis Report for 1510085-20
CP5006S22-23

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| | SE-75 | 136.00 | 59.20 | -5.34E-02 | 8.01E-02 | 8.01E-02 |
| | | 264.65 | 59.80 | -5.13E-04 | | 8.72E-02 |
| | | 279.53 | 25.20 | -2.56E-02 | | 2.01E-01 |
| | | 400.65 | 11.40 | 3.73E-01 | | 4.87E-01 |
| + | RB-82 | 776.52 | 13.00 | -3.13E-03 | 5.64E-01 | 5.64E-01 |
| + | RB-83 | 520.41 | 46.00 | 5.31E-02 | 1.20E-01 | 1.20E-01 |
| | | 529.64 | 30.30 | -4.15E-02 | | 1.67E-01 |
| | | 552.65 | 16.40 | 3.19E-04 | | 3.30E-01 |
| + | KR-85 | 513.99 | 0.43 | -9.25E+00 | 1.58E+01 | 1.58E+01 |
| + | SR-85 | 513.99 | 99.27 | -4.01E-02 | 6.86E-02 | 6.86E-02 |
| + | Y-88 | 898.02 | 93.40 | -4.44E-02 | 5.18E-02 | 7.54E-02 |
| | | 1836.01 | 99.38 | 5.88E-03 | | 5.18E-02 |
| + | NB-93M | 16.57 | 9.43 | -4.22E+03 | 5.33E+03 | 5.33E+03 |
| + | NB-94 | 702.63 | 100.00 | 1.76E-02 | 7.08E-02 | 7.09E-02 |
| | | 871.10 | 100.00 | -3.88E-03 | | 7.08E-02 |
| + | NB-95 | 765.79 | 99.81 | 8.27E-02 | 8.77E-02 | 8.77E-02 |
| + | NB-95M | 235.69 | 25.00 | -1.92E+00 | 2.73E-01 | 2.73E-01 |
| + | ZR-95 | 724.18 | 43.70 | -1.58E-02 | 1.23E-01 | 1.94E-01 |
| | | 756.72 | 55.30 | -2.78E-02 | | 1.23E-01 |
| + | MO-99 | 181.06 | 6.20 | -7.94E-02 | 4.63E-01 | 6.54E-01 |
| | | 739.58 | 12.80 | 1.36E-01 | | 4.63E-01 |
| | | 778.00 | 4.50 | -9.30E-01 | | 1.25E+00 |
| + | RU-103 | 497.08 | 89.00 | 4.97E-03 | 5.72E-02 | 5.72E-02 |
| + | RU-106 | 621.84 | 9.80 | 1.44E-01 | 6.54E-01 | 6.54E-01 |
| + | AG-108M | 433.93 | 89.90 | -4.63E-03 | 5.70E-02 | 5.70E-02 |
| | | 614.37 | 90.40 | 6.54E-03 | | 6.92E-02 |
| | | 722.95 | 90.50 | -1.21E-02 | | 7.93E-02 |
| + | CD-109 | 88.03 | 3.72 | 1.30E+00 | 1.65E+00 | 1.65E+00 |
| + | AG-110M | 657.75 | 93.14 | 4.96E-03 | 6.90E-02 | 6.90E-02 |
| | | 677.61 | 10.53 | -3.38E-01 | | 5.78E-01 |
| | | 706.67 | 16.46 | 2.08E-02 | | 4.18E-01 |
| | | 763.93 | 21.98 | 1.24E-02 | | 3.25E-01 |
| | | 884.67 | 71.63 | 3.38E-02 | | 9.83E-02 |
| | | 1384.27 | 23.94 | -1.50E-01 | | 2.69E-01 |
| + | CD-113M | 263.70 | 0.02 | -1.66E+00 | 2.28E+02 | 2.28E+02 |
| + | SN-113 | 255.12 | 1.93 | 1.08E+00 | 7.39E-02 | 2.75E+00 |
| | | 391.69 | 64.90 | -1.29E-03 | | 7.39E-02 |
| + | TE123M | 159.00 | 84.10 | -1.89E-02 | 5.73E-02 | 5.73E-02 |
| + | SB-124 | 602.71 | 97.87 | -3.60E-03 | 6.62E-02 | 6.62E-02 |
| | | 645.85 | 7.26 | 1.91E-01 | | 8.71E-01 |
| | | 722.78 | 11.10 | -9.80E-02 | | 6.40E-01 |
| | | 1691.02 | 49.00 | -3.02E-02 | | 1.18E-01 |
| + | I-125 | 35.49 | 6.49 | -2.69E-01 | 3.79E+00 | 3.79E+00 |
| + | SB-125 | 176.33 | 6.89 | -5.46E-02 | 1.94E-01 | 6.98E-01 |
| | | 427.89 | 29.33 | 9.43E-02 | | 1.94E-01 |
| | | 463.38 | 10.35 | 5.74E-01 | | 6.21E-01 |
| | | 600.56 | 17.80 | 0.00E+00 | | 3.68E-01 |
| | | 635.90 | 11.32 | -3.70E-02 | | 5.67E-01 |

Analysis Report for 1510085-20
CP5006S22-23

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| + | SB-126 | 414.70 | 83.30 | -1.51E-02 | 5.50E-02 | 5.50E-02 |
| | | 666.33 | 99.60 | 2.46E-02 | | 7.21E-02 |
| | | 695.00 | 99.60 | -2.52E-03 | | 6.35E-02 |
| | | 720.50 | 53.80 | 9.12E-03 | | 1.22E-01 |
| + | SN-126 | 87.57 | 37.00 | 1.30E-01 | 1.66E-01 | 1.66E-01 |
| + | SB-127 | 473.00 | 25.00 | 1.50E-02 | 1.61E-01 | 1.81E-01 |
| | | 685.20 | 35.70 | 1.09E-01 | | 1.61E-01 |
| | | 783.80 | 14.70 | 3.34E-01 | | 4.71E-01 |
| + | I-129 | 29.78 | 57.00 | -6.80E-01 | 1.09E+00 | 1.09E+00 |
| | | 33.60 | 13.20 | 4.20E-01 | | 2.52E+00 |
| | | 39.58 | 7.52 | 2.39E-01 | | 2.08E+00 |
| + | I-131 | 284.30 | 6.05 | 5.79E-02 | 5.66E-02 | 7.83E-01 |
| | | 364.48 | 81.20 | -1.77E-02 | | 5.66E-02 |
| | | 636.97 | 7.26 | 5.18E-01 | | 8.40E-01 |
| | | 722.89 | 1.80 | -5.66E-01 | | 3.70E+00 |
| + | TE-132 | 49.72 | 13.10 | -3.95E-02 | 5.08E-02 | 4.69E-01 |
| | | 228.16 | 88.00 | 5.52E-03 | | 5.08E-02 |
| + | BA-133 | 81.00 | 33.00 | 9.87E-02 | 8.40E-02 | 1.33E-01 |
| | | 302.84 | 17.80 | -5.00E-01 | | 2.89E-01 |
| | | 356.01 | 60.00 | 1.00E-02 | | 8.40E-02 |
| + | I-133 | 529.87 | 86.30 | -2.23E-02 | 2.82E-02 | 2.82E-02 |
| + | XE-133 | 81.00 | 38.00 | 7.64E-02 | 1.03E-01 | 1.03E-01 |
| + | CS-134 | 563.23 | 8.38 | 4.59E-01 | 8.48E-02 | 7.41E-01 |
| | | 569.32 | 15.43 | 3.37E-03 | | 3.60E-01 |
| | | 604.70 | 97.60 | 7.78E-03 | | 8.48E-02 |
| | | 795.84 | 85.40 | 9.32E-02 | | 1.01E-01 |
| | | 801.93 | 8.73 | -2.27E-03 | | 7.81E-01 |
| + | CS-135 | 268.24 | 16.00 | -7.15E-02 | 3.66E-01 | 3.66E-01 |
| + | I-135 | 1131.51 | 22.50 | 2.47E-02 | 3.05E-02 | 4.24E-02 |
| | | 1260.41 | 28.60 | -1.36E-02 | | 3.05E-02 |
| | | 1678.03 | 9.54 | 6.98E-03 | | 7.23E-02 |
| + | CS-136 | 153.22 | 7.46 | -3.89E-02 | 6.79E-02 | 6.23E-01 |
| | | 163.89 | 4.61 | 1.06E-01 | | 1.04E+00 |
| | | 176.55 | 13.56 | -5.88E-02 | | 3.39E-01 |
| | | 273.65 | 12.66 | -5.68E-01 | | 3.93E-01 |
| | | 340.57 | 48.50 | -1.42E-01 | | 1.21E-01 |
| | | 818.50 | 99.70 | 1.89E-02 | | 6.79E-02 |
| | | 1048.07 | 79.60 | 4.84E-02 | | 8.38E-02 |
| | | 1235.34 | 19.70 | -1.56E-02 | | 5.44E-01 |
| + | CS-137 | 661.65 | 85.12 | -4.76E-02 | 7.78E-02 | 7.78E-02 |
| + | LA-138 | 788.74 | 34.00 | 1.07E-01 | 8.97E-02 | 2.22E-01 |
| | | 1435.80 | 66.00 | 1.55E-02 | | 8.97E-02 |
| + | CE-139 | 165.85 | 80.35 | 2.69E-02 | 6.43E-02 | 6.43E-02 |
| + | BA-140 | 162.64 | 6.70 | 1.54E-01 | 1.97E-01 | 7.11E-01 |
| | | 304.84 | 4.50 | 1.20E-01 | | 1.06E+00 |
| | | 423.70 | 3.20 | -5.79E-01 | | 1.57E+00 |
| | | 437.55 | 2.00 | -1.85E-01 | | 2.53E+00 |
| | | 537.32 | 25.00 | -6.34E-03 | | 1.97E-01 |
| + | LA-140 | 328.77 | 20.50 | 1.36E-01 | 7.64E-02 | 2.57E-01 |

Analysis Report for 1510085-20

CP5006S22-23

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | LA-140 | 487.03 | 45.50 | 3.38E-02 | 7.64E-02 | 1.15E-01 |
| | | 815.85 | 23.50 | 4.22E-02 | | 2.91E-01 |
| | | 1596.49 | 95.49 | 5.78E-03 | | 7.64E-02 |
| + | CE-141 | 145.44 | 48.40 | 1.69E-02 | 1.00E-01 | 1.00E-01 |
| + | CE-143 | 57.36 | 11.80 | -1.04E-01 | 1.11E-01 | 2.81E-01 |
| | | 293.26 | 42.00 | -3.01E-02 | | 1.11E-01 |
| | | 664.55 | 5.20 | 3.55E-02 | | 9.08E-01 |
| + | CE-144 | 133.54 | 10.80 | -1.22E-01 | 4.45E-01 | 4.45E-01 |
| + | PM-144 | 476.78 | 42.00 | -3.16E-02 | 6.14E-02 | 1.26E-01 |
| | | 618.01 | 98.60 | 6.69E-04 | | 6.14E-02 |
| | | 696.49 | 99.49 | -4.61E-02 | | 6.51E-02 |
| + | PM-145 | 36.85 | 21.70 | -2.55E-01 | 4.87E-01 | 9.48E-01 |
| | | 37.36 | 39.70 | -1.31E-01 | | 4.87E-01 |
| | | 42.30 | 15.10 | 1.13E-01 | | 8.03E-01 |
| | | 72.40 | 2.31 | -8.96E-01 | | 2.11E+00 |
| + | PM-146 | 453.90 | 39.94 | -5.01E-02 | 1.22E-01 | 1.22E-01 |
| | | 735.90 | 14.01 | -1.62E-01 | | 4.90E-01 |
| | | 747.13 | 13.10 | -1.69E-01 | | 5.59E-01 |
| + | ND-147 | 91.11 | 28.90 | -1.59E-01 | 2.05E-01 | 2.05E-01 |
| | | 531.02 | 13.10 | -4.43E-02 | | 3.74E-01 |
| + | PM-149 | 285.90 | 3.10 | -7.54E-02 | 1.22E+00 | 1.22E+00 |
| + | EU-152 | 121.78 | 20.50 | 1.63E-01 | 2.33E-01 | 2.33E-01 |
| | | 244.69 | 5.40 | -2.03E+00 | | 1.01E+00 |
| | | 344.27 | 19.13 | -1.43E-02 | | 2.55E-01 |
| | | 778.89 | 9.20 | -2.81E-01 | | 7.75E-01 |
| | | 964.01 | 10.40 | 3.15E-01 | | 8.89E-01 |
| | | 1085.78 | 7.22 | 1.81E-01 | | 1.08E+00 |
| | | 1112.02 | 9.60 | 2.32E-01 | | 8.34E-01 |
| | | 1407.95 | 14.94 | 1.01E-01 | | 5.54E-01 |
| + | GD-153 | 97.43 | 31.30 | -2.47E-02 | 1.46E-01 | 1.46E-01 |
| | | 103.18 | 22.20 | -2.65E-02 | | 2.06E-01 |
| + | EU-154 | 123.07 | 40.50 | -9.69E-02 | 1.18E-01 | 1.18E-01 |
| | | 723.30 | 19.70 | -5.58E-02 | | 3.64E-01 |
| | | 873.19 | 11.50 | -1.06E-01 | | 6.40E-01 |
| | | 996.32 | 10.30 | -6.02E-02 | | 7.61E-01 |
| | | 1004.76 | 17.90 | -3.60E-02 | | 4.16E-01 |
| | | 1274.45 | 35.50 | 4.81E-02 | | 2.39E-01 |
| + | EU-155 | 86.50 | 30.90 | -1.78E-01 | 1.95E-01 | 1.95E-01 |
| | | 105.30 | 20.70 | 1.37E-01 | | 2.26E-01 |
| + | EU-156 | 811.77 | 10.40 | -2.60E-01 | 5.78E-01 | 5.78E-01 |
| | | 1153.47 | 7.20 | -1.09E-01 | | 1.21E+00 |
| | | 1230.71 | 8.90 | 4.47E-02 | | 1.09E+00 |
| + | HO-166M | 184.41 | 72.60 | 5.59E-02 | 8.87E-02 | 8.87E-02 |
| | | 280.45 | 29.60 | -2.20E-02 | | 1.73E-01 |
| | | 410.94 | 11.10 | 3.65E-01 | | 5.11E-01 |
| | | 711.69 | 54.10 | 1.17E-02 | | 1.25E-01 |
| + | TM-171 | 66.72 | 0.14 | 7.52E-01 | 3.52E+01 | 3.52E+01 |
| + | HF-172 | 81.75 | 4.52 | -6.50E-01 | 4.27E-01 | 9.28E-01 |
| | | 125.81 | 11.30 | -4.42E-01 | | 4.27E-01 |

Analysis Report for 1510085-20
CP5006S22-23

| | Nuclide Name | Energy (keV) | Yield(%) | Activity (pCi/grams) | Nuclide MDA (pCi/grams) | Line MDA (pCi/grams) |
|---|-------------------------|-------------------------|-----------------|---------------------------------|------------------------------------|---------------------------------|
| + | LU-172 | 181.53 | 20.60 | 4.78E-02 | 1.02E-01 | 2.30E-01 |
| | | 810.06 | 16.63 | -1.45E-01 | | 3.46E-01 |
| | | 912.12 | 15.25 | 2.27E+00 | | 8.60E-01 |
| | | 1093.66 | 62.50 | -3.59E-02 | | 1.02E-01 |
| + | LU-173 | 100.72 | 5.24 | 2.17E-01 | 2.82E-01 | 8.60E-01 |
| | | 272.11 | 21.20 | -3.92E-03 | | 2.82E-01 |
| + | HF-175 | 343.40 | 84.00 | 1.28E-02 | 5.83E-02 | 5.83E-02 |
| + | LU-176 | 88.34 | 13.30 | 3.63E-01 | 5.54E-02 | 4.62E-01 |
| | | 201.83 | 86.00 | -7.70E-03 | | 6.00E-02 |
| | | 306.78 | 94.00 | 4.49E-02 | | 5.54E-02 |
| + | TA-182 | 67.75 | 41.20 | 1.09E-02 | 1.19E-01 | 1.19E-01 |
| | | 1121.30 | 34.90 | 4.86E-01 | | 3.59E-01 |
| | | 1189.05 | 16.23 | -1.73E-01 | | 5.31E-01 |
| | | 1221.41 | 26.98 | 1.48E-01 | | 3.58E-01 |
| | | 1231.02 | 11.44 | 4.09E-02 | | 8.68E-01 |
| + | IR-192 | 308.46 | 29.68 | -2.05E-02 | 1.05E-01 | 1.70E-01 |
| | | 468.07 | 48.10 | 1.59E-02 | | 1.05E-01 |
| + | HG-203 | 279.19 | 77.30 | -1.02E-02 | 6.81E-02 | 6.81E-02 |
| + | BI-207 | 569.67 | 97.72 | 5.33E-04 | 5.70E-02 | 5.70E-02 |
| | | 1063.62 | 74.90 | -6.03E-03 | | 1.01E-01 |
| + | TL-208 | 583.14 | * 30.22 | 1.45E+00 | 1.58E-01 | 2.50E-01 |
| | | 860.37 | * 4.48 | 9.88E-01 | | 1.99E+00 |
| | | 2614.66 | * 35.85 | 1.25E+00 | | 1.58E-01 |
| + | BI-210M | 262.00 | 45.00 | -5.38E-02 | 1.14E-01 | 1.14E-01 |
| | | 300.00 | 23.00 | 1.72E-01 | | 2.61E-01 |
| + | PB-210 | 46.50 | * 4.25 | 3.33E+00 | 3.69E+00 | 3.69E+00 |
| + | PB-211 | 404.84 | 2.90 | 6.32E-01 | 1.83E+00 | 1.83E+00 |
| | | 831.96 | 2.90 | 7.60E-01 | | 2.39E+00 |
| + | BI-212 | 727.17 | * 11.80 | 8.58E-01 | 7.29E-01 | 7.29E-01 |
| | | 1620.62 | * 2.75 | 1.17E+00 | | 1.24E+00 |
| + | PB-212 | 238.63 | * 44.60 | 1.55E+00 | 2.50E-01 | 2.50E-01 |
| | | 300.09 | * 3.41 | 2.18E+00 | | 2.77E+00 |
| + | BI-214 | 609.31 | * 46.30 | 1.17E+00 | 2.01E-01 | 2.01E-01 |
| | | 1120.29 | * 15.10 | 1.29E+00 | | 1.25E+00 |
| | | 1764.49 | * 15.80 | 1.44E+00 | | 3.58E-01 |
| | | 2204.22 | * 4.98 | 2.12E+00 | | 1.04E+00 |
| + | PB-214 | 295.21 | * 19.19 | 1.47E+00 | 2.37E-01 | 4.90E-01 |
| | | 351.92 | * 37.19 | 1.37E+00 | | 2.37E-01 |
| + | RN-219 | 401.80 | 6.50 | -2.32E-02 | 8.26E-01 | 8.26E-01 |
| + | RA-223 | 323.87 | 3.88 | -6.99E-01 | 1.35E+00 | 1.35E+00 |
| + | RA-224 | 240.98 | * 3.95 | 5.24E+00 | 2.84E+00 | 2.84E+00 |
| + | RA-225 | 40.00 | 31.00 | 5.35E-02 | 4.65E-01 | 4.65E-01 |
| + | RA-226 | 186.21 | * 3.28 | 3.48E+00 | 2.65E+00 | 2.65E+00 |
| + | TH-227 | 50.10 | 8.40 | -7.29E-02 | 7.03E-01 | 8.66E-01 |
| | | 236.00 | 11.50 | -4.95E+00 | | 7.03E-01 |
| | | 256.20 | 6.30 | -4.05E-01 | | 8.30E-01 |
| + | AC-228 | 338.32 | * 11.40 | 1.36E+00 | 3.95E-01 | 7.56E-01 |
| | | 911.07 | * 27.70 | 1.18E+00 | | 3.95E-01 |

Analysis Report for 1510085-20
 CP5006S22-23

| | <i>Nuclide Name</i> | <i>Energy (keV)</i> | <i>Yield(%)</i> | <i>Activity (pCi/grams)</i> | <i>Nuclide MDA (pCi/grams)</i> | <i>Line MDA (pCi/grams)</i> |
|---|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|
| | AC-228 | 969.11 | 16.60 | 1.18E+00 | 3.95E-01 | 7.98E-01 |
| + | TH-230 | 48.44 | 16.90 | -2.52E-01 | 4.80E-01 | 4.80E-01 |
| | | 62.85 | 4.60 | 1.81E+00 | | 1.31E+00 |
| | | 67.67 | 0.37 | 1.22E+00 | | 1.34E+01 |
| + | PA-231 | 283.67 | 1.60 | 2.36E-01 | 2.24E+00 | 3.19E+00 |
| | | 302.67 | 2.30 | -3.87E+00 | | 2.24E+00 |
| + | TH-231 | 25.64 | 14.70 | -2.22E-01 | 1.87E+00 | 1.42E+01 |
| | | 84.21 | * | 6.50E-01 | | 1.87E+00 |
| + | PA-233 | 311.98 | 38.60 | 4.79E-03 | 1.28E-01 | 1.28E-01 |
| + | PA-234 | 131.20 | 20.40 | 1.44E-01 | 2.52E-01 | 2.52E-01 |
| | | 733.99 | 8.80 | -4.45E-01 | | 7.33E-01 |
| | | 946.00 | 12.00 | 4.00E-01 | | 6.01E-01 |
| + | PA-234M | 1001.03 | * | 4.05E+00 | 1.18E+01 | 1.18E+01 |
| + | TH-234 | 63.29 | * | 2.38E+00 | 2.90E+00 | 2.90E+00 |
| + | U-235 | 143.76 | 10.50 | -1.38E-01 | 4.61E-01 | 4.61E-01 |
| | | 163.35 | 4.70 | 2.31E-01 | | 1.07E+00 |
| | | 205.31 | 4.70 | 1.79E-01 | | 1.11E+00 |
| + | NP-237 | 86.50 | 12.60 | -4.36E-01 | 4.78E-01 | 4.78E-01 |
| + | NP-239 | 106.10 | 22.70 | -8.45E-03 | 1.58E-01 | 1.58E-01 |
| | | 228.18 | 10.70 | 4.23E-02 | | 3.90E-01 |
| | | 277.60 | 14.10 | -1.84E-01 | | 2.83E-01 |
| + | AM-241 | 59.54 | 35.90 | -4.62E-02 | 1.53E-01 | 1.53E-01 |
| + | AM-243 | 74.67 | 66.00 | -2.67E-01 | 1.02E-01 | 1.02E-01 |
| + | CM-243 | 209.75 | * | 2.41E+00 | 4.22E-01 | 2.81E+00 |
| | | 228.14 | | 5.51E-02 | | 5.08E-01 |
| | | 277.60 | * | 3.07E-01 | | 4.22E-01 |

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction
- ? = CAUTION: MDA value is inconsistent with Currie MDA at 95% confidence level

NUCLIDE MDA REPORT

Nuclide Library Used : \\OR-GAMMA1\ApexRoot\Countroom\Library\TMA2.NLB

Analysis Report for 1510085-20
CP5006S22-23

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|--------------|--------------|----------|----------------------|-------------------------|----------------------|------------------------|----------|
| BE-7 | 477.59 | 10.42 | 5.04E-01 | 5.04E-01 | -1.26E-01 | 2.37E-01 | |
| NA-22 | 1274.54 | 99.94 | 8.50E-02 | 8.50E-02 | 1.71E-02 | 3.91E-02 | |
| NA-24 | 1368.53 | 99.99 | 2.44E-02 | 1.41E-02 | -7.31E-03 | 1.09E-02 | |
| | 2754.09 | 99.86 | 1.41E-02 | | -1.37E-03 | 5.45E-03 | |
| AL-26 | 1808.65 | 99.76 | 4.65E-02 | 4.65E-02 | -9.29E-03 | 1.91E-02 | |
| + K-40 | 1460.81 | * | 10.67 | 8.47E-01 | 8.47E-01 | 2.09E+01 | 3.89E-01 |
| AR-41 | 1293.64 | 99.16 | 3.04E-05 | 3.04E-05 | 3.31E-06 | 1.40E-05 | |
| TI-44 | 67.88 | 94.40 | 5.23E-02 | 5.23E-02 | 4.77E-03 | 2.54E-02 | |
| | 78.34 | 96.00 | 7.54E-02 | | 3.04E-01 | 3.70E-02 | |
| SC-46 | 889.25 | 99.98 | 6.32E-02 | 6.32E-02 | -5.75E-02 | 2.91E-02 | |
| | 1120.51 | 99.99 | 1.26E-01 | | 1.72E-01 | 5.99E-02 | |
| V-48 | 983.52 | 99.98 | 6.02E-02 | 6.02E-02 | -4.19E-02 | 2.75E-02 | |
| | 1312.10 | 97.50 | 7.76E-02 | | 1.10E-02 | 3.54E-02 | |
| CR-51 | 320.08 | 9.83 | 4.95E-01 | 4.95E-01 | -5.04E-01 | 2.36E-01 | |
| MN-54 | 834.83 | 99.97 | 6.78E-02 | 6.78E-02 | -4.32E-02 | 3.15E-02 | |
| CO-56 | 846.75 | 99.96 | 6.92E-02 | 6.92E-02 | 2.52E-02 | 3.22E-02 | |
| | 1037.75 | 14.03 | 6.04E-01 | | 2.53E-01 | 2.82E-01 | |
| | 1238.25 | 67.00 | 1.67E-01 | | 1.19E-01 | 7.84E-02 | |
| | 1771.40 | 15.51 | 3.55E-01 | | 3.92E-02 | 1.51E-01 | |
| | 2598.48 | 16.90 | 2.44E-01 | | 3.72E-02 | 9.66E-02 | |
| CO-57 | 122.06 | 85.51 | 5.57E-02 | 5.57E-02 | 3.90E-02 | 2.71E-02 | |
| | 136.48 | 10.60 | 4.52E-01 | | -9.89E-04 | 2.19E-01 | |
| CO-58 | 810.76 | 99.40 | 6.29E-02 | 6.29E-02 | -2.63E-02 | 2.91E-02 | |
| FE-59 | 1099.22 | 56.50 | 1.36E-01 | 1.36E-01 | -7.83E-03 | 6.28E-02 | |
| | 1291.56 | 43.20 | 1.71E-01 | | -8.53E-02 | 7.76E-02 | |
| CO-60 | 1173.22 | 100.00 | 9.15E-02 | 7.44E-02 | -7.57E-03 | 4.26E-02 | |
| | 1332.49 | 100.00 | 7.44E-02 | | 2.23E-02 | 3.37E-02 | |
| ZN-65 | 1115.52 | 50.75 | 1.53E-01 | 1.53E-01 | -1.50E-03 | 7.08E-02 | |
| + GA-67 | 93.31 | * | 35.70 | 2.77E-01 | 2.77E-01 | 1.55E-01 | 1.37E-01 |
| | 208.95 | * | 2.24 | 3.44E+00 | 3.44E+00 | 2.94E+00 | 1.68E+00 |
| | 300.22 | * | 16.00 | 4.91E-01 | 4.91E-01 | 3.87E-01 | 2.40E-01 |
| SE-75 | 121.11 | 16.70 | 2.78E-01 | 8.01E-02 | 9.64E-03 | 1.35E-01 | |
| | 136.00 | 59.20 | 8.01E-02 | | -5.34E-02 | 3.89E-02 | |
| | 264.65 | 59.80 | 8.72E-02 | | -5.13E-04 | 4.19E-02 | |
| | 279.53 | 25.20 | 2.01E-01 | | -2.56E-02 | 9.65E-02 | |
| | 400.65 | 11.40 | 4.87E-01 | | 3.73E-01 | 2.31E-01 | |
| RB-82 | 776.52 | 13.00 | 5.64E-01 | 5.64E-01 | -3.13E-03 | 2.65E-01 | |
| RB-83 | 520.41 | 46.00 | 1.20E-01 | 1.20E-01 | 5.31E-02 | 5.65E-02 | |
| | 529.64 | 30.30 | 1.67E-01 | | -4.15E-02 | 7.81E-02 | |
| | 552.65 | 16.40 | 3.30E-01 | | 3.19E-04 | 1.54E-01 | |
| KR-85 | 513.99 | 0.43 | 1.58E+01 | 1.58E+01 | -9.25E+00 | 7.54E+00 | |
| SR-85 | 513.99 | 99.27 | 6.86E-02 | 6.86E-02 | -4.01E-02 | 3.27E-02 | |
| Y-88 | 898.02 | 93.40 | 7.54E-02 | 5.18E-02 | -4.44E-02 | 3.50E-02 | |
| | 1836.01 | 99.38 | 5.18E-02 | | 5.88E-03 | 2.17E-02 | |
| NB-93M | 16.57 | 9.43 | 5.33E+03 | 5.33E+03 | -4.22E+03 | 2.59E+03 | |
| NB-94 | 702.63 | 100.00 | 7.09E-02 | 7.08E-02 | 1.76E-02 | 3.34E-02 | |
| | 871.10 | 100.00 | 7.08E-02 | | -3.88E-03 | 3.29E-02 | |
| NB-95 | 765.79 | 99.81 | 8.77E-02 | 8.77E-02 | 8.27E-02 | 4.17E-02 | |
| NB-95M | 235.69 | 25.00 | 2.73E-01 | 2.73E-01 | -1.92E+00 | 1.33E-01 | |
| ZR-95 | 724.18 | 43.70 | 1.94E-01 | 1.23E-01 | -1.58E-02 | 9.22E-02 | |
| | 756.72 | 55.30 | 1.23E-01 | | -2.78E-02 | 5.77E-02 | |

Analysis Report for 1510085-20

CP5006S22-23

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| MO-99 | 181.06 | 6.20 | 6.54E-01 | 4.63E-01 | -7.94E-02 | 3.17E-01 |
| | 739.58 | 12.80 | 4.63E-01 | | 1.36E-01 | 2.18E-01 |
| | 778.00 | 4.50 | 1.25E+00 | | -9.30E-01 | 5.83E-01 |
| RU-103 | 497.08 | 89.00 | 5.72E-02 | 5.72E-02 | 4.97E-03 | 2.68E-02 |
| RU-106 | 621.84 | 9.80 | 6.54E-01 | 6.54E-01 | 1.44E-01 | 3.08E-01 |
| AG-108M | 433.93 | 89.90 | 5.70E-02 | 5.70E-02 | -4.63E-03 | 2.69E-02 |
| | 614.37 | 90.40 | 6.92E-02 | | 6.54E-03 | 3.25E-02 |
| | 722.95 | 90.50 | 7.93E-02 | | -1.21E-02 | 3.73E-02 |
| CD-109 | 88.03 | 3.72 | 1.65E+00 | 1.65E+00 | 1.30E+00 | 8.08E-01 |
| AG-110M | 657.75 | 93.14 | 6.90E-02 | 6.90E-02 | 4.96E-03 | 3.24E-02 |
| | 677.61 | 10.53 | 5.78E-01 | | -3.38E-01 | 2.70E-01 |
| | 706.67 | 16.46 | 4.18E-01 | | 2.08E-02 | 1.96E-01 |
| | 763.93 | 21.98 | 3.25E-01 | | 1.24E-02 | 1.52E-01 |
| | 884.67 | 71.63 | 9.83E-02 | | 3.38E-02 | 4.57E-02 |
| 1384.27 | 23.94 | 2.69E-01 | | -1.50E-01 | 1.20E-01 | |
| CD-113M | 263.70 | 0.02 | 2.28E+02 | 2.28E+02 | -1.66E+00 | 1.10E+02 |
| SN-113 | 255.12 | 1.93 | 2.75E+00 | 7.39E-02 | 1.08E+00 | 1.32E+00 |
| | 391.69 | 64.90 | 7.39E-02 | | -1.29E-03 | 3.49E-02 |
| TE123M | 159.00 | 84.10 | 5.73E-02 | 5.73E-02 | -1.89E-02 | 2.78E-02 |
| SB-124 | 602.71 | 97.87 | 6.62E-02 | 6.62E-02 | -3.60E-03 | 3.12E-02 |
| | 645.85 | 7.26 | 8.71E-01 | | 1.91E-01 | 4.09E-01 |
| | 722.78 | 11.10 | 6.40E-01 | | -9.80E-02 | 3.01E-01 |
| | 1691.02 | 49.00 | 1.18E-01 | | -3.02E-02 | 5.07E-02 |
| I-125 | 35.49 | 6.49 | 3.79E+00 | 3.79E+00 | -2.69E-01 | 1.84E+00 |
| SB-125 | 176.33 | 6.89 | 6.98E-01 | 1.94E-01 | -5.46E-02 | 3.37E-01 |
| | 427.89 | 29.33 | 1.94E-01 | | 9.43E-02 | 9.19E-02 |
| | 463.38 | 10.35 | 6.21E-01 | | 5.74E-01 | 2.96E-01 |
| | 600.56 | 17.80 | 3.68E-01 | | 0.00E+00 | 1.74E-01 |
| | 635.90 | 11.32 | 5.67E-01 | | -3.70E-02 | 2.67E-01 |
| SB-126 | 414.70 | 83.30 | 5.50E-02 | 5.50E-02 | -1.51E-02 | 2.59E-02 |
| | 666.33 | 99.60 | 7.21E-02 | | 2.46E-02 | 3.41E-02 |
| | 695.00 | 99.60 | 6.35E-02 | | -2.52E-03 | 2.98E-02 |
| | 720.50 | 53.80 | 1.22E-01 | | 9.12E-03 | 5.71E-02 |
| SN-126 | 87.57 | 37.00 | 1.66E-01 | 1.66E-01 | 1.30E-01 | 8.14E-02 |
| SB-127 | 473.00 | 25.00 | 1.81E-01 | 1.61E-01 | 1.50E-02 | 8.50E-02 |
| | 685.20 | 35.70 | 1.61E-01 | | 1.09E-01 | 7.57E-02 |
| | 783.80 | 14.70 | 4.71E-01 | | 3.34E-01 | 2.22E-01 |
| I-129 | 29.78 | 57.00 | 1.09E+00 | 1.09E+00 | -6.80E-01 | 5.30E-01 |
| | 33.60 | 13.20 | 2.52E+00 | | 4.20E-01 | 1.22E+00 |
| | 39.58 | 7.52 | 2.08E+00 | | 2.39E-01 | 1.01E+00 |
| I-131 | 284.30 | 6.05 | 7.83E-01 | 5.66E-02 | 5.79E-02 | 3.75E-01 |
| | 364.48 | 81.20 | 5.66E-02 | | -1.77E-02 | 2.68E-02 |
| | 636.97 | 7.26 | 8.40E-01 | | 5.18E-01 | 3.95E-01 |
| | 722.89 | 1.80 | 3.70E+00 | | -5.66E-01 | 1.74E+00 |
| TE-132 | 49.72 | 13.10 | 4.69E-01 | 5.08E-02 | -3.95E-02 | 2.28E-01 |
| | 228.16 | 88.00 | 5.08E-02 | | 5.52E-03 | 2.45E-02 |
| BA-133 | 81.00 | 33.00 | 1.33E-01 | 8.40E-02 | 9.87E-02 | 6.46E-02 |
| | 302.84 | 17.80 | 2.89E-01 | | -5.00E-01 | 1.38E-01 |
| | 356.01 | 60.00 | 8.40E-02 | | 1.00E-02 | 3.99E-02 |
| I-133 | 529.87 | 86.30 | 2.82E-02 | 2.82E-02 | -2.23E-02 | 1.31E-02 |
| XE-133 | 81.00 | 38.00 | 1.03E-01 | 1.03E-01 | 7.64E-02 | 5.00E-02 |
| CS-134 | 563.23 | 8.38 | 7.41E-01 | 8.48E-02 | 4.59E-01 | 3.50E-01 |
| | 569.32 | 15.43 | 3.60E-01 | | 3.37E-03 | 1.69E-01 |

Analysis Report for 1510085-20

CP5006S22-23

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| CS-134 | 604.70 | 97.60 | 8.48E-02 | 8.48E-02 | 7.78E-03 | 4.05E-02 |
| | 795.84 | 85.40 | 1.01E-01 | | 9.32E-02 | 4.76E-02 |
| | 801.93 | 8.73 | 7.81E-01 | | -2.27E-03 | 3.64E-01 |
| CS-135 | 268.24 | 16.00 | 3.66E-01 | 3.66E-01 | -7.15E-02 | 1.76E-01 |
| I-135 | 1131.51 | 22.50 | 4.24E-02 | 3.05E-02 | 2.47E-02 | 1.97E-02 |
| | 1260.41 | 28.60 | 3.05E-02 | | -1.36E-02 | 1.40E-02 |
| | 1678.03 | 9.54 | 7.23E-02 | | 6.98E-03 | 3.14E-02 |
| CS-136 | 153.22 | 7.46 | 6.23E-01 | 6.79E-02 | -3.89E-02 | 3.02E-01 |
| | 163.89 | 4.61 | 1.04E+00 | | 1.06E-01 | 5.06E-01 |
| | 176.55 | 13.56 | 3.39E-01 | | -5.88E-02 | 1.64E-01 |
| | 273.65 | 12.66 | 3.93E-01 | | -5.68E-01 | 1.88E-01 |
| | 340.57 | 48.50 | 1.21E-01 | | -1.42E-01 | 5.83E-02 |
| | 818.50 | 99.70 | 6.79E-02 | | 1.89E-02 | 3.17E-02 |
| | 1048.07 | 79.60 | 8.38E-02 | | 4.84E-02 | 3.84E-02 |
| | 1235.34 | 19.70 | 5.44E-01 | | -1.56E-02 | 2.56E-01 |
| CS-137 | 661.65 | 85.12 | 7.78E-02 | 7.78E-02 | -4.76E-02 | 3.66E-02 |
| LA-138 | 788.74 | 34.00 | 2.22E-01 | 8.97E-02 | 1.07E-01 | 1.04E-01 |
| | 1435.80 | 66.00 | 8.97E-02 | | 1.55E-02 | 3.93E-02 |
| CE-139 | 165.85 | 80.35 | 6.43E-02 | 6.43E-02 | 2.69E-02 | 3.12E-02 |
| BA-140 | 162.64 | 6.70 | 7.11E-01 | 1.97E-01 | 1.54E-01 | 3.45E-01 |
| | 304.84 | 4.50 | 1.06E+00 | | 1.20E-01 | 5.07E-01 |
| | 423.70 | 3.20 | 1.57E+00 | | -5.79E-01 | 7.42E-01 |
| | 437.55 | 2.00 | 2.53E+00 | | -1.85E-01 | 1.20E+00 |
| | 537.32 | 25.00 | 1.97E-01 | | -6.34E-03 | 9.19E-02 |
| | 537.32 | 25.00 | 1.97E-01 | | -6.34E-03 | 9.19E-02 |
| LA-140 | 328.77 | 20.50 | 2.57E-01 | 7.64E-02 | 1.36E-01 | 1.23E-01 |
| | 487.03 | 45.50 | 1.15E-01 | | 3.38E-02 | 5.44E-02 |
| | 815.85 | 23.50 | 2.91E-01 | | 4.22E-02 | 1.36E-01 |
| | 1596.49 | 95.49 | 7.64E-02 | | 5.78E-03 | 3.43E-02 |
| CE-141 | 145.44 | 48.40 | 1.00E-01 | 1.00E-01 | 1.69E-02 | 4.87E-02 |
| CE-143 | 57.36 | 11.80 | 2.81E-01 | 1.11E-01 | -1.04E-01 | 1.36E-01 |
| | 293.26 | 42.00 | 1.11E-01 | | -3.01E-02 | 5.38E-02 |
| | 664.55 | 5.20 | 9.08E-01 | | 3.55E-02 | 4.29E-01 |
| CE-144 | 133.54 | 10.80 | 4.45E-01 | 4.45E-01 | -1.22E-01 | 2.16E-01 |
| PM-144 | 476.78 | 42.00 | 1.26E-01 | 6.14E-02 | -3.16E-02 | 5.94E-02 |
| | 618.01 | 98.60 | 6.14E-02 | | 6.69E-04 | 2.88E-02 |
| | 696.49 | 99.49 | 6.51E-02 | | -4.61E-02 | 3.05E-02 |
| PM-145 | 36.85 | 21.70 | 9.48E-01 | 4.87E-01 | -2.55E-01 | 4.60E-01 |
| | 37.36 | 39.70 | 4.87E-01 | | -1.31E-01 | 2.36E-01 |
| | 42.30 | 15.10 | 8.03E-01 | | 1.13E-01 | 3.90E-01 |
| | 72.40 | 2.31 | 2.11E+00 | | -8.96E-01 | 1.03E+00 |
| PM-146 | 453.90 | 39.94 | 1.22E-01 | 1.22E-01 | -5.01E-02 | 5.72E-02 |
| | 735.90 | 14.01 | 4.90E-01 | | -1.62E-01 | 2.29E-01 |
| | 747.13 | 13.10 | 5.59E-01 | | -1.69E-01 | 2.63E-01 |
| ND-147 | 91.11 | 28.90 | 2.05E-01 | 2.05E-01 | -1.59E-01 | 1.00E-01 |
| | 531.02 | 13.10 | 3.74E-01 | | -4.43E-02 | 1.75E-01 |
| PM-149 | 285.90 | 3.10 | 1.22E+00 | 1.22E+00 | -7.54E-02 | 5.82E-01 |
| EU-152 | 121.78 | 20.50 | 2.33E-01 | 2.33E-01 | 1.63E-01 | 1.13E-01 |
| | 244.69 | 5.40 | 1.01E+00 | | -2.03E+00 | 4.87E-01 |
| | 344.27 | 19.13 | 2.55E-01 | | -1.43E-02 | 1.21E-01 |
| | 778.89 | 9.20 | 7.75E-01 | | -2.81E-01 | 3.63E-01 |
| | 964.01 | 10.40 | 8.89E-01 | | 3.15E-01 | 4.19E-01 |
| | 1085.78 | 7.22 | 1.08E+00 | | 1.81E-01 | 4.98E-01 |
| | 1112.02 | 9.60 | 8.34E-01 | | 2.32E-01 | 3.86E-01 |

Analysis Report for 1510085-20

CP5006S22-23

| Nuclide Name | Energy (keV) | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) | |
|---------------------|---------------------|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|----------|
| EU-152 | 1407.95 | 14.94 | 5.54E-01 | 2.33E-01 | 1.01E-01 | 2.53E-01 | |
| GD-153 | 97.43 | 31.30 | 1.46E-01 | 1.46E-01 | -2.47E-02 | 7.11E-02 | |
| | 103.18 | 22.20 | 2.06E-01 | | -2.65E-02 | 1.00E-01 | |
| EU-154 | 123.07 | 40.50 | 1.18E-01 | 1.18E-01 | -9.69E-02 | 5.71E-02 | |
| | 723.30 | 19.70 | 3.64E-01 | | -5.58E-02 | 1.71E-01 | |
| | 873.19 | 11.50 | 6.40E-01 | | -1.06E-01 | 2.99E-01 | |
| | 996.32 | 10.30 | 7.61E-01 | | -6.02E-02 | 3.54E-01 | |
| | 1004.76 | 17.90 | 4.16E-01 | | -3.60E-02 | 1.92E-01 | |
| | 1274.45 | 35.50 | 2.39E-01 | | 4.81E-02 | 1.10E-01 | |
| EU-155 | 86.50 | 30.90 | 1.95E-01 | 1.95E-01 | -1.78E-01 | 9.55E-02 | |
| | 105.30 | 20.70 | 2.26E-01 | | 1.37E-01 | 1.10E-01 | |
| EU-156 | 811.77 | 10.40 | 5.78E-01 | 5.78E-01 | -2.60E-01 | 2.68E-01 | |
| | 1153.47 | 7.20 | 1.21E+00 | | -1.09E-01 | 5.65E-01 | |
| | 1230.71 | 8.90 | 1.09E+00 | | 4.47E-02 | 5.11E-01 | |
| HO-166M | 184.41 | 72.60 | 8.87E-02 | 8.87E-02 | 5.59E-02 | 4.33E-02 | |
| | 280.45 | 29.60 | 1.73E-01 | | -2.20E-02 | 8.27E-02 | |
| | 410.94 | 11.10 | 5.11E-01 | | 3.65E-01 | 2.43E-01 | |
| | 711.69 | 54.10 | 1.25E-01 | | 1.17E-02 | 5.86E-02 | |
| TM-171 | 66.72 | 0.14 | 3.52E+01 | 3.52E+01 | 7.52E-01 | 1.71E+01 | |
| HF-172 | 81.75 | 4.52 | 9.28E-01 | 4.27E-01 | -6.50E-01 | 4.51E-01 | |
| | 125.81 | 11.30 | 4.27E-01 | | -4.42E-01 | 2.08E-01 | |
| LU-172 | 181.53 | 20.60 | 2.30E-01 | 1.02E-01 | 4.78E-02 | 1.12E-01 | |
| | 810.06 | 16.63 | 3.46E-01 | | -1.45E-01 | 1.60E-01 | |
| | 912.12 | 15.25 | 8.60E-01 | | 2.27E+00 | 4.15E-01 | |
| | 1093.66 | 62.50 | 1.02E-01 | | -3.59E-02 | 4.67E-02 | |
| LU-173 | 100.72 | 5.24 | 8.60E-01 | 2.82E-01 | 2.17E-01 | 4.18E-01 | |
| | 272.11 | 21.20 | 2.82E-01 | | -3.92E-03 | 1.36E-01 | |
| HF-175 | 343.40 | 84.00 | 5.83E-02 | 5.83E-02 | 1.28E-02 | 2.77E-02 | |
| LU-176 | 88.34 | 13.30 | 4.62E-01 | 5.54E-02 | 3.63E-01 | 2.26E-01 | |
| | 201.83 | 86.00 | 6.00E-02 | | -7.70E-03 | 2.90E-02 | |
| | 306.78 | 94.00 | 5.54E-02 | | 4.49E-02 | 2.65E-02 | |
| TA-182 | 67.75 | 41.20 | 1.19E-01 | 1.19E-01 | 1.09E-02 | 5.81E-02 | |
| | 1121.30 | 34.90 | 3.59E-01 | | 4.86E-01 | 1.71E-01 | |
| | 1189.05 | 16.23 | 5.31E-01 | | -1.73E-01 | 2.46E-01 | |
| | 1221.41 | 26.98 | 3.58E-01 | | 1.48E-01 | 1.67E-01 | |
| | 1231.02 | 11.44 | 8.68E-01 | | 4.09E-02 | 4.06E-01 | |
| IR-192 | 308.46 | 29.68 | 1.70E-01 | 1.05E-01 | -2.05E-02 | 8.13E-02 | |
| | 468.07 | 48.10 | 1.05E-01 | | 1.59E-02 | 4.94E-02 | |
| HG-203 | 279.19 | 77.30 | 6.81E-02 | 6.81E-02 | -1.02E-02 | 3.27E-02 | |
| BI-207 | 569.67 | 97.72 | 5.70E-02 | 5.70E-02 | 5.33E-04 | 2.67E-02 | |
| | 1063.62 | 74.90 | 1.01E-01 | | -6.03E-03 | 4.67E-02 | |
| + TL-208 | 583.14 | * | 30.22 | 2.50E-01 | 1.58E-01 | 1.45E+00 | 1.19E-01 |
| | 860.37 | * | 4.48 | 1.99E+00 | | 9.88E-01 | 9.38E-01 |
| | 2614.66 | * | 35.85 | 1.58E-01 | | 1.25E+00 | 6.70E-02 |
| BI-210M | 262.00 | | 45.00 | 1.14E-01 | 1.14E-01 | -5.38E-02 | 5.47E-02 |
| | 300.00 | | 23.00 | 2.61E-01 | | 1.72E-01 | 1.26E-01 |
| + PB-210 | 46.50 | * | 4.25 | 3.69E+00 | 3.69E+00 | 3.33E+00 | 1.82E+00 |
| PB-211 | 404.84 | | 2.90 | 1.83E+00 | 1.83E+00 | 6.32E-01 | 8.67E-01 |
| | 831.96 | | 2.90 | 2.39E+00 | | 7.60E-01 | 1.11E+00 |
| + BI-212 | 727.17 | * | 11.80 | 7.29E-01 | 7.29E-01 | 8.58E-01 | 3.46E-01 |
| | 1620.62 | * | 2.75 | 1.24E+00 | | 1.17E+00 | 4.79E-01 |
| + PB-212 | 238.63 | * | 44.60 | 2.50E-01 | 2.50E-01 | 1.55E+00 | 1.23E-01 |
| | 300.09 | * | 3.41 | 2.77E+00 | | 2.18E+00 | 1.35E+00 |

Analysis Report for 1510085-20

CP5006S22-23

| | Nuclide Name | Energy (keV) | | Yield(%) | Line MDA (pCi/grams) | Nuclide MDA (pCi/grams) | Activity (pCi/grams) | Dec. Level (pCi/grams) |
|---|---------------------|---------------------|--|-----------------|-----------------------------|--------------------------------|-----------------------------|-------------------------------|
| + | BI-214 | 609.31 * | | 46.30 | 2.01E-01 | 2.01E-01 | 1.17E+00 | 9.66E-02 |
| | | 1120.29 * | | 15.10 | 1.25E+00 | | 1.29E+00 | 6.06E-01 |
| | | 1764.49 * | | 15.80 | 3.58E-01 | | 1.44E+00 | 1.53E-01 |
| | | 2204.22 * | | 4.98 | 1.04E+00 | | 2.12E+00 | 4.32E-01 |
| + | PB-214 | 295.21 * | | 19.19 | 4.90E-01 | 2.37E-01 | 1.47E+00 | 2.39E-01 |
| | | 351.92 * | | 37.19 | 2.37E-01 | | 1.37E+00 | 1.15E-01 |
| | RN-219 | 401.80 | | 6.50 | 8.26E-01 | 8.26E-01 | -2.32E-02 | 3.92E-01 |
| | RA-223 | 323.87 | | 3.88 | 1.35E+00 | 1.35E+00 | -6.99E-01 | 6.42E-01 |
| + | RA-224 | 240.98 * | | 3.95 | 2.84E+00 | 2.84E+00 | 5.24E+00 | 1.39E+00 |
| | RA-225 | 40.00 | | 31.00 | 4.65E-01 | 4.65E-01 | 5.35E-02 | 2.26E-01 |
| + | RA-226 | 186.21 * | | 3.28 | 2.65E+00 | 2.65E+00 | 3.48E+00 | 1.30E+00 |
| | TH-227 | 50.10 | | 8.40 | 8.66E-01 | 7.03E-01 | -7.29E-02 | 4.20E-01 |
| | | 236.00 | | 11.50 | 7.03E-01 | | -4.95E+00 | 3.43E-01 |
| | | 256.20 | | 6.30 | 8.30E-01 | | -4.05E-01 | 3.99E-01 |
| + | AC-228 | 338.32 * | | 11.40 | 7.56E-01 | 3.95E-01 | 1.36E+00 | 3.67E-01 |
| | | 911.07 * | | 27.70 | 3.95E-01 | | 1.18E+00 | 1.88E-01 |
| | | 969.11 | | 16.60 | 7.98E-01 | | 1.18E+00 | 3.83E-01 |
| | TH-230 | 48.44 | | 16.90 | 4.80E-01 | 4.80E-01 | -2.52E-01 | 2.33E-01 |
| | | 62.85 | | 4.60 | 1.31E+00 | | 1.81E+00 | 6.39E-01 |
| | | 67.67 | | 0.37 | 1.34E+01 | | 1.22E+00 | 6.51E+00 |
| | PA-231 | 283.67 | | 1.60 | 3.19E+00 | 2.24E+00 | 2.36E-01 | 1.52E+00 |
| | | 302.67 | | 2.30 | 2.24E+00 | | -3.87E+00 | 1.07E+00 |
| + | TH-231 | 25.64 | | 14.70 | 1.42E+01 | 1.87E+00 | -2.22E-01 | 6.90E+00 |
| | | 84.21 * | | 6.40 | 1.87E+00 | | 6.50E-01 | 9.24E-01 |
| | PA-233 | 311.98 | | 38.60 | 1.28E-01 | 1.28E-01 | 4.79E-03 | 6.11E-02 |
| | PA-234 | 131.20 | | 20.40 | 2.52E-01 | 2.52E-01 | 1.44E-01 | 1.23E-01 |
| | | 733.99 | | 8.80 | 7.33E-01 | | -4.45E-01 | 3.42E-01 |
| | | 946.00 | | 12.00 | 6.01E-01 | | 4.00E-01 | 2.78E-01 |
| + | PA-234M | 1001.03 * | | 0.92 | 1.18E+01 | 1.18E+01 | 4.05E+00 | 5.58E+00 |
| + | TH-234 | 63.29 * | | 3.80 | 2.90E+00 | 2.90E+00 | 2.38E+00 | 1.43E+00 |
| | U-235 | 143.76 | | 10.50 | 4.61E-01 | 4.61E-01 | -1.38E-01 | 2.24E-01 |
| | | 163.35 | | 4.70 | 1.07E+00 | | 2.31E-01 | 5.17E-01 |
| | | 205.31 | | 4.70 | 1.11E+00 | | 1.79E-01 | 5.39E-01 |
| | NP-237 | 86.50 | | 12.60 | 4.78E-01 | 4.78E-01 | -4.36E-01 | 2.34E-01 |
| | NP-239 | 106.10 | | 22.70 | 1.58E-01 | 1.58E-01 | -8.45E-03 | 7.71E-02 |
| | | 228.18 | | 10.70 | 3.90E-01 | | 4.23E-02 | 1.88E-01 |
| | | 277.60 | | 14.10 | 2.83E-01 | | -1.84E-01 | 1.35E-01 |
| | AM-241 | 59.54 | | 35.90 | 1.53E-01 | 1.53E-01 | -4.62E-02 | 7.42E-02 |
| | AM-243 | 74.67 | | 66.00 | 1.02E-01 | 1.02E-01 | -2.67E-01 | 4.98E-02 |
| + | CM-243 | 209.75 * | | 3.29 | 2.81E+00 | 4.22E-01 | 2.41E+00 | 1.38E+00 |
| | | 228.14 | | 10.60 | 5.08E-01 | | 5.51E-02 | 2.45E-01 |
| | | 277.60 * | | 14.00 | 4.22E-01 | | 3.07E-01 | 2.04E-01 |

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

Analysis Report for 1510085-20
CP5006S22-23

No Action Level results available for reporting purposes.

DATA REVIEW COMMENTS REPORT

| <i>Creation Date</i> | <i>Comment</i> | <i>User</i> |
|----------------------|----------------|-------------|
|----------------------|----------------|-------------|

No Data Review Comments Entered.

 ***** S P E C T R A L D A T A R E P O R T *****

Sample Title: CP5006S22-23

Elapsed Live time: 3600

Elapsed Real Time: 3601

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1: | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 206 |
| 9: | 654 | 1214 | 1117 | 430 | 802 | 1634 | 239 | 146 |
| 17: | 182 | 117 | 146 | 127 | 129 | 144 | 137 | 131 |
| 25: | 126 | 112 | 115 | 112 | 106 | 103 | 106 | 128 |
| 33: | 117 | 139 | 136 | 124 | 126 | 127 | 133 | 133 |
| 41: | 136 | 132 | 124 | 123 | 158 | 170 | 226 | 128 |
| 49: | 125 | 136 | 105 | 123 | 140 | 156 | 98 | 98 |
| 57: | 109 | 98 | 119 | 136 | 134 | 161 | 176 | 205 |
| 65: | 127 | 124 | 122 | 160 | 139 | 152 | 151 | 127 |
| 73: | 172 | 171 | 514 | 213 | 559 | 418 | 118 | 140 |
| 81: | 135 | 128 | 107 | 147 | 172 | 120 | 200 | 193 |
| 89: | 109 | 206 | 124 | 166 | 257 | 195 | 118 | 93 |
| 97: | 98 | 85 | 86 | 92 | 91 | 80 | 86 | 80 |
| 105: | 110 | 92 | 91 | 79 | 95 | 91 | 80 | 96 |
| 113: | 72 | 96 | 87 | 83 | 89 | 80 | 65 | 84 |
| 121: | 98 | 82 | 86 | 84 | 78 | 113 | 83 | 75 |
| 129: | 121 | 88 | 92 | 81 | 90 | 87 | 72 | 76 |
| 137: | 83 | 72 | 91 | 73 | 82 | 70 | 79 | 78 |
| 145: | 81 | 71 | 81 | 78 | 71 | 68 | 63 | 77 |
| 153: | 65 | 79 | 71 | 75 | 57 | 72 | 79 | 63 |
| 161: | 66 | 72 | 53 | 82 | 76 | 68 | 70 | 72 |
| 169: | 74 | 58 | 93 | 57 | 70 | 53 | 68 | 48 |
| 177: | 47 | 75 | 52 | 66 | 68 | 60 | 65 | 69 |
| 185: | 100 | 207 | 108 | 53 | 60 | 54 | 60 | 64 |
| 193: | 53 | 63 | 56 | 49 | 56 | 66 | 70 | 50 |
| 201: | 56 | 58 | 59 | 58 | 50 | 69 | 47 | 62 |
| 209: | 92 | 78 | 62 | 58 | 58 | 49 | 46 | 54 |
| 217: | 50 | 60 | 61 | 71 | 68 | 60 | 45 | 58 |
| 225: | 52 | 58 | 55 | 56 | 45 | 45 | 49 | 41 |
| 233: | 49 | 52 | 55 | 63 | 53 | 348 | 622 | 103 |
| 241: | 118 | 169 | 82 | 47 | 38 | 42 | 32 | 37 |
| 249: | 46 | 36 | 37 | 45 | 44 | 34 | 39 | 60 |
| 257: | 41 | 33 | 51 | 42 | 34 | 36 | 48 | 33 |
| 265: | 41 | 43 | 34 | 34 | 52 | 82 | 62 | 36 |
| 273: | 36 | 36 | 50 | 29 | 53 | 40 | 36 | 21 |
| 281: | 41 | 36 | 35 | 34 | 32 | 33 | 28 | 32 |
| 289: | 31 | 34 | 26 | 18 | 27 | 48 | 217 | 141 |
| 297: | 40 | 32 | 32 | 81 | 39 | 37 | 31 | 20 |
| 305: | 31 | 37 | 29 | 35 | 27 | 23 | 32 | 31 |
| 313: | 32 | 28 | 30 | 27 | 40 | 29 | 28 | 25 |
| 321: | 24 | 30 | 38 | 20 | 36 | 24 | 43 | 46 |
| 329: | 24 | 28 | 22 | 27 | 31 | 29 | 20 | 28 |
| 337: | 30 | 137 | 97 | 25 | 25 | 20 | 28 | 27 |
| 345: | 21 | 22 | 28 | 33 | 29 | 28 | 152 | 352 |
| 353: | 76 | 29 | 30 | 21 | 16 | 24 | 15 | 20 |
| 361: | 22 | 22 | 25 | 24 | 17 | 24 | 28 | 24 |

369: 22 21 17 20 21 21 19 27

Sample Title: CP5006S22-23

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|-----|-----|----|----|----|----|-----|----|
| 377: | 17 | 21 | 26 | 21 | 22 | 22 | 25 | 16 |
| 385: | 24 | 18 | 19 | 15 | 21 | 21 | 23 | 13 |
| 393: | 16 | 22 | 18 | 16 | 28 | 16 | 27 | 24 |
| 401: | 26 | 18 | 30 | 17 | 21 | 25 | 18 | 19 |
| 409: | 27 | 38 | 23 | 15 | 22 | 12 | 21 | 15 |
| 417: | 17 | 20 | 21 | 16 | 21 | 20 | 17 | 26 |
| 425: | 14 | 25 | 27 | 29 | 18 | 19 | 22 | 13 |
| 433: | 20 | 18 | 21 | 21 | 17 | 20 | 20 | 28 |
| 441: | 15 | 24 | 15 | 18 | 12 | 16 | 21 | 19 |
| 449: | 13 | 25 | 21 | 18 | 15 | 18 | 16 | 11 |
| 457: | 17 | 17 | 17 | 25 | 21 | 29 | 43 | 28 |
| 465: | 15 | 15 | 13 | 19 | 21 | 14 | 18 | 15 |
| 473: | 15 | 17 | 22 | 14 | 18 | 16 | 17 | 19 |
| 481: | 25 | 17 | 9 | 14 | 19 | 13 | 23 | 24 |
| 489: | 12 | 20 | 16 | 12 | 19 | 16 | 15 | 14 |
| 497: | 13 | 15 | 20 | 10 | 15 | 15 | 18 | 12 |
| 505: | 17 | 16 | 20 | 21 | 22 | 78 | 96 | 50 |
| 513: | 31 | 19 | 17 | 17 | 12 | 13 | 16 | 19 |
| 521: | 17 | 19 | 5 | 18 | 16 | 19 | 17 | 10 |
| 529: | 17 | 11 | 13 | 11 | 18 | 20 | 12 | 12 |
| 537: | 13 | 16 | 15 | 10 | 10 | 13 | 17 | 10 |
| 545: | 9 | 19 | 13 | 17 | 11 | 8 | 21 | 19 |
| 553: | 10 | 15 | 14 | 16 | 9 | 12 | 7 | 8 |
| 561: | 18 | 19 | 16 | 26 | 15 | 17 | 16 | 8 |
| 569: | 21 | 13 | 15 | 15 | 12 | 16 | 19 | 9 |
| 577: | 13 | 8 | 9 | 6 | 23 | 71 | 179 | 88 |
| 585: | 15 | 11 | 13 | 5 | 16 | 8 | 13 | 21 |
| 593: | 17 | 17 | 17 | 9 | 14 | 10 | 19 | 15 |
| 601: | 8 | 14 | 15 | 15 | 13 | 14 | 18 | 65 |
| 609: | 258 | 115 | 15 | 9 | 13 | 10 | 11 | 6 |
| 617: | 19 | 6 | 14 | 11 | 10 | 9 | 12 | 16 |
| 625: | 14 | 7 | 12 | 11 | 15 | 16 | 7 | 7 |
| 633: | 7 | 11 | 5 | 19 | 11 | 16 | 14 | 11 |
| 641: | 14 | 5 | 11 | 11 | 12 | 6 | 11 | 13 |
| 649: | 16 | 6 | 15 | 8 | 11 | 9 | 11 | 12 |
| 657: | 11 | 8 | 11 | 12 | 14 | 13 | 10 | 15 |
| 665: | 24 | 15 | 11 | 20 | 13 | 18 | 7 | 13 |
| 673: | 14 | 10 | 7 | 3 | 11 | 13 | 10 | 13 |
| 681: | 12 | 13 | 11 | 15 | 15 | 10 | 10 | 7 |
| 689: | 4 | 4 | 13 | 17 | 10 | 11 | 10 | 8 |
| 697: | 10 | 11 | 13 | 13 | 16 | 10 | 11 | 14 |
| 705: | 10 | 12 | 10 | 17 | 7 | 6 | 14 | 11 |
| 713: | 12 | 10 | 12 | 8 | 17 | 8 | 16 | 9 |
| 721: | 11 | 8 | 9 | 14 | 13 | 21 | 47 | 16 |
| 729: | 12 | 15 | 9 | 7 | 10 | 11 | 10 | 9 |
| 737: | 10 | 16 | 9 | 11 | 22 | 10 | 14 | 7 |
| 745: | 17 | 10 | 13 | 14 | 11 | 12 | 12 | 19 |
| 753: | 15 | 7 | 10 | 10 | 12 | 8 | 10 | 9 |
| 761: | 9 | 9 | 14 | 6 | 15 | 11 | 13 | 35 |
| 769: | 28 | 11 | 12 | 18 | 15 | 13 | 12 | 10 |
| 777: | 10 | 15 | 8 | 8 | 8 | 15 | 15 | 11 |
| 785: | 19 | 17 | 11 | 11 | 8 | 7 | 9 | 4 |
| 793: | 7 | 34 | 24 | 10 | 14 | 9 | 8 | 6 |

801: 13 6 12 11 8 11 9 3

Sample Title: CP5006S22-23

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 809: | 5 | 6 | 11 | 7 | 12 | 8 | 12 | 7 |
| 817: | 13 | 8 | 9 | 7 | 11 | 9 | 4 | 6 |
| 825: | 9 | 12 | 7 | 5 | 9 | 11 | 5 | 7 |
| 833: | 4 | 12 | 14 | 5 | 11 | 6 | 14 | 16 |
| 841: | 5 | 5 | 6 | 11 | 10 | 7 | 10 | 7 |
| 849: | 10 | 13 | 3 | 4 | 11 | 6 | 8 | 8 |
| 857: | 5 | 7 | 13 | 23 | 19 | 9 | 7 | 9 |
| 865: | 11 | 8 | 8 | 12 | 2 | 12 | 10 | 7 |
| 873: | 11 | 6 | 8 | 11 | 12 | 13 | 3 | 6 |
| 881: | 10 | 14 | 4 | 11 | 7 | 8 | 4 | 8 |
| 889: | 7 | 7 | 5 | 7 | 16 | 9 | 6 | 10 |
| 897: | 14 | 4 | 9 | 5 | 9 | 8 | 13 | 14 |
| 905: | 9 | 11 | 13 | 5 | 16 | 48 | 103 | 53 |
| 913: | 9 | 3 | 14 | 6 | 5 | 8 | 5 | 11 |
| 921: | 12 | 7 | 9 | 5 | 7 | 8 | 9 | 10 |
| 929: | 9 | 12 | 5 | 3 | 16 | 14 | 6 | 3 |
| 937: | 5 | 11 | 8 | 5 | 4 | 7 | 10 | 12 |
| 945: | 5 | 9 | 8 | 7 | 3 | 5 | 2 | 3 |
| 953: | 6 | 14 | 4 | 5 | 3 | 9 | 6 | 6 |
| 961: | 12 | 6 | 8 | 25 | 12 | 10 | 16 | 48 |
| 969: | 69 | 26 | 8 | 11 | 11 | 7 | 8 | 8 |
| 977: | 5 | 9 | 12 | 4 | 8 | 7 | 4 | 7 |
| 985: | 3 | 4 | 5 | 9 | 4 | 3 | 8 | 1 |
| 993: | 4 | 5 | 6 | 16 | 12 | 8 | 8 | 15 |
| 1001: | 11 | 6 | 7 | 7 | 9 | 5 | 7 | 8 |
| 1009: | 9 | 8 | 3 | 12 | 9 | 7 | 10 | 10 |
| 1017: | 6 | 7 | 8 | 6 | 7 | 13 | 4 | 6 |
| 1025: | 11 | 15 | 6 | 6 | 10 | 8 | 4 | 8 |
| 1033: | 8 | 5 | 7 | 11 | 8 | 13 | 6 | 16 |
| 1041: | 8 | 4 | 2 | 4 | 5 | 6 | 8 | 5 |
| 1049: | 7 | 7 | 4 | 2 | 5 | 9 | 4 | 2 |
| 1057: | 5 | 9 | 5 | 12 | 2 | 8 | 8 | 7 |
| 1065: | 5 | 7 | 5 | 10 | 5 | 6 | 8 | 9 |
| 1073: | 5 | 7 | 6 | 6 | 9 | 18 | 16 | 5 |
| 1081: | 7 | 8 | 7 | 6 | 5 | 8 | 13 | 3 |
| 1089: | 9 | 4 | 5 | 10 | 5 | 4 | 8 | 3 |
| 1097: | 6 | 10 | 5 | 7 | 11 | 7 | 9 | 8 |
| 1105: | 8 | 10 | 6 | 6 | 12 | 8 | 7 | 8 |
| 1113: | 5 | 6 | 5 | 7 | 9 | 8 | 31 | 46 |
| 1121: | 30 | 6 | 4 | 7 | 12 | 4 | 6 | 4 |
| 1129: | 7 | 8 | 17 | 7 | 10 | 4 | 7 | 3 |
| 1137: | 5 | 7 | 10 | 7 | 10 | 7 | 5 | 4 |
| 1145: | 6 | 5 | 11 | 12 | 9 | 4 | 8 | 7 |
| 1153: | 10 | 9 | 16 | 9 | 11 | 6 | 8 | 9 |
| 1161: | 9 | 10 | 6 | 10 | 5 | 7 | 9 | 6 |
| 1169: | 8 | 11 | 6 | 9 | 9 | 13 | 5 | 9 |
| 1177: | 8 | 14 | 6 | 9 | 6 | 10 | 2 | 10 |
| 1185: | 10 | 10 | 5 | 7 | 9 | 9 | 5 | 9 |
| 1193: | 8 | 10 | 7 | 8 | 15 | 11 | 7 | 5 |
| 1201: | 8 | 6 | 6 | 9 | 3 | 9 | 10 | 8 |
| 1209: | 8 | 8 | 11 | 3 | 6 | 7 | 14 | 5 |
| 1217: | 8 | 10 | 9 | 9 | 7 | 6 | 10 | 15 |
| 1225: | 9 | 6 | 9 | 10 | 4 | 14 | 12 | 11 |

1233: 11 7 7 8 20 24 15 10

Sample Title: CP5006S22-23

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|----|----|-----|-----|-----|----|----|----|
| 1241: | 4 | 7 | 7 | 9 | 9 | 9 | 15 | 10 |
| 1249: | 4 | 6 | 5 | 8 | 8 | 11 | 12 | 6 |
| 1257: | 5 | 9 | 2 | 4 | 6 | 8 | 5 | 8 |
| 1265: | 5 | 7 | 3 | 3 | 6 | 7 | 8 | 8 |
| 1273: | 6 | 8 | 4 | 6 | 6 | 5 | 5 | 10 |
| 1281: | 11 | 10 | 4 | 7 | 0 | 9 | 2 | 2 |
| 1289: | 5 | 1 | 6 | 9 | 7 | 4 | 10 | 7 |
| 1297: | 2 | 14 | 6 | 3 | 5 | 6 | 4 | 8 |
| 1305: | 4 | 6 | 4 | 2 | 4 | 3 | 6 | 7 |
| 1313: | 7 | 8 | 2 | 6 | 6 | 5 | 7 | 0 |
| 1321: | 6 | 4 | 7 | 1 | 7 | 7 | 2 | 8 |
| 1329: | 3 | 4 | 6 | 6 | 4 | 5 | 4 | 2 |
| 1337: | 2 | 9 | 5 | 4 | 4 | 5 | 3 | 1 |
| 1345: | 5 | 2 | 2 | 6 | 4 | 4 | 4 | 3 |
| 1353: | 8 | 3 | 2 | 5 | 3 | 6 | 2 | 3 |
| 1361: | 1 | 2 | 6 | 3 | 3 | 3 | 5 | 4 |
| 1369: | 3 | 2 | 2 | 5 | 3 | 3 | 4 | 2 |
| 1377: | 20 | 11 | 6 | 3 | 4 | 3 | 2 | 6 |
| 1385: | 0 | 5 | 2 | 4 | 7 | 6 | 4 | 3 |
| 1393: | 3 | 1 | 2 | 1 | 4 | 5 | 2 | 4 |
| 1401: | 2 | 4 | 7 | 2 | 2 | 5 | 11 | 6 |
| 1409: | 8 | 3 | 5 | 2 | 1 | 5 | 2 | 1 |
| 1417: | 3 | 2 | 2 | 2 | 1 | 2 | 4 | 2 |
| 1425: | 7 | 3 | 2 | 2 | 1 | 3 | 2 | 5 |
| 1433: | 1 | 3 | 0 | 3 | 3 | 2 | 1 | 2 |
| 1441: | 1 | 3 | 0 | 2 | 1 | 4 | 6 | 5 |
| 1449: | 1 | 3 | 1 | 3 | 5 | 0 | 3 | 2 |
| 1457: | 4 | 23 | 122 | 313 | 295 | 62 | 15 | 2 |
| 1465: | 4 | 0 | 3 | 3 | 1 | 0 | 2 | 2 |
| 1473: | 4 | 1 | 3 | 0 | 2 | 2 | 2 | 0 |
| 1481: | 7 | 0 | 4 | 0 | 0 | 2 | 5 | 2 |
| 1489: | 0 | 1 | 2 | 2 | 2 | 3 | 1 | 4 |
| 1497: | 6 | 2 | 3 | 0 | 2 | 3 | 1 | 2 |
| 1505: | 1 | 5 | 2 | 8 | 8 | 3 | 2 | 3 |
| 1513: | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 6 |
| 1521: | 3 | 1 | 0 | 1 | 2 | 2 | 3 | 2 |
| 1529: | 2 | 4 | 4 | 1 | 4 | 4 | 3 | 1 |
| 1537: | 5 | 0 | 7 | 2 | 1 | 7 | 4 | 3 |
| 1545: | 2 | 5 | 1 | 1 | 3 | 3 | 1 | 4 |
| 1553: | 0 | 1 | 2 | 2 | 3 | 1 | 3 | 0 |
| 1561: | 2 | 3 | 1 | 3 | 4 | 1 | 4 | 3 |
| 1569: | 3 | 3 | 1 | 1 | 2 | 5 | 5 | 0 |
| 1577: | 0 | 0 | 7 | 2 | 1 | 3 | 3 | 1 |
| 1585: | 0 | 1 | 5 | 4 | 2 | 4 | 4 | 7 |
| 1593: | 5 | 2 | 1 | 2 | 2 | 3 | 2 | 2 |
| 1601: | 3 | 1 | 0 | 0 | 4 | 0 | 1 | 1 |
| 1609: | 0 | 2 | 3 | 5 | 2 | 2 | 1 | 2 |
| 1617: | 1 | 0 | 3 | 4 | 6 | 1 | 0 | 1 |
| 1625: | 6 | 2 | 5 | 0 | 2 | 6 | 1 | 2 |
| 1633: | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 1 |
| 1641: | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| 1649: | 3 | 3 | 2 | 1 | 2 | 1 | 2 | 0 |
| 1657: | 1 | 2 | 3 | 2 | 4 | 3 | 1 | 4 |

1665: 0 0 1 0 0 2 1 0

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| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1673: | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 5 |
| 1681: | 4 | 2 | 0 | 3 | 1 | 2 | 1 | 2 |
| 1689: | 3 | 0 | 0 | 2 | 1 | 2 | 1 | 3 |
| 1697: | 2 | 3 | 2 | 3 | 2 | 2 | 1 | 2 |
| 1705: | 1 | 0 | 4 | 1 | 0 | 0 | 0 | 3 |
| 1713: | 3 | 5 | 2 | 3 | 5 | 1 | 0 | 0 |
| 1721: | 1 | 1 | 1 | 2 | 3 | 1 | 1 | 6 |
| 1729: | 5 | 8 | 3 | 0 | 3 | 1 | 3 | 2 |
| 1737: | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 |
| 1745: | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 0 |
| 1753: | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 2 |
| 1761: | 1 | 6 | 24 | 28 | 19 | 2 | 1 | 1 |
| 1769: | 1 | 1 | 3 | 2 | 0 | 0 | 2 | 1 |
| 1777: | 1 | 2 | 1 | 2 | 3 | 1 | 1 | 0 |
| 1785: | 2 | 1 | 0 | 3 | 1 | 1 | 3 | 0 |
| 1793: | 1 | 0 | 1 | 2 | 1 | 3 | 1 | 1 |
| 1801: | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 0 |
| 1809: | 2 | 0 | 0 | 1 | 2 | 1 | 1 | 1 |
| 1817: | 2 | 2 | 0 | 3 | 1 | 3 | 2 | 3 |
| 1825: | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 2 |
| 1833: | 3 | 0 | 0 | 0 | 0 | 3 | 1 | 0 |
| 1841: | 0 | 1 | 2 | 0 | 1 | 6 | 6 | 3 |
| 1849: | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 1 |
| 1857: | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 2 |
| 1865: | 2 | 0 | 1 | 1 | 1 | 0 | 1 | 2 |
| 1873: | 1 | 2 | 1 | 1 | 4 | 0 | 2 | 2 |
| 1881: | 2 | 2 | 2 | 3 | 2 | 1 | 3 | 1 |
| 1889: | 2 | 0 | 2 | 1 | 2 | 0 | 3 | 3 |
| 1897: | 0 | 2 | 0 | 1 | 1 | 0 | 2 | 0 |
| 1905: | 0 | 3 | 2 | 0 | 2 | 2 | 3 | 2 |
| 1913: | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 1 |
| 1921: | 1 | 2 | 4 | 0 | 1 | 3 | 3 | 0 |
| 1929: | 4 | 1 | 3 | 0 | 1 | 0 | 5 | 1 |
| 1937: | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 |
| 1945: | 3 | 1 | 2 | 4 | 1 | 3 | 2 | 1 |
| 1953: | 1 | 0 | 0 | 0 | 4 | 0 | 2 | 0 |
| 1961: | 3 | 0 | 0 | 2 | 2 | 1 | 1 | 0 |
| 1969: | 2 | 0 | 2 | 1 | 0 | 0 | 1 | 2 |
| 1977: | 1 | 0 | 1 | 2 | 1 | 1 | 2 | 1 |
| 1985: | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 1 |
| 1993: | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 2001: | 3 | 1 | 3 | 0 | 1 | 2 | 0 | 0 |
| 2009: | 2 | 2 | 0 | 4 | 1 | 0 | 0 | 0 |
| 2017: | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 4 |
| 2025: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2033: | 2 | 0 | 1 | 0 | 0 | 1 | 2 | 1 |
| 2041: | 0 | 2 | 1 | 0 | 1 | 4 | 0 | 2 |
| 2049: | 0 | 0 | 1 | 2 | 3 | 2 | 1 | 2 |
| 2057: | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 |
| 2065: | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |
| 2073: | 0 | 0 | 1 | 0 | 0 | 3 | 1 | 0 |
| 2081: | 0 | 2 | 2 | 2 | 2 | 1 | 2 | 2 |
| 2089: | 0 | 2 | 0 | 4 | 1 | 1 | 1 | 1 |

2097: 0 1 0 6 3 6 8 2

Sample Title: CP5006S22-23

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|----|---|---|---|---|---|---|---|
| 2105: | 4 | 2 | 0 | 2 | 1 | 1 | 0 | 0 | |
| 2113: | 1 | 1 | 0 | 3 | 3 | 4 | 1 | 1 | |
| 2121: | 1 | 5 | 1 | 1 | 2 | 0 | 1 | 1 | |
| 2129: | 2 | 1 | 0 | 4 | 5 | 1 | 2 | 1 | |
| 2137: | 2 | 1 | 1 | 1 | 0 | 1 | 1 | 2 | |
| 2145: | 0 | 2 | 0 | 1 | 3 | 2 | 0 | 1 | |
| 2153: | 1 | 0 | 2 | 1 | 2 | 5 | 2 | 1 | |
| 2161: | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | |
| 2169: | 0 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | |
| 2177: | 2 | 0 | 2 | 2 | 1 | 1 | 0 | 2 | |
| 2185: | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 4 | |
| 2193: | 0 | 1 | 3 | 1 | 0 | 1 | 1 | 1 | |
| 2201: | 2 | 10 | 9 | 7 | 1 | 1 | 1 | 1 | |
| 2209: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| 2217: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | |
| 2225: | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | |
| 2233: | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 2 | |
| 2241: | 0 | 3 | 0 | 2 | 3 | 1 | 2 | 1 | |
| 2249: | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | |
| 2257: | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | |
| 2265: | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | |
| 2273: | 2 | 0 | 2 | 2 | 0 | 0 | 4 | 1 | |
| 2281: | 1 | 3 | 2 | 2 | 1 | 2 | 1 | 1 | |
| 2289: | 0 | 1 | 1 | 4 | 2 | 1 | 1 | 2 | |
| 2297: | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | |
| 2305: | 1 | 2 | 0 | 2 | 1 | 0 | 2 | 1 | |
| 2313: | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | |
| 2321: | 2 | 2 | 2 | 3 | 3 | 2 | 0 | 0 | |
| 2329: | 2 | 4 | 0 | 2 | 2 | 1 | 1 | 1 | |
| 2337: | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 0 | |
| 2345: | 1 | 1 | 0 | 0 | 2 | 1 | 2 | 0 | |
| 2353: | 1 | 2 | 1 | 1 | 2 | 0 | 1 | 1 | |
| 2361: | 0 | 1 | 1 | 3 | 2 | 4 | 3 | 1 | |
| 2369: | 1 | 3 | 0 | 1 | 0 | 1 | 4 | 0 | |
| 2377: | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | |
| 2385: | 0 | 4 | 0 | 0 | 3 | 0 | 0 | 2 | |
| 2393: | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | |
| 2401: | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | |
| 2409: | 3 | 0 | 0 | 1 | 0 | 2 | 3 | 0 | |
| 2417: | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | |
| 2425: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | |
| 2433: | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | |
| 2441: | 0 | 1 | 2 | 1 | 2 | 2 | 3 | 1 | |
| 2449: | 2 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | |
| 2457: | 3 | 0 | 2 | 1 | 0 | 2 | 2 | 1 | |
| 2465: | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | |
| 2473: | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | |
| 2481: | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | |
| 2489: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2497: | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | |
| 2505: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2513: | 1 | 1 | 3 | 0 | 1 | 1 | 0 | 1 | |
| 2521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

2529: 2 2 0 0 1 1 1 0

Sample Title: CP5006S22-23

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|----|----|----|----|---|
| 2537: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2545: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2553: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 2561: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 2569: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2577: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 2585: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2593: | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| 2601: | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2609: | 1 | 0 | 6 | 27 | 48 | 39 | 22 | 6 |
| 2617: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2625: | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 |
| 2633: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2641: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2649: | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| 2657: | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2665: | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 |
| 2673: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2681: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2689: | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2697: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| 2705: | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| 2713: | 0 | 3 | 0 | 1 | 1 | 1 | 0 | 0 |
| 2721: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2729: | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 2737: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2745: | 0 | 1 | 0 | 2 | 2 | 0 | 0 | 0 |
| 2753: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2761: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2769: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2785: | 0 | 2 | 0 | 1 | 1 | 2 | 0 | 0 |
| 2793: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2801: | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 |
| 2809: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2817: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 2825: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2833: | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 0 |
| 2841: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 2849: | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 2857: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 2865: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2873: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 2881: | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2889: | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2897: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 2905: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2913: | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2921: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2929: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2937: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 2945: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 2953: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |

2961: 0 0 0 0 0 0 0 1 0

Sample Title: CP5006S22-23

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2977: | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| 2985: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 2993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3001: | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 |
| 3009: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3017: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3025: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3049: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3057: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3065: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3073: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3081: | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 3089: | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3097: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3105: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3113: | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 2 |
| 3121: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3129: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3137: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3145: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3153: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3161: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3169: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3177: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3185: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3193: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3201: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3209: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3217: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3225: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3233: | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3241: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3249: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3257: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3265: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3273: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3281: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3289: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3297: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3305: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3313: | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 3321: | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3329: | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3337: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3345: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3353: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3361: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3369: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3377: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3385: | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |

3393: 1 0 0 0 1 0 0 0

Sample Title: CP5006S22-23

| Channel | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|---|---|---|---|---|---|---|---|
| 3401: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3409: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3417: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3425: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3433: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3441: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 3449: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3457: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3465: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3473: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3481: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3489: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3497: | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 3505: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 3513: | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 3521: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3529: | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3537: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3545: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3553: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 3561: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3569: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3577: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3585: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3593: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3601: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3609: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 |
| 3617: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3625: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3633: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3641: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3649: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3657: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3665: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3673: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3681: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3689: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 3697: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3705: | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 3713: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3721: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3729: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3737: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3745: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3753: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3761: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3769: | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 3777: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3785: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3793: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3801: | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 3809: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3817: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

3825: 0 0 0 0 0 1 0 1

Sample Title: CP5006S22-23

| Channel | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|
| 3833: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3841: | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3849: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3857: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3865: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3873: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3881: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3889: | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3897: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3905: | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 3913: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3921: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3929: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3937: | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 3945: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3953: | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3961: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3969: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 3977: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3985: | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3993: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4001: | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 4009: | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4017: | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 4025: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4033: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4041: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4049: | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4057: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4065: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4073: | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4081: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4089: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/5/15 6:00:03 AM

✓
lu

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000003B.QCK

Detector: GE3
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/5/15 5:44:46 AM
 Measurement Date: 11/5/15 5:44:48 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 903.8 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > |
|---|-------------|--|
| DAILY BKG CT RATE GE3 [SD: 2.2892E+003+/-1498.4] | 1.7810E+003 | -3.3914E-001 < : : : > |

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/5/15 6:00:23 AM

✓
11/5

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000004B.QCK

Detector: GE4
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/5/15 5:44:53 AM
 Measurement Date: 11/5/15 5:44:56 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 909.7 seconds

| Parameter Description | Value | Deviation/Flags |
|--|-------------|-----------------------|
| [Mean +/- Std. Dev.] | | < LU : SD : UD : BS > |
| DAILY BKG CT RATE GE4 | 1.4878E+000 | -4.4360E-002 |
| [SD: 8.7623E+000+/-163.99] | | < : : : > |
| Trend Test: The last 9 samples exhibit a bias trend. | | |

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/5/15 5:30:58 AM

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000004GAW-14C.QCK

Detector: GE4
 Geometry: <None>
 Certificate: GAW-14
 Sample ID: QA Calibration C
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 10/1/14 12:00:00 AM
 Measurement Date: 11/5/15 5:14:51 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 955.3 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > | | | |
|--|-------------|--|---|---|---|
| Peak centroid 59.54 keV Boundary Limits: [5.800E+001, 6.100E+001] | 5.8652E+001 | < | : | : | > |
| Peak centroid 661.65 keV Boundary Limits: [6.600E+002, 6.630E+002] | 6.6104E+002 | < | : | : | > |
| Peak centroid 1332.49 ke Boundary Limits: [1.331E+003, 1.334E+003] | 1.3322E+003 | < | : | : | > |
| Peak centroid 1836.1 keV Boundary Limits: [1.834E+003, 1.838E+003] Trend Test: The last 9 samples exhibit a bias trend. | 1.8360E+003 | < | : | : | > |
| Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000] | 2.2406E+000 | < | : | : | > |
| Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000] | 2.6500E+000 | < | : | : | > |
| Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000] | 2.8722E+000 | < | : | : | > |
| Peak FWHM Y-88 Boundary Limits: [5.000E-001, 3.500E+000] | 2.8622E+000 | < | : | : | > |
| Decay corrected activity Boundary Limits: [1.200E-001, 1.816E-001] Trend Test: The last 9 samples exhibit a bias trend. | 1.2394E+005 | < | : | : | > |
| Decay corrected activity Boundary Limits: [4.918E-002, 7.377E-002] | 6.3841E+004 | < | : | : | > |

Decay corrected activity 9.7492E+004
Boundary Limits: [7.892E-002, 1.184E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Parameter Description Value Deviation/Flags
[Mean +/- Std. Dev.] < LU : SD : UD : BS >

Decay corrected activity 2.1278E+005
Boundary Limits: [1.695E-001, 2.543E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/5/15 5:30:30 AM

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000003GAS-1402C.QC

Detector: GE3
 Geometry: <None>
 Certificate: GAS-1402
 Sample ID: QA Calibration C
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 10/1/14 12:00:00 AM
 Measurement Date: 11/5/15 5:14:43 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 937.2 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > | | | |
|--|-------------|--|---|---|---|
| Peak centroid 59.54 keV Boundary Limits: [5.800E+001, 6.100E+001] | 5.9924E+001 | < | : | : | > |
| Peak centroid 661.65 keV Boundary Limits: [6.600E+002, 6.640E+002] | 6.6167E+002 | < | : | : | > |
| Peak centroid 1332.49 keV Boundary Limits: [1.331E+003, 1.334E+003] | 1.3324E+003 | < | : | : | > |
| Peak centroid 1836.1 keV Boundary Limits: [1.833E+003, 1.838E+003] | 1.8359E+003 | < | : | : | > |
| Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000] | 1.6194E+000 | < | : | : | > |
| Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000] | 1.9018E+000 | < | : | : | > |
| Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000] | 2.1555E+000 | < | : | : | > |
| Peak FWHM Y-88 Boundary Limits: [5.000E-001, 3.000E+000] | 2.5793E+000 | < | : | : | > |
| Decay corrected activity Boundary Limits: [1.223E-001, 1.834E-001] Trend Test: The last 9 samples exhibit a bias trend. | 1.8008E+005 | < | : | : | > |
| Decay corrected activity Boundary Limits: [4.969E-002, 7.453E-002] Trend Test: The last 9 samples exhibit a bias trend. | 6.5252E+004 | < | : | : | > |

Decay corrected activity 9.8492E+004
Boundary Limits: [7.972E-002, 1.120E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Parameter Description Value Deviation/Flags
[Mean +/- Std. Dev.] < LU : SD : UD : BS >

Decay corrected activity 2.0742E+005
Boundary Limits: [1.713E-001, 2.569E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** G E N I E Q U A L I T Y A S S U R A N C E *****

Last Results Report
 11/6/15 6:04:42 AM

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000004B.QCK

Detector: GE4
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/6/15 5:49:19 AM
 Measurement Date: 11/6/15 5:49:21 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 910.5 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > |
|---|---------------------------------|--|
| DAILY BKG CT RATE GE4 [SD: 8.7486E+000+/-163.83] | 1.6278E+000 | -4.3463E-002 |
| Trend Test: The last | 9 samples exhibit a bias trend. | < : : : > |

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/6/15 6:04:26 AM

104

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000003B.QCK

Detector: GE3
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/6/15 5:49:12 AM
 Measurement Date: 11/6/15 5:49:14 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 903.8 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > |
|---|-------------|--|
| DAILY BKG CT RATE GE3 [SD: 2.2882E+003+/-1497.2] | 1.6930E+003 | -3.9756E-001 < : : : > |

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** G E N I E Q U A L I T Y A S S U R A N C E *****

Last Results Report
 11/6/15 6:04:15 AM

1116

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D000000002B.QCK

Detector: GE2
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/6/15 5:49:00 AM
 Measurement Date: 11/6/15 5:49:02 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 900.1 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > |
|--|-------------|--|
| DAILY BKG CT RATE GE2 [SD: 4.5529E+000 +/- 0.281] | 4.3933E+000 | -5.6838E-001 < : : : > |

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/6/15 6:04:07 AM

✓
 11/4

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D000000001B.QCK

Detector: GE1
 Geometry: <None>
 Certificate: <None>
 Sample ID: QA Background Ch
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 11/6/15 5:48:53 AM
 Measurement Date: 11/6/15 5:48:55 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 900.1 seconds

| Parameter Description | Value | Deviation/Flags |
|-----------------------------|---------------------------------|-----------------------|
| [Mean +/- Std. Dev.] | | < LU : SD : UD : BS > |
| DAILY BKG CT RATE GE1 | 2.0389E+000 | -1.5595E-001 |
| [SD: 2.3030E+000 +/- 1.694] | | < : : : > |
| Trend Test: The last | 9 samples exhibit a bias trend. | |

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** G E N I E Q U A L I T Y A S S U R A N C E *****

Last Results Report
 11/6/15 5:33:12 AM

106

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000004GAW-14C.QCK

Detector: GE4
 Geometry: <None>
 Certificate: GAW-14
 Sample ID: QA Calibration C
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 10/1/14 12:00:00 AM
 Measurement Date: 11/6/15 5:17:02 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 958.7 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > | | | |
|--|-------------|--|---|---|---|
| Peak centroid 59.54 keV Boundary Limits: [5.800E+001, 6.100E+001] | 5.8614E+001 | < | : | : | > |
| Peak centroid 661.65 keV Boundary Limits: [6.600E+002, 6.630E+002] | 6.6104E+002 | < | : | : | > |
| Peak centroid 1332.49 keV Boundary Limits: [1.331E+003, 1.334E+003] | 1.3322E+003 | < | : | : | > |
| Peak centroid 1836.1 keV Boundary Limits: [1.834E+003, 1.838E+003] Trend Test: The last 9 samples exhibit a bias trend. | 1.8361E+003 | < | : | : | > |
| Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000] | 2.2479E+000 | < | : | : | > |
| Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000] | 2.6459E+000 | < | : | : | > |
| Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000] | 2.9826E+000 | < | : | : | > |
| Peak FWHM Y-88 Boundary Limits: [5.000E-001, 3.500E+000] Trend Test: The last 9 samples exhibit a bias trend. | 2.9975E+000 | < | : | : | > |
| Decay corrected activity Boundary Limits: [1.200E-001, 1.816E-001] Trend Test: The last 9 samples exhibit a bias trend. | 1.2362E+005 | < | : | : | > |
| Decay corrected activity Boundary Limits: [4.918E-002, 7.377E-002] | 6.2953E+004 | < | : | : | > |

Decay corrected activity 9.7706E+004
Boundary Limits: [7.892E-002, 1.184E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

| Parameter Description | Value | Deviation/Flags |
|-----------------------|-------|-----------------------|
| [Mean +/- Std. Dev.] | | < LU : SD : UD : BS > |

Decay corrected activity 1.9965E+005
Boundary Limits: [1.695E-001, 2.543E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** GENIE QUALITY ASSURANCE *****

Last Results Report
 11/6/15 5:32:41 AM

Tue

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D000000003GAS-1402C.QC

Detector: GE3
 Geometry: <None>
 Certificate: GAS-1402
 Sample ID: QA Calibration C
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 10/1/14 12:00:00 AM
 Measurement Date: 11/6/15 5:16:53 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 937.6 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > | | | |
|--|-------------|--|---|---|---|
| Peak centroid 59.54 keV Boundary Limits: [5.800E+001, 6.100E+001] | 5.9779E+001 | < | : | : | > |
| Peak centroid 661.65 keV Boundary Limits: [6.600E+002, 6.640E+002] Trend Test: The last 9 samples exhibit a bias trend. | 6.6155E+002 | < | : | : | > |
| Peak centroid 1332.49 keV Boundary Limits: [1.331E+003, 1.334E+003] | 1.3322E+003 | < | : | : | > |
| Peak centroid 1836.1 keV Boundary Limits: [1.833E+003, 1.838E+003] | 1.8356E+003 | < | : | : | > |
| Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000] | 1.8047E+000 | < | : | : | > |
| Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000] | 2.1181E+000 | < | : | : | > |
| Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000] | 2.2416E+000 | < | : | : | > |
| Peak FWHM Y-88 Boundary Limits: [5.000E-001, 3.000E+000] | 2.5287E+000 | < | : | : | > |
| Decay corrected activity Boundary Limits: [1.223E-001, 1.834E-001] Trend Test: The last 9 samples exhibit a bias trend. | 1.7928E+005 | < | : | : | > |
| Decay corrected activity Boundary Limits: [4.969E-002, 7.453E-002] Trend Test: The last 9 samples exhibit a bias trend. | 6.4125E+004 | < | : | : | > |

Decay corrected activity 9.8562E+004
Boundary Limits: [7.972E-002, 1.120E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

| Parameter Description | Value | Deviation/Flags |
|-----------------------|-------|-----------------------|
| [Mean +/- Std. Dev.] | | < LU : SD : UD : BS > |

Decay corrected activity 2.1725E+005
Boundary Limits: [1.713E-001, 2.569E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** G E N I E Q U A L I T Y A S S U R A N C E *****

Last Results Report
 11/6/15 5:32:22 AM

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D000000002GAS-1401C.QC

Detector: GE2
 Geometry: <None>
 Certificate: GAS-1401
 Sample ID: QA Calibration C
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 10/1/14 12:00:00 AM
 Measurement Date: 11/6/15 5:16:42 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 926.7 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > | | | |
|--|-------------|--|---|---|---|
| Peak centroid 59.54keV | 6.0000E+001 | | | | |
| Boundary Limits: [5.800E+001, 6.100E+001] | | < | : | : | > |
| Trend Test: The last 9 samples exhibit a bias trend. | | | | | |
| Peak centroid 661.65 keV | 6.6145E+002 | | | | |
| Boundary Limits: [6.600E+002, 6.640E+002] | | < | : | : | > |
| Trend Test: The last 9 samples exhibit a bias trend. | | | | | |
| Peak centroid 1332.49 ke | 1.3320E+003 | | | | |
| Boundary Limits: [1.331E+003, 1.334E+003] | | < | : | : | > |
| Peak centroid 1836.1 keV | 1.8353E+003 | | | | |
| Boundary Limits: [1.834E+003, 1.838E+003] | | < | : | : | > |
| Trend Test: The last 9 samples exhibit a bias trend. | | | | | |
| Peak FWHM Am-241 | 1.3688E+000 | | | | |
| Boundary Limits: [5.000E-001, 3.000E+000] | | < | : | : | > |
| Trend Test: The last 9 samples exhibit a bias trend. | | | | | |
| Peak FWHM Cs-137 | 2.0943E+000 | | | | |
| Boundary Limits: [5.000E-001, 3.000E+000] | | < | : | : | > |
| Trend Test: The last 9 samples exhibit a bias trend. | | | | | |
| Peak FWHM Co-60 | 2.1466E+000 | | | | |
| Boundary Limits: [5.000E-001, 3.000E+000] | | < | : | : | > |
| Peak FWHM Y-88 | 2.6645E+000 | | | | |
| Boundary Limits: [5.000E-001, 3.000E+000] | | < | : | : | > |
| Decay corrected activity | 1.5434E+005 | | | | |
| Boundary Limits: [1.224E-001, 1.836E-001] | | < | : | : | > |
| Trend Test: The last 9 samples exhibit a bias trend. | | | | | |

Decay corrected activity 6.3957E+004
Boundary Limits: [4.971E-002, 7.457E-002] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

| Parameter Description | Value | Deviation/Flags |
|-----------------------|-------|-----------------------|
| [Mean +/- Std. Dev.] | | < LU : SD : UD : BS > |

Decay corrected activity 1.0517E+005
Boundary Limits: [7.978E-002, 1.197E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Decay corrected activity 2.1367E+005
Boundary Limits: [1.714E-001, 2.571E-001] < : : : >
Trend Test: The last 9 samples exhibit a bias trend.

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
BS = Measurement Bias Test (In = Investigate, Ac = Action)

 ***** G E N I E Q U A L I T Y A S S U R A N C E *****

Last Results Report
 11/6/15 5:32:12 AM

1116

QA File: \\OR-GAMMA1\ApexRoot\Countroom\QA\D0000000001GAF-14C.QCK

Detector: GE1
 Geometry: <None>
 Certificate: GAF-14
 Sample ID: QA Calibration C
 Sample Desc: QA Count
 Sample Quantity: 1.0000E+000
 Sample Date: 10/1/14 12:00:00 AM
 Measurement Date: 11/6/15 5:16:34 AM
 Elapsed Live Time: 900.0 seconds
 Elapsed Real Time: 923.9 seconds

| Parameter Description [Mean +/- Std. Dev.] | Value | Deviation/Flags < LU : SD : UD : BS > | | | |
|---|-------------|--|---|---|---|
| Peak centroid 59.54 keV Boundary Limits: [5.800E+001, 6.100E+001] | 6.0000E+001 | < | : | : | > |
| Peak centroid 661.65 keV Boundary Limits: [6.600E+002, 6.630E+002] Trend Test: The last 9 samples exhibit a bias trend. | 6.6204E+002 | < | : | : | > |
| Peak centroid 1332.49 keV Boundary Limits: [1.331E+003, 1.334E+003] Trend Test: The last 9 samples exhibit a bias trend. | 1.3330E+003 | < | : | : | > |
| Peak centroid 1836.01 keV Boundary Limits: [1.834E+003, 1.838E+003] | 1.8365E+003 | < | : | : | > |
| Peak FWHM Am-241 Boundary Limits: [5.000E-001, 3.000E+000] | 1.2137E+000 | < | : | : | > |
| Peak FWHM Cs-137 Boundary Limits: [5.000E-001, 3.000E+000] Trend Test: The last 9 samples exhibit a bias trend. | 1.5719E+000 | < | : | : | > |
| Peak FWHM Co-60 Boundary Limits: [5.000E-001, 3.000E+000] Trend Test: The last 9 samples exhibit a bias trend. | 1.9942E+000 | < | : | : | > |
| Peak FWHM Y-90 Boundary Limits: [5.000E-001, 3.000E+000] | 2.3971E+000 | < | : | : | > |
| Decay corrected activity Boundary Limits: [1.170E-002, 1.754E-002] | 1.4515E+004 | < | : | : | > |
| Decay corrected activity | 6.2458E+003 | | | | |

Boundary Limits: [4.716E-003, 7.075E-003] < : : : >

Decay corrected activity 1.0843E+004
Boundary Limits: [7.572E-003, 1.136E-002] < : : : >

Parameter Description Value Deviation/Flags
[Mean +/- Std. Dev.] < LU : SD : UD : BS >

Decay corrected activity 2.0967E+004
Boundary Limits: [1.626E-002, 2.440E-002] < : : : >

Flags Key: LU = Lower/Upper Bounds Test (Ab = Above, Be = Below)
 SD = Sample Driven N-Sigma Test (In = Investigate, Ac = Action)
 UD = User Driven N-Sigma Test (In = Investigate, Ac = Action)
 BS = Measurement Bias Test (In = Investigate, Ac = Action)