



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 18D0765

Client Name: APEX Companies, LLC. -Manassas
9700 Capital Court #100
Manassas, VA 20110

Date Received: April 24, 2018 13:38

Date Issued: May 8, 2018 17:26

Project Number: 2500732-001

Submitted To: William Thomas

Purchase Order:

Client Site I.D.: Rockhill ES

Enclosed are the results of analyses for samples received by the laboratory on 04/24/2018 13:38. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads "Ted Soyars".

Ted Soyars
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





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Certificate of Analysis

Final Report

Client Name: APEX Companies, LLC. -Manassas Date Issued: 5/8/2018 17:26
9700 Capital Court #100
Manassas VA, 20110
Submitted To: William Thomas Project Number: 2500732-001
Client Site I.D.: Rockhill ES Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 18D0765

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RHE2-KS-LIB-AURM	18D0765-01	Drinking Water	04/21/2018 09:39	04/24/2018 13:38
RHE2-CF-RM6	18D0765-02	Drinking Water	04/21/2018 09:40	04/24/2018 13:38
RHE2-JS-HW5-CUSTOF	18D0765-03	Drinking Water	04/21/2018 09:43	04/24/2018 13:38
RHE2-BS-WR-HH	18D0765-04	Drinking Water	04/21/2018 09:46	04/24/2018 13:38
RHE2-CF-RM10	18D0765-05	Drinking Water	04/21/2018 09:47	04/24/2018 13:38
Field Blank-RHE2	18D0765-06	Drinking Water	04/21/2018 09:49	04/24/2018 13:38



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Client Site I.D.:	Rockhill ES	Purchase Order:	

Laboratory Order ID: 18D0765

Analytical Results

Sample I.D. RHE2-KS-LIB-AURM	Laboratory Sample ID: 18D0765-01
Grab Date/Time: 04/21/2018 09:39	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
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Metals (Total) by EPA 200 Series Methods

Lead	01	EPA200.8 R5.4	7.68 ug/L	1.00	1	05/04/18 17:00	05/07/18 17:02	RJW
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Laboratory Order ID: 18D0765

Analytical Results

Sample I.D. RHE2-CF-RM6	Laboratory Sample ID: 18D0765-02
Grab Date/Time: 04/21/2018 09:40	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
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Metals (Total) by EPA 200 Series Methods

Lead	02	EPA200.8 R5.4	9.46 ug/L	1.00	1	05/04/18 17:00	05/07/18 17:06	R JW
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Laboratory Order ID: 18D0765

Analytical Results

Sample I.D. RHE2-JS-HW5-CUSTOF	Laboratory Sample ID: 18D0765-03
Grab Date/Time: 04/21/2018 09:43	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
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Metals (Total) by EPA 200 Series Methods

Lead	03	EPA200.8 R5.4	3.93 ug/L	1.00	1	05/04/18 17:00	05/07/18 17:11	RJV
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Laboratory Order ID: 18D0765

Analytical Results

Sample I.D. RHE2-BS-WR-HH	Laboratory Sample ID: 18D0765-04
Grab Date/Time: 04/21/2018 09:46	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
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Metals (Total) by EPA 200 Series Methods

Lead	04	EPA200.8 R5.4	5.69 ug/L	1.00	1	05/04/18 17:00	05/07/18 17:15	RJW
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Laboratory Order ID: 18D0765

Analytical Results

Sample I.D. RHE2-CF-RM10	Laboratory Sample ID: 18D0765-05
Grab Date/Time: 04/21/2018 09:47	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
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Metals (Total) by EPA 200 Series Methods

Lead	05	EPA200.8 R5.4	15.4 ug/L	1.00	1	05/04/18 17:00	05/08/18 13:56	RJW
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Laboratory Order ID: 18D0765

Analytical Results

Sample I.D. Field Blank-RHE2 **Laboratory Sample ID:** 18D0765-06

Grab Date/Time: 04/21/2018 09:49

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
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Metals (Total) by EPA 200 Series Methods

Lead	06	EPA200.8 R5.4	<1.00 ug/L	1.00	1	05/04/18 17:00	05/08/18 14:01	RJW
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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Metals (Total) by EPA 200 Series Methods

	Preparation Method:	EPA200.8 R5.4			
18D0765-01	50.0 mL / 50.0 mL	EPA200.8 R5.4	BBE0175	SBE0204	AE80030
18D0765-02	50.0 mL / 50.0 mL	EPA200.8 R5.4	BBE0175	SBE0204	AE80030
18D0765-03	50.0 mL / 50.0 mL	EPA200.8 R5.4	BBE0175	SBE0204	AE80030
18D0765-04	50.0 mL / 50.0 mL	EPA200.8 R5.4	BBE0175	SBE0204	AE80030
18D0765-05	50.0 mL / 50.0 mL	EPA200.8 R5.4	BBE0175	SBE0250	AE80038
18D0765-06	50.0 mL / 50.0 mL	EPA200.8 R5.4	BBE0175	SBE0250	AE80038



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Client Site I.D.:	Rockhill ES	Purchase Order:	

Metals (Total) by EPA 200 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BBE0175 - EPA200.8 R5.4

Blank (BBE0175-BLK1)				Prepared: 05/04/2018 Analyzed: 05/07/2018						
Lead	<1.00 ug/L	1.00	ug/L							
LCS (BBE0175-BS1)				Prepared: 05/04/2018 Analyzed: 05/07/2018						
Lead	42.1 ug/L	1.00	ug/L	50.0	ug/L	84.2	85-115			L
LCS Dup (BBE0175-BSD1)				Prepared: 05/04/2018 Analyzed: 05/07/2018						
Lead	42.8 ug/L	1.00	ug/L	50.0	ug/L	85.5	85-115	1.53	20	
Matrix Spike (BBE0175-MS1)				Source: 18D0764-01			Prepared: 05/04/2018 Analyzed: 05/07/2018			
Lead	51.6 ug/L	1.00	ug/L	50.0	13.3 ug/L	76.5	70-130			
Matrix Spike (BBE0175-MS2)				Source: 18D0764-02			Prepared: 05/04/2018 Analyzed: 05/07/2018			
Lead	48.0 ug/L	1.00	ug/L	50.0	5.77 ug/L	84.5	70-130			
Matrix Spike Dup (BBE0175-MSD1)				Source: 18D0764-01			Prepared: 05/04/2018 Analyzed: 05/07/2018			
Lead	45.0 ug/L	1.00	ug/L	50.0	13.3 ug/L	63.4	70-130	13.5	20	M
Matrix Spike Dup (BBE0175-MSD2)				Source: 18D0764-02			Prepared: 05/04/2018 Analyzed: 05/07/2018			
Lead	46.5 ug/L	1.00	ug/L	50.0	5.77 ug/L	81.5	70-130	3.18	20	



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Certified Analyses included in this Report

Analyte	Certifications		
<i>EPA200.8 R5.4 in Potable Water</i>			
Lead	VELAP		
Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2018
VELAP	NELAC-Virginia Certificate #9551	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018



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Summary of Data Qualifiers

- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits
- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- D.F. Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library .
A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
- PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



1571 KENNETT ROAD
 RICHMOND, VIRGINIA 23237
 (804) 358-8295 PHONE
 (804) 358-8297 FAX

Form #: F1331
 Rev. 2.0
 Effective: Jun 28, 2016

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: <u>Apex Companies, LLC</u>	INVOICE TO: <u>SAME</u>	PROJECT NAME/Quote #: <u>SCPS L/DW</u>
CONTACT: <u>William Thomas</u>	INVOICE CONTACT:	SITE NAME: <u>Rockhill ES</u>
ADDRESS: <u>9700 Capital Ct Suite 100 Manassas, VA</u>	INVOICE ADDRESS:	PROJECT NUMBER: <u>2300732-001</u>
PHONE #: <u>703-396-6730</u>	INVOICE PHONE #:	P.O. #:
FAX #: <u>703-396-6743</u>	EMAIL: <u>WThomas@apexcos.com</u>	Pretreatment Program:
Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Is sample from a chlorinated supply? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	PWS I.D. #:
SAMPLER NAME (PRINT): <u>Kim Leavine</u>	SAMPLER SIGNATURE: <u>[Signature]</u>	Turn Around Time: Circle: <u>10</u> 5 Days or ___ Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)								COMMENTS	
1) <u>RHE2-15-LIB-AURM</u>	<input checked="" type="checkbox"/>					<u>4-21-18</u>	<u>0939</u>	<u>→</u>	<u>DW</u>	<u>1</u>	<u>X</u>									
2) <u>RHE2-CF-RMG</u>	<input checked="" type="checkbox"/>					<u>↓</u>	<u>0940</u>	<u>↓</u>	<u>↓</u>	<u>1</u>	<u>X</u>									
3) <u>RHE2-SS-HWS-CUSTOP</u>	<input checked="" type="checkbox"/>					<u>↓</u>	<u>0943</u>	<u>↓</u>	<u>↓</u>	<u>1</u>	<u>X</u>									
4) <u>RHE2-BS-WR-HH</u>	<input checked="" type="checkbox"/>					<u>↓</u>	<u>0946</u>	<u>↓</u>	<u>↓</u>	<u>1</u>	<u>X</u>									
5) <u>RHE2-CF-RMD</u>	<input checked="" type="checkbox"/>					<u>↓</u>	<u>0947</u>	<u>↓</u>	<u>↓</u>	<u>1</u>	<u>X</u>									
6) <u>Field Blank - RHE2</u>	<input checked="" type="checkbox"/>					<u>↓</u>	<u>0949</u>	<u>↓</u>	<u>↓</u>	<u>1</u>	<u>X</u>									
7)																				
8)																				
9)																				
10)																				

COMMENTS
 Preservative Codes: N=Nitric Acid
 C=Hydrochloric Acid S=Sulfuric Acid
 H=Sodium Hydroxide A=Ascorbic Acid
 Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol
 PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

Dated
will

REL	ISSUED: <u>[Signature]</u> DATE / TIME: <u>4-24-18 10:52</u>	RECEIVED: <u>[Signature]</u> DATE / TIME: <u>4-24-18 10:52</u>	QC Data Package	LAB USE ONLY	COOLER TEMP <u>22.1</u> °C
REL	ISSUED: <u>[Signature]</u> DATE / TIME: <u>4-24-18 138</u>	RECEIVED: <u>[Signature]</u> DATE / TIME: <u>4/24/18 1338</u>	Level III <input type="checkbox"/>	APEX-Manassas 18D0765 SCPS - Rockhill Elementary School Recd: 04/24/2018 Due: 05/08/2018	
REL	ISSUED: _____ DATE / TIME: _____	RECEIVED: _____ DATE / TIME: _____	Level IV <input type="checkbox"/>		

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Sample Preservation Log

Sample Preservation Log
 Form #: F1301
 Rev # 8.0
 Effective: Mar 30, 2018
 Page 1 of 1

Order ID 18D0765

Date Performed: 04/24/18

Analyst Performing Check: SWIS

Sample ID	Container ID	Metals			Cyanide			Sulfide			Ammonia			TKN			Phos, Tot			NO3+NO2			DRO			Pesticide (8081/608/508)			SVOC (525.2/8270/625)			CrVI*		Pest/PCB (508) / SVOC(525)		
		pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	pH as Received		Final pH (if adjust.)	Ros.Cl as Received		Res.Cl P/A (if adjust.)	Ros.Cl as Received		Res.Cl P/A (if adjust.)	pH as Received	Adjusted final pH	pH as Received		Final pH (if adjust.)			
		<2	Other		>12	Other		>9	Other		<2	Other		<2	Other		<2	Other		<2	Other		Present	Absent		Present	Absent			<2	Other		Other	Final pH (if adjust.)		
01	A		6	2																																
02	A		6	2																																
03	A		6	2																																
04	A		6	2																																
05	A		6	2																																
06	A		5	2																																

Metals containers were received with pH = 5.6. HNO₃ was added by SWIS at 1425 on 4/24/18 to bring the pH <2.

NaOH ID: _____ HNO₃ ID: F201031 CrVI preserved date/time: _____ Analyst Initials: _____
 H₂SO₄ ID: _____ N₂S₂O₃ ID: _____ Buffer Sol'n ID: _____
 HCL ID: _____ N₂SO₃ ID: _____ 1N NaOH ID: _____ 5N NaOH: _____



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Submitted To:	William Thomas	Project Number:	2500732-001
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Sample Conditions Checklist

Samples Received at:	22.10°C
How were samples received?	Courier
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (above freezing to 6°C) or received on ice and recently taken?	No
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	No
Are all volatile organic and TOX containers free of headspace?	NA
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	NA
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments