

AUXIER & ASSOCIATES, INC.

PAP-KAN

1428

**STANDARD LEVEL IV
REPORT OF ANALYSIS**

WORK ORDER #15-10095-OR

October 27, 2015

**EBERLINE ANALYTICAL/OAK RIDGE LABORATORY
OAK RIDGE, TN**

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	Last Page Number	0027



STANDARD OPERATING PROCEDURE

Sample Receiving

MP-001, Rev. 15
Effective: 2/2/15
Page 14 of 15

Eberline Services – Oak Ridge Laboratory LABORATORY DATA SUPPORT CHECKLIST

MP-001-3

15 - 10095

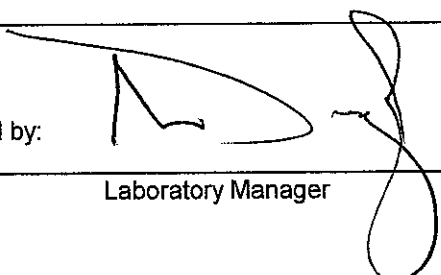
Eberline Services Work Order # _____

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

Date for Partial	Initials	Date	Initials	Checklist Items
		10/15/15	JEB	Sample Log-In
		10/16/15	J	Data Compilation
		10/16/15	MLT	First Technical Data Review
		10/19/15	MLT	Second Technical Data Review
		10/26/15	EJT	Data Entry/Electronic Deliverable
		10/20/15	EJT	Case Narrative
		10/26/15	HBJ	Electronic Deliverable Proof
		10/27/15	MLT	Samples Analyzed within Holding Time Yes? <input checked="" type="checkbox"/> No? <input type="checkbox"/>
		10/27/15	MLT	QA/QC Review
		10/16/15	J	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:


Laboratory Manager


Date

Copy No. _____

Radiochemistry Services

: 00003

SECTION I
CHAIN OF CUSTODY
&
pH CHECK SHEET

Chain of Custody Record

No 7257

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



Project Name:	Project Number: 1428				Page 1 of 1	
Send Report To:	Cellula Green/Anxier		Sampler (Print Name):		SSPA	
Address:	9821 Cogdill Rd, Ste 1 Knoxville, TN 37932 Phone: 865-675-3669 Fax: 865-675-3677		Shipment Method:		Federal Express	
	Field Sample ID	Sample Date	Sample Time	Sample Matrix	Number of Containers	
	KC 86-051-U	10/2/15	14:40	W	1	<input checked="" type="checkbox"/> Total Suspended Solids <input checked="" type="checkbox"/> Gross Dissolved Solids <input checked="" type="checkbox"/> Gross Alpha <input checked="" type="checkbox"/> Gross Beta <input checked="" type="checkbox"/> Isotopic Uranium <input checked="" type="checkbox"/> Isotopic Thorium
	KC 86-051-L	10/2/15	15:55	W	1	<input checked="" type="checkbox"/> Total Suspended Solids <input checked="" type="checkbox"/> Gross Dissolved Solids <input checked="" type="checkbox"/> Gross Alpha <input checked="" type="checkbox"/> Gross Beta <input checked="" type="checkbox"/> Isotopic Uranium <input checked="" type="checkbox"/> Isotopic Thorium
	KC 98-233	10/10	15:07	um		<input checked="" type="checkbox"/> Total Suspended Solids <input checked="" type="checkbox"/> Gross Dissolved Solids <input checked="" type="checkbox"/> Gross Alpha <input checked="" type="checkbox"/> Gross Beta <input checked="" type="checkbox"/> Isotopic Uranium <input checked="" type="checkbox"/> Isotopic Thorium
	Trip Blank					
RECEIVED OCT 14 2015 collected on 10/2/15 15-10095 Purchase Order # Lab Sample ID (to be completed by lab) Comments, Special Instructions, etc. Analyze TSS + TDs Contact Cecilia Filter as directed. Analyze GA + GB contact Cecilia Proceed as directed						
Reinquished by: (Signature) Leah M				Received by: (Signature) Fedex		
Reinquished by: (Signature)				Received by: (Signature) Amy E. ...		
Reinquished by: (Signature)				Received by: (Signature)		
Date: 10/13/15 Time: 1500				Date: 10-15-15 Time: 1430		
Sample Custodian Remarks (Completed By Laboratory):				Turnaround		
QA/QC Level Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Other <input type="checkbox"/>				Total # Containers Received? COC Seals Present? COC Seals Intact? Received Containers Intact? Temperature?		

500055



EBERLINE
SERVICES

Oak Ridge Laboratory

Internal Chain of Custody

Work Order #

15-10095

Lab Deadline

10/16/2015

Analysis

TDS - Level 4

Sample Matrix

Water

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
	04	36	W1.4
	05	34	W1.4

	Location (circle one)					Initials	Date
Received by	<u>Sample Storage</u>	Rough Prep	Prep	Separations	Count Room	MH	16OCT15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	MH	16OCT15 0405
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		
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		




Internal Chain of Custody

Work Order #	15-10095
Lab Deadline	10/16/2015
Analysis	TSS - Level 4
Sample Matrix	Water

Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
	04	36	W1.4
	05	34	W1.4

	Location (circle one)					Initials	Date
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room	MH	16OCT15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	MH	16OCT15 0405
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		
Received by	Sample Storage	Rough Prep	Prep	Separations	Count Room		
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room		

	Sample Receiving Report (Volumes, pH, & CPM)	Internal Work Order
		15-10095
		Received By
		JBAILEY

FR	ClientID	# Btls	Comments	Matrix	Storage	Rec Vol Ttl	CPM Max	
01	LCS	0		WA	W1.4			
02	BLANK	0		WA	W1.4			
03	DUP	0		WA	W1.4			
04	KC86-051-U	1		WA	W1.4	3.76	36	
				Container Number	pH Orig	pH Final	Volume (L)	CPM
				1	7	7	3.7600	36
05	KC86-051-L	1		WA	W1.4	3.76	34	
				Container Number	pH Orig	pH Final	Volume (L)	CPM
				1	7	7	3.7600	34

10/15/15

Received by: *[Signature]* Date: 10-15-15

SECTION II
SAMPLE ACKNOWLEDGEMENT



Eberline Services – Oak Ridge Laboratory

SAMPLE RECEIPT CHECKLIST
MP-001-2

WORK ORDER # 15 - 10095

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	<input checked="" type="radio"/> Y	N	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. Smith* DATE: 10-15-15

SECTION III
CASE NARRATIVE



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

EBS-OR-39854

October 27, 2015

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

CASE NARRATIVE
Work Order# 15-10095-OR

SAMPLE RECEIPT

This work order contains two water samples received 10/15/2015. These samples were analyzed for Total Dissolved Solids (TDS) and Total Suspended Solids (TSS).

<u>CLIENT ID</u>	<u>LAB ID</u>
KC86-051-U	15-10095-04
KC86-051-L	15-10095-05

ANALYTICAL METHODS

Total Dissolved Solids was analyzed using Standard Methods 2540C. Total Suspended Solids was analyzed using Standard Methods 2540D.

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.

TOTAL DISSOLVED SOLIDS (TDS)

A volumetric aliquot of each sample was filtered through a tared 0.45µm filter media into a tared 250ml beaker. Samples were then dried on a hot plate and were allowed to cool. The TDS content was determined by reweighing tared beakers.

Sample fractions -04 and -05 (Client ID: KC86-051-U and KC86-051-L respectively) demonstrated Total Dissolved Solids content results of 297.0 and 278.0 mg/L.

ANALYTICAL RESULTS CONTINUED

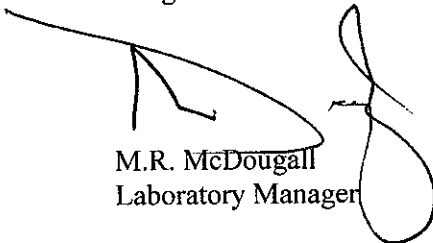
TOTAL SUSPENDED SOLIDS (TSS)

A volumetric aliquot of each sample was filtered through tared 0.45µm filter media. Filter media was then dried and reweighed for determination of TSS content.

Sample fractions -04 and -05 (Client ID: KC86-051-U and KC86-051-L respectively) demonstrated Total Suspended Solids content results of 21.0 and 58.0 mg/L.

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: 10/27/2015

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

Lab ID		Sample Type	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	CU	CSU	MDA	CV	Report Units
15-10095-04		TRG	KC86-051-U	10/02/15 14:40	10/14/2015	10/16/2015	15-10095	TDS	SM 2540C	2.97E+02					mg/l
15-10095-05		TRG	KC86-051-L	10/02/15 15:55	10/14/2015	10/16/2015	15-10095	TDS	SM 2540C	2.78E+02					mg/l
15-10095-04		TRG	KC86-051-U	10/02/15 14:40	10/14/2015	10/16/2015	15-10095	TSS	SM 2540D	2.10E+01					mg/l
15-10095-05		TRG	KC86-051-L	10/02/15 15:55	10/14/2015	10/16/2015	15-10095	TSS	SM 2540D	5.80E+01					mg/l

Work Order Details:

SDG: **15-10095**
 Purchase Order: PAP-KAN
 Analysis Category: ENVIRONMENTAL
 Sample Matrix: WA

Report To:

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

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

SECTION V
LABORATORY TECHNICIAN'S NOTES


TDS NOTES

 EBERLINE SERVICES Work Order Analysis Notes	Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Internal Work Order	15-10095
		Analysis Code	TDS
		Run Number	1

#	Date	Dept	User	Notes
1	10/16/15 02:59	PREP	MHIGHTOWER	Filtered sample into tared beaker, dried, re-weighed

Mu 16 Oct 15

TSS NOTES

 EBERLINE SERVICES Work Order Analysis Notes	Oak Ridge Laboratory 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Internal Work Order	15-10095
		Analysis Code	TSS
		Run Number	1

#	Date	Dept	User	Notes
1	10/16/15 02:59	PREP	MHIGHTOWER	Captured suspended particles on tared filters, dried, re-weighed

Mu 16 OCT 15

SECTION VI

ANALYTICAL DATA (TOTAL DISSOLVED SOLIDS)

TDS / TSS Worksheet

Work Order		Run	Analysis Code	Technician		
15-10095		1	TDS	MHIGHTOWER		
TRetec	Auxier & Associates, Inc.	Aliquot ml	Filter Data		TDS/TSS (mg/L)	Maximum Aliq (mL)
Fraction	Client ID		Filter Tare (g)	Filter Final (g)	Filter Net (g)	
04	KC86-051-J	100.0000	104.4091	104.4388	0.0297	336.70
05	KC86-051-L	100.0000	108.1965	108.2243	0.0278	359.71

00023

Technician: MH Date: 10 16 15

Aliquot Worksheet

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician	
15-10095	1	TDS	liters	10/16/2015	MHIGHTOWER	

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	DUP	DUP					1.0000E-01	1.0000E-01					
04	KC86-051-U	TRG					1.0000E-01	1.0000E-01					
05	KC86-051-L	TRG					1.0000E-01	1.0000E-01					

Comments

Mr Date: 10/16/15

Technician:

42900

SECTION VII

ANALYTICAL DATA (TOTAL SUSPENDED SOLIDS)

TDS / TSS Worksheet

Work Order	Run	Analysis Code	Technician
15-10095	1	TSS	MHIGHTOWER

TRetec Fraction	Auxier & Associates, Inc. Client ID	Aliquot ml	Filter Data			Filter Net (g)	TDS/TSS (mg/L)	Maximum Aliq (mL)
			Filter Tare (g)	Filter Final (g)	Filter Final (g)			
04	KC86-051-U	100.0000	0.0711	0.0732	0.0021	21.0000	4761.90	
05	KC86-051-L	100.0000	0.0703	0.0761	0.0058	58.0000	1724.14	

Technician: MH Date: 10 / 16 / 15

Aliquot Worksheet

Work Order	Run	Analysis Code	Rpt Units	Lab Deadline	Technician
15-10095	1	TSS	liters	10/16/2015	MHIGHTOWER

Lab Fraction	Auxier & Associates, Inc. Client ID		Sample Type	Muffle Data			Dilution Data			Aliquot Data			MS Aliquot Data		H-3 Solids Only	
	Client ID			Ratio Post/Pre	No of Dilis	Dil Factor	Ratio	Aliquot	Net Equiv	Aliquot	Net Equiv	Water Added (ml)	H3 Dist Alig			
01	LCS		LCS					1.0000E+00		1.0000E+00						
02	BLANK		MBL					1.0000E+00		1.0000E+00						
03	DUP		DUP					1.0000E-01		1.0000E-01						
04	KC86-051-U		TRG					1.0000E-01		1.0000E-01						
05	KC86-051-L		TRG					1.0000E-01		1.0000E-01						

Comments

Technician: Mh Date: 10 / 16 / 15