

**AUXIER & ASSOCIATES, INC.**

**PAP-KAN**

**1428**

**STANDARD LEVEL IV  
REPORT OF ANALYSIS**

**WORK ORDER #15-10097-OR**

**October 27, 2015**

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

## TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE
I	Chain of Custody & pH Check Sheet	0004
II	Sample Acknowledgement	0009
III	Case Narrative	0012
IV	Analytical Results Summary	0015
V	Laboratory Technician's Notes	0017
VI	Analytical Data (Total Dissolved Solids)	0022
VII	Analytical Data (Total Suspended Solids)	0025
	Last Page Number	0027



**Eberline Services – Oak Ridge Laboratory**  
**LABORATORY DATA SUPPORT CHECKLIST**  
MP-001-3

Eberline Services Work Order # 15 - 10097

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

Date for Partial	Initials	Date	Initials	Checklist Items
		10-16-15	JEB	Sample Log-In
		10/19/15	[Signature]	Data Compilation
		10-19-15	MLT	First Technical Data Review
		10/19/15	[Signature]	Second Technical Data Review
		10/20/15	EYT	Data Entry/Electronic Deliverable
		10/20/15	EYT	Case Narrative
		10/24/15	[Signature]	Electronic Deliverable Proof
		10/27/15	USG	Samples Analyzed within Holding Time Yes? <input checked="" type="checkbox"/> No? <input type="checkbox"/>
		10/27/15	USG	QA/QC Review
		10/19/15	[Signature]	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] 10/27/15  
 \_\_\_\_\_  
 Laboratory Manager Date

**SECTION I**  
**CHAIN OF CUSTODY**  
**&**  
**pH CHECK SHEET**







**EBERLINE**  
SERVICES  
Oak Ridge Laboratory

# Internal Chain of Custody

Work Order #

**15-10097**

Lab Deadline

**10/16/2015**

Analysis


**TSS - Level 4**

Sample Matrix

**Water**

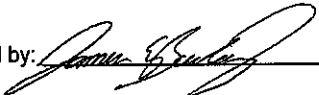
Comments	Sample Fraction	HP 210 / 270 Detector Activity	Storage Location
	04	34	P1.5
	05	38	P1.5
	06	32	P1.5
	07	31	P1.5
	08	33	P1.5
	09	37	P1.5

	Location (circle one)					Initials	Date
Received by	<u>Sample Storage</u>	Rough Prep	Prep	Separations	Count Room	<i>[Signature]</i>	10-16-15
Relinquished by	Sample Storage	Rough Prep	Prep	Separations	Count Room	<i>[Signature]</i>	10-16-15
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		
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		

	<b>Sample Receiving Report</b> (Volumes, pH, & CPM)	Internal Work Order
		<b>15-10097</b>
		Received By <b>JBAILEY</b>

FR	ClientID	# Btls	Comments	Matrix	Storage	Rec Vol Ttl	CPM Max
01	LCS	0		WA	P1.5		
02	BLANK	0		WA	P1.5		
03	DUP	0		WA	P1.5		
04	KC84-18-L	1		WA	P1.5	3.76	34
			Container Number:	pH Orig	pH Final	Volume (L)	CPM
			1	7	7	3.7600	34
05	KC84-18-M	1		WA	P1.5	3.76	38
			Container Number:	pH Orig	pH Final	Volume (L)	CPM
			1	7	7	3.7600	38
06	KC84-18-U	1		WA	P1.5	3.76	32
			Container Number:	pH Orig	pH Final	Volume (L)	CPM
			1	7	7	3.7600	32
07	CP-0403	1		WA	P1.5	3.76	31
			Container Number:	pH Orig	pH Final	Volume (L)	CPM
			1	7	7	3.7600	31
08	CP-0404	1		WA	P1.5	3.76	33
			Container Number:	pH Orig	pH Final	Volume (L)	CPM
			1	7	7	3.7600	33
09	RB-20-10 07 15	1		WA	P1.5	3.76	37
			Container Number:	pH Orig	pH Final	Volume (L)	CPM
			1	7	7	3.7600	37

*cg 10/16/15*

Received by:  Date: 10-16-15



**SECTION II**  
**SAMPLE ACKNOWLEDGEMENT**





**Eberline Services – Oak Ridge Laboratory**

**SAMPLE RECEIPT CHECKLIST**  
MP-001-2

WORK ORDER # 15 - 10097

SAMPLE MATRIX/MATRICES:

(CIRCLE ONE OR BOTH)

AQUEOUS      NON-AQUEOUS

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

WERE SAMPLES:

Received in good condition?	<u>Y</u>	N	
If aqueous, properly preserved	<u>Y</u>	N	N/A

WERE CHAIN OF CUSTODY SEALS:

Present on outside of package?	<u>Y</u>	N
Unbroken on outside of package?	<u>Y</u>	N
Present on samples?	<u>Y</u>	N
Unbroken on samples?	<u>Y</u>	N
Was chain of custody present upon sample receipt?	<u>Y</u>	N

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

REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SIGNATURE: *James E. Schuler*      DATE: 10-16-15

**SECTION III**  
**CASE NARRATIVE**



EBS-OR-39855

October 27, 2015

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

CASE NARRATIVE  
Work Order# 15-10097-OR

SAMPLE RECEIPT

This work order contains six 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>
KC84-18-L	15-10097-04
KC84-18-M	15-10097-05
KC84-18-U	15-10097-06
CP-0403	15-10097-07
CP-0404	15-10097-08
RB-20-10 07 15	15-10097-09

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.

Samples demonstrated Total Dissolved Solids content that ranged from 1.0 to 930.0 mg/L.

ANALYTICAL RESULTS CONTINUED

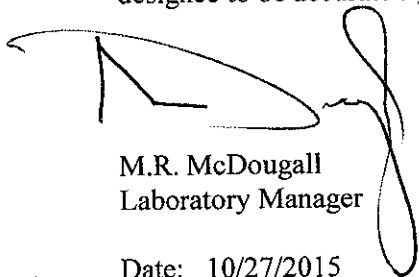
TOTAL SUSPENDED SOLIDS (TSS)

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.

Samples demonstrated Total Suspended Solids content that ranged from 1.0 to 2186.0 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

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

Work Order Details:

**SDG: 15-10097**  
**Purchase Order: PAP-KAN**  
**Analysis Category: ENVIRONMENTAL**  
**Sample Matrix: WVA**

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
15-10097-04	TRG	KC84-18-L	10/07/15 10:10	10/15/2015	10/16/2015	15-10097	TDS	SM 2540C	8.20E+02					mg/l
15-10097-05	TRG	KC84-18-M	10/07/15 11:20	10/15/2015	10/16/2015	15-10097	TDS	SM 2540C	9.30E+02					mg/l
15-10097-06	TRG	KC84-18-J	10/07/15 13:10	10/15/2015	10/16/2015	15-10097	TDS	SM 2540C	3.88E+02					mg/l
15-10097-07	TRG	CP-0403	10/07/15 16:17	10/15/2015	10/16/2015	15-10097	TDS	SM 2540C	4.75E+02					mg/l
15-10097-08	TRG	CP-0404	10/07/15 17:25	10/15/2015	10/16/2015	15-10097	TDS	SM 2540C	7.51E+02					mg/l
15-10097-09	TRG	RB-20-10 07 15	10/07/15 18:05	10/15/2015	10/16/2015	15-10097	TDS	SM 2540C	1.00E+00					mg/l
15-10097-04	TRG	KC84-18-L	10/07/15 10:10	10/15/2015	10/16/2015	15-10097	TSS	SM 2540D	1.29E+02					mg/l
15-10097-05	TRG	KC84-18-M	10/07/15 11:20	10/15/2015	10/16/2015	15-10097	TSS	SM 2540D	2.19E+03					mg/l
15-10097-06	TRG	KC84-18-U	10/07/15 13:10	10/15/2015	10/16/2015	15-10097	TSS	SM 2540D	1.17E+03					mg/l
15-10097-07	TRG	CP-0403	10/07/15 16:17	10/15/2015	10/16/2015	15-10097	TSS	SM 2540D	4.92E+02					mg/l
15-10097-08	TRG	CP-0404	10/07/15 17:25	10/15/2015	10/16/2015	15-10097	TSS	SM 2540D	2.88E+02					mg/l
15-10097-09	TRG	RB-20-10 07 15	10/07/15 18:05	10/15/2015	10/16/2015	15-10097	TSS	SM 2540D	1.00E+00					mg/l

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**  
**LABORATORY TECHNICIAN'S NOTES**

**TDS NOTES**

 <b>EBERLINE</b> SERVICES <b>Work Order Analysis Notes</b>	<b>Oak Ridge Laboratory</b> 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Internal Work Order	15-10097
		Analysis Code	TDS
		Run Number	1

#	Date	Dept	User	Notes
1	10/19/15 09:46	PREP	JPACHELLA	Samples were aliquoted and filtered. Filtrate was dried down in a tared beaker. Weights were recorded and paperwork was submitted for review.

10-19-15 JPachella

**TSS NOTES**

 <b>EBERLINE</b> SERVICES <b>Work Order Analysis Notes</b>	<b>Oak Ridge Laboratory</b> 601 Scarboro Rd. Oak Ridge, TN 37830 Voice: 865.481.0683 www.eberlineservices.com	Internal Work Order	15-10097
		Analysis Code	TSS
		Run Number	1

#	Date	Dept	User	Notes
1	10/19/15 09:47	PREP	JPACHELLA	Samples were aliquoted and filtered through a tared filter. Filtered were dried and re-weighed. Data was recorded and paperwork was submitter for review.

10-19-15 JPachella

**SECTION VI**  
**ANALYTICAL DATA (TOTAL DISSOLVED SOLIDS)**







**SECTION VII**  
**ANALYTICAL DATA (TOTAL SUSPENDED SOLIDS)**



# Aliquot Worksheet

Work Order	<b>15-10097</b>	Run	<b>1</b>	Analysis Code	<b>TSS</b>	Rpt Units	<b>liters</b>	Lab Deadline	<b>10/16/2015</b>	Technician	<b>JPACHELLA</b>
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Lab Fraction	Auxler & Associates, Inc.		Sample		Muffle Data		Dilution Data			Aliquot Data		MS Aliquot Data		H-3 Solids Only	
	Client ID	Type	Ratio Post/Pre	No of Dil	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	KC84-18-L	DUP					1.0000E-01	1.0000E-01							
04	KC84-18-L	DO					1.0000E-01	1.0000E-01							
05	KC84-18-M	TRG					1.0000E-01	1.0000E-01							
06	KC84-18-U	TRG					1.0000E-01	1.0000E-01							
07	CP-0403	TRG					1.0000E-01	1.0000E-01							
08	CP-0404	TRG					1.0000E-01	1.0000E-01							
09	RB-20-10 07 15	TRG					1.0000E-01	1.0000E-01							

Comments
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Technician: *JPachella* Date: 10/16/15