



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

Certificate of Analysis

Final Report

Laboratory Order ID 17K0505

Client Name:	Thomas Liesfeld	Date Received:	November 15, 2017 16:56
	859 Ben Hatcher Rd	Date Issued:	November 17, 2017 16:50
	Waynesboro, GA 30830	Project Number:	R15434R-12
Submitted To:	Thomas Liesfeld	Purchase Order:	
Client Site I.D.:	NKWP - Confirmatory Sampling		

Enclosed are the results of analyses for samples received by the laboratory on 11/15/2017 16:56. 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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld Date Issued: 11/17/2017 16:50
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: R15434R-12
Client Site I.D.: NKWP - Confirmatory Sampling Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17K0505

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA1-CS-9	17K0505-01	Soil	11/15/2017 13:00	11/15/2017 16:56
EA2-SB-1	17K0505-02	Soil	11/15/2017 14:45	11/15/2017 16:56
EA1-SB-2	17K0505-03	Soil	11/15/2017 14:30	11/15/2017 16:56
EA1-SB-3	17K0505-04	Soil	11/15/2017 14:40	11/15/2017 16:56
EA3-SB-4	17K0505-05	Soil	11/15/2017 14:00	11/15/2017 16:56



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Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/17/2017 16:50
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA1-CS-9	Laboratory Sample ID: 17K0505-01
Grab Date/Time: 11/15/2017 13:00	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	<1.00 mg/kg wet		1.00	1	11/16/17 11:00	11/17/17 13:06	BG
Chromium	01	SW6010C	7.42 mg/kg wet		0.500	1	11/16/17 11:00	11/17/17 13:06	BG



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Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/17/2017 16:50
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA2-SB-1	Laboratory Sample ID: 17K0505-02
Grab Date/Time: 11/15/2017 14:45	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	1.60 mg/kg wet	1.00		1	11/16/17 11:00	11/17/17 13:09	BG
Chromium	02	SW6010C	4.20 mg/kg wet	0.500		1	11/16/17 11:00	11/17/17 13:09	BG



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Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA1-SB-2	Laboratory Sample ID: 17K0505-03
Grab Date/Time: 11/15/2017 14:30	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	03	SW6010C	1.33 mg/kg wet	1.00	1	11/16/17 11:00	11/17/17 13:11	BG	
Chromium	03	SW6010C	4.59 mg/kg wet	0.500	1	11/16/17 11:00	11/17/17 13:11	BG	



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Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA1-SB-3	Laboratory Sample ID: 17K0505-04
Grab Date/Time: 11/15/2017 14:40	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	04	SW6010C	<1.00 mg/kg wet		1.00	1	11/16/17 11:00	11/17/17 13:13	BG
Chromium	04	SW6010C	3.96 mg/kg wet		0.500	1	11/16/17 11:00	11/17/17 13:13	BG



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Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP - Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA3-SB-4	Laboratory Sample ID: 17K0505-05
Grab Date/Time: 11/15/2017 14:00	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	05	SW6010C	<1.00 mg/kg wet		1.00	1	11/16/17 11:00	11/17/17 13:15	BG
Chromium	05	SW6010C	6.29 mg/kg wet		0.500	1	11/16/17 11:00	11/17/17 13:15	BG

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method: SW3050B		
17K0505-01	1.05 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100
17K0505-02	1.87 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100
17K0505-03	1.33 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100
17K0505-04	1.92 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100
17K0505-05	1.34 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100



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Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Metals (Total) by EPA 6000/7000 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 BAK0477 - SW3050B

Blank (BAK0477-BLK1)

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BAK0477-BS1)

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	79.9 mg/kg wet	0.500	mg/kg wet	76.3	mg/kg wet	105	80-120		
Arsenic	78.0 mg/kg wet	1.00	mg/kg wet	76.3	mg/kg wet	102	80-120		

LCS Dup (BAK0477-BSD1)

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	95.4 mg/kg wet	0.500	mg/kg wet	93.6	mg/kg wet	102	80-120	17.6	20
Arsenic	90.6 mg/kg wet	1.00	mg/kg wet	93.6	mg/kg wet	96.8	80-120	14.9	20

Matrix Spike (BAK0477-MS1)

Source: 17K0447-06

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	105 mg/kg wet	0.500	mg/kg wet	96.2	5.29 mg/kg wet	103	75-125		
Arsenic	96.5 mg/kg wet	1.00	mg/kg wet	96.2	<1.00 mg/kg wet	100	75-125		

Matrix Spike (BAK0477-MS2)

Source: 17K0505-05

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	73.6 mg/kg wet	0.500	mg/kg wet	64.3	6.29 mg/kg wet	105	75-125		
Arsenic	66.6 mg/kg wet	1.00	mg/kg wet	64.3	<1.00 mg/kg wet	102	75-125		

Matrix Spike Dup (BAK0477-MSD1)

Source: 17K0447-06

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	102 mg/kg wet	0.500	mg/kg wet	93.0	5.29 mg/kg wet	104	75-125	2.05	20
Arsenic	92.3 mg/kg wet	1.00	mg/kg wet	93.0	<1.00 mg/kg wet	99.2	75-125	4.53	20

Matrix Spike Dup (BAK0477-MSD2)

Source: 17K0505-05

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	70.1 mg/kg wet	0.500	mg/kg wet	59.2	6.29 mg/kg wet	108	75-125	4.77	20
Arsenic	60.3 mg/kg wet	1.00	mg/kg wet	59.2	<1.00 mg/kg wet	100	75-125	9.90	20



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Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Solids</i>	
Arsenic	VELAP
Chromium	VELAP

Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9439	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2017



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Summary of Data Qualifiers

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.

CHAIN OF CUSTODY

CLIENT: LIESFELD FARMS	CONSULTANT: DRAPER ADEN ASSOCIATES	COPY COA TO CONSULTANT? YES
ATTN: THOMAS LIESFELD	ATTN: WILLIAM A SALOMONE (WSALOMONE@DAA.COM)	COPY INVOICE TO CONSULTANT? YES
STREET: 859 BEN HATCHER ROAD	STREET: 8090 VILLA PARK DRIVE	PROJECT: NKWP / CONFIRMATORY SAMPLING
CITY: WAYNESBORO, GA 30830	CITY: RICHMOND, VIRGINIA 23228	LOCATION: PROVIDENCE FORGE, VIRGINIA
PHONE: 804-833-4286	PHONE: 804-264-2228	LABORATORY: AIR, WATER, & SOIL LABORATORIES

TURN AROUND: <u>1</u> 2 3 5 10 DAYS	P.O. #: R15434R-12	ANALYSES REQUESTED
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LAB USE ONLY	SAMPLE INFORMATION	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
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LAB ID	SAMPLE ID	DATE	TIME	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
	EA1-CS-9	11/15	13:00		✓		S	✓	
	EA2-SB-1		14:45		✓		S	✓	
	EA1-SB-2		14:30		✓		S	✓	
	EA1-SB-3		14:40		✓		S	✓	
	EA3-SB-4		14:00		✓		S	✓	
									NO Seal NO Ice

SAMPLED BY: <i>Kendall Dunham</i>	PRINTED NAME: Kendall Dunham	Level 2 data package. Please report all concentrations in mg/kg (dry weight). All dry weight analyses shall be total analysis.
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RELINQUISHED BY: <i>Kendall Dunham</i>	DATE: 11/15	TIME: 16:56	RECEIVED BY: <i>[Signature]</i>	DATE: 11/17	DATE: 11/16
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TEMP: 18.6°C	pH:	CONTENTS: A = AIR; S=SOIL; G=GROUNDWATER; WW=WASTEWATER
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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/17/2017 16:50
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	18.60°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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



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Laboratory Order ID 17K0505

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: November 15, 2017 16:56

Date Issued: November 21, 2017 16:56

Project Number: R15434R-12

Submitted To: Thomas Liesfeld

Purchase Order:

Client Site I.D.: NKWP - Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 11/15/2017 16:56. 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.

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Final Report

Client Name: Thomas Liesfeld Date Issued: 11/21/2017 16:56
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: R15434R-12
Client Site I.D.: NKWP - Confirmatory Sampling Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17K0505

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA1-CS-9	17K0505-01	Soil	11/15/2017 13:00	11/15/2017 16:56
EA2-SB-1	17K0505-02	Soil	11/15/2017 14:45	11/15/2017 16:56
EA1-SB-2	17K0505-03	Soil	11/15/2017 14:30	11/15/2017 16:56
EA1-SB-3	17K0505-04	Soil	11/15/2017 14:40	11/15/2017 16:56
EA3-SB-4	17K0505-05	Soil	11/15/2017 14:00	11/15/2017 16:56

The Certificate of Analysis is being re-issued on 11/21/2017. Results are reported on a Dry Weight basis.



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Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP - Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA1-CS-9	Laboratory Sample ID: 17K0505-01
Grab Date/Time: 11/15/2017 13:00	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	<1.02 mg/kg dry	1.02	1		11/16/17 11:00	11/17/17 13:06	BG
Chromium	01	SW6010C	7.96 mg/kg dry	0.511	1		11/16/17 11:00	11/17/17 13:06	BG
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	93.3 %	0.10	1		11/20/17 14:30	11/20/17 14:30	TMB



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Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA2-SB-1	Laboratory Sample ID: 17K0505-02
Grab Date/Time: 11/15/2017 14:45	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	2.01 mg/kg dry	1.00		1	11/16/17 11:00	11/17/17 13:09	BG
Chromium	02	SW6010C	5.27 mg/kg dry	0.500		1	11/16/17 11:00	11/17/17 13:09	BG
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	79.7 %	0.10		1	11/20/17 14:30	11/20/17 14:30	TMB



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Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA1-SB-2	Laboratory Sample ID: 17K0505-03
Grab Date/Time: 11/15/2017 14:30	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	03	SW6010C	1.51 mg/kg dry	1.00	1	11/16/17 11:00	11/17/17 13:11	BG	
Chromium	03	SW6010C	5.21 mg/kg dry	0.500	1	11/16/17 11:00	11/17/17 13:11	BG	
Wet Chemistry Analysis									
Percent Solids	03	SM18 2540G	88.0 %	0.10	1	11/20/17 14:30	11/20/17 14:30	TMB	



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Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA1-SB-3	Laboratory Sample ID: 17K0505-04
Grab Date/Time: 11/15/2017 14:40	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	04	SW6010C	1.05 mg/kg dry	1.00	1	11/16/17 11:00	11/17/17 13:13	BG	
Chromium	04	SW6010C	5.00 mg/kg dry	0.500	1	11/16/17 11:00	11/17/17 13:13	BG	
Wet Chemistry Analysis									
Percent Solids	04	SM18 2540G	79.1 %	0.10	1	11/20/17 14:30	11/20/17 14:30	TMB	



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Laboratory Order ID: 17K0505

Analytical Results

Sample I.D. EA3-SB-4 Laboratory Sample ID: 17K0505-05

Grab Date/Time: 11/15/2017 14:00

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	05	SW6010C	1.06 mg/kg dry		1.00	1	11/16/17 11:00	11/17/17 13:15	BG
Chromium	05	SW6010C	7.34 mg/kg dry		0.500	1	11/16/17 11:00	11/17/17 13:15	BG
Wet Chemistry Analysis									
Percent Solids	05	SM18 2540G	85.7 %		0.10	1	11/20/17 14:30	11/20/17 14:30	TMB

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
			Preparation Method:	No Prep Wet Chem	
17K0505-01	1.00 g / 1.00 mL	SM18 2540G	BAK0627	SAK0650	
17K0505-02	1.00 g / 1.00 mL	SM18 2540G	BAK0627	SAK0650	
17K0505-03	1.00 g / 1.00 mL	SM18 2540G	BAK0627	SAK0650	
17K0505-04	1.00 g / 1.00 mL	SM18 2540G	BAK0627	SAK0650	
17K0505-05	1.00 g / 1.00 mL	SM18 2540G	BAK0627	SAK0650	
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method:	SW3050B	
17K0505-01	1.05 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100
17K0505-02	1.87 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100
17K0505-03	1.33 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100
17K0505-04	1.92 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100
17K0505-05	1.34 g / 50.0 mL	SW6010C	BAK0477	SAK0528	AK70100



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 16:56
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Metals (Total) by EPA 6000/7000 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 BAK0477 - SW3050B

Blank (BAK0477-BLK1)

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BAK0477-BS1)

Prepared: 11/16/2017 Analyzed: 11/17/2017

Arsenic	78.0 mg/kg wet	1.00	mg/kg wet	76.3	mg/kg wet	102	80-120		
Chromium	79.9 mg/kg wet	0.500	mg/kg wet	76.3	mg/kg wet	105	80-120		

LCS Dup (BAK0477-BSD1)

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	95.4 mg/kg wet	0.500	mg/kg wet	93.6	mg/kg wet	102	80-120	17.6	20
Arsenic	90.6 mg/kg wet	1.00	mg/kg wet	93.6	mg/kg wet	96.8	80-120	14.9	20

Matrix Spike (BAK0477-MS1)

Source: 17K0447-06

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	105 mg/kg wet	0.500	mg/kg wet	96.2	5.29 mg/kg wet	103	75-125		
Arsenic	96.5 mg/kg wet	1.00	mg/kg wet	96.2	<1.00 mg/kg wet	100	75-125		

Matrix Spike (BAK0477-MS2)

Source: 17K0505-05

Prepared: 11/16/2017 Analyzed: 11/17/2017

Arsenic	77.7 mg/kg dry	1.00	mg/kg dry	75.0	1.06 mg/kg dry	102	75-125		
Chromium	85.8 mg/kg dry	0.500	mg/kg dry	75.0	7.34 mg/kg dry	105	75-125		

Matrix Spike Dup (BAK0477-MSD1)

Source: 17K0447-06

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	102 mg/kg wet	0.500	mg/kg wet	93.0	5.29 mg/kg wet	104	75-125	2.05	20
Arsenic	92.3 mg/kg wet	1.00	mg/kg wet	93.0	<1.00 mg/kg wet	99.2	75-125	4.53	20

Matrix Spike Dup (BAK0477-MSD2)

Source: 17K0505-05

Prepared: 11/16/2017 Analyzed: 11/17/2017

Chromium	81.8 mg/kg dry	0.500	mg/kg dry	69.1	7.34 mg/kg dry	108	75-125	4.77	20
Arsenic	70.3 mg/kg dry	1.00	mg/kg dry	69.1	1.06 mg/kg dry	100	75-125	9.90	20



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 16:56
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - 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 BAK0627 - No Prep Wet Chem

Blank (BAK0627-BLK1)				Prepared & Analyzed: 11/20/2017						
Percent Solids	100 %	0.10	%							
Duplicate (BAK0627-DUP1)				Prepared & Analyzed: 11/20/2017						
	Source: 17K0700-04									
Percent Solids	94.3 %	0.10	%		94.1 %			0.245	20	
Duplicate (BAK0627-DUP2)				Prepared & Analyzed: 11/20/2017						
	Source: 17K0700-01									
Percent Solids	94.9 %	0.10	%		94.9 %			0.0665	20	



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 16:56
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Solids</i>	
Arsenic	VELAP
Chromium	VELAP

Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9439	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2017



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 16:56
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Summary of Data Qualifiers

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.

CHAIN OF CUSTODY

CLIENT: LIESFELD FARMS	CONSULTANT: DRAPER ADEN ASSOCIATES	COPY COA TO CONSULTANT? YES
ATTN: THOMAS LIESFELD	ATTN: WILLIAM A SALOMONE (WSALOMONE@DAA.COM)	COPY INVOICE TO CONSULTANT? YES
STREET: 859 BEN HATCHER ROAD	STREET: 8090 VILLA PARK DRIVE	PROJECT: NKWP / CONFIRMATORY SAMPLING
CITY: WAYNESBORO, GA 30830	CITY: RICHMOND, VIRGINIA 23228	LOCATION: PROVIDENCE FORGE, VIRGINIA
PHONE: 804-833-4286	PHONE: 804-264-2228	LABORATORY: AIR, WATER, & SOIL LABORATORIES

TURN AROUND: 1 2 3 5 10 DAYS	P.O. #: R15434R-12	ANALYSES REQUESTED
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LAB USE ONLY	SAMPLE INFORMATION	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)						COMMENTS (SAMPLING INTERVAL)

LAB ID	SAMPLE ID	DATE	TIME	COMPOSITE	Grab	NO. OF JARS	MATRIX					
	EA1-CS-9	11/15	13:00		✓		S	✓				
	EA2-SB-1		14:45		✓		S	✓				
	EA1-SB-2		14:30		✓		S	✓				
	EA1-SB-3		14:40		✓		S	✓				
	EA3-SB-4		14:00		✓		S	✓				
												NO Seal NO Ice

SAMPLED BY: <i>Kendall Dunham</i>	PRINTED NAME: Kendall Dunham	Level 2 data package. Please report all concentrations in mg/kg (dry weight). All dry weight analyses shall be total analysis.
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RELINQUISHED BY: <i>Kendall Dunham</i>	DATE: 11/15	TIME: 16:56	RECEIVED BY: <i>[Signature]</i>	DATE: 11/17	TIME: 16:56
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TEMP: 18.6°C	pH:	CONTENTS: A = AIR; S=SOIL; G=GROUNDWATER; WW=WASTEWATER
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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 16:56
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP - Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	18.60°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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



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Certificate of Analysis

Final Report

Laboratory Order ID 17K0603

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: November 16, 2017 17:01

Date Issued: November 20, 2017 17:28

Project Number: R15434R-12

Submitted To: Thomas Liesfeld

Purchase Order:

Client Site I.D.: NKWP/Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 11/16/2017 17:01. 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: Thomas Liesfeld Date Issued: 11/20/2017 17:28
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17K0603

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA1-CS-1	17K0603-01	Soil	11/16/2017 13:30	11/16/2017 17:01
EA1-CS-2	17K0603-02	Soil	11/16/2017 15:30	11/16/2017 17:01



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 11/20/2017 17:28
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0603

Analytical Results

Sample I.D. EA1-CS-1 **Laboratory Sample ID:** 17K0603-01

Grab Date/Time: 11/16/2017 13:30

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	<1.03 mg/kg dry	1.03	1	11/20/17 08:30	11/20/17 15:20	BG	
Chromium	01	SW6010C	3.77 mg/kg dry	0.515	1	11/20/17 08:30	11/20/17 15:20	BG	
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	94.2 %	0.10	1	11/17/17 17:34	11/17/17 17:34	TMB	



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 11/20/2017 17:28
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0603

Analytical Results

Sample I.D. EA1-CS-2	Laboratory Sample ID: 17K0603-02
Grab Date/Time: 11/16/2017 15:30	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	<1.03 mg/kg dry		1.03	1	11/20/17 08:30	11/20/17 15:22	BG
Chromium	02	SW6010C	4.69 mg/kg dry		0.513	1	11/20/17 08:30	11/20/17 15:22	BG
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	95.0 %		0.10	1	11/17/17 17:34	11/17/17 17:34	TMB

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
			Preparation Method: No Prep Wet Chem		
17K0603-01	1.00 g / 1.00 mL	SM18 2540G	BAK0579	SAK0584	
17K0603-02	1.00 g / 1.00 mL	SM18 2540G	BAK0579	SAK0584	
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method: SW3050B		
17K0603-01	1.03 g / 50.0 mL	SW6010C	BAK0600	SAK0606	AK70084
17K0603-02	1.03 g / 50.0 mL	SW6010C	BAK0600	SAK0606	AK70084



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/20/2017 17:28
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Metals (Total) by EPA 6000/7000 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 BAK0600 - SW3050B

Blank (BAK0600-BLK1) Prepared & Analyzed: 11/20/2017

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BAK0600-BS1) Prepared & Analyzed: 11/20/2017

Chromium	96.9 mg/kg wet	0.500	mg/kg wet	97.1	mg/kg wet	99.8	80-120		
Arsenic	95.7 mg/kg wet	1.00	mg/kg wet	97.1	mg/kg wet	98.5	80-120		

LCS Dup (BAK0600-BSD1) Prepared & Analyzed: 11/20/2017

Chromium	94.7 mg/kg wet	0.500	mg/kg wet	94.3	mg/kg wet	101	80-120	2.30	20
Arsenic	98.8 mg/kg wet	1.00	mg/kg wet	94.3	mg/kg wet	105	80-120	3.22	20

Matrix Spike (BAK0600-MS1) Source: 17K0632-06 Prepared & Analyzed: 11/20/2017

Chromium	130 mg/kg wet	0.500	mg/kg wet	93.7	28.8 mg/kg wet	108	75-125		
Arsenic	100 mg/kg wet	1.00	mg/kg wet	93.7	10.2 mg/kg wet	96.3	75-125		

Matrix Spike Dup (BAK0600-MSD1) Source: 17K0632-06 Prepared & Analyzed: 11/20/2017

Chromium	134 mg/kg wet	0.500	mg/kg wet	97.8	28.8 mg/kg wet	108	75-125	3.20	20
Arsenic	101 mg/kg wet	1.00	mg/kg wet	97.8	10.2 mg/kg wet	92.5	75-125	0.265	20



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/20/2017 17:28
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qual
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Batch BAK0579 - No Prep Wet Chem

Blank (BAK0579-BLK1)

Prepared & Analyzed: 11/17/2017

Percent Solids	100 %	0.10	%
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Duplicate (BAK0579-DUP1)

Source: 17K0603-02

Prepared & Analyzed: 11/17/2017

Percent Solids	95.1 %	0.10	%	95.0 %	0.0715	20
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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/20/2017 17:28
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Solids</i>	
Arsenic	VELAP
Chromium	VELAP

Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9439	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2017



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/20/2017 17:28
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Summary of Data Qualifiers

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.

CHAIN OF CUSTODY

CLIENT: LIESFELD FARMS	CONSULTANT: DRAPER ADEN ASSOCIATES	COPY COA TO CONSULTANT? YES
ATTN: THOMAS LIESFELD	ATTN: WILLIAM A SALOMONE (WSALOMONE@DAA.COM)	COPY INVOICE TO CONSULTANT? YES
STREET: 859 BEN HATCHER ROAD	STREET: 8090 VILLA PARK DRIVE	PROJECT: NKWP / CONFIRMATORY SAMPLING
CITY: WAYNESBORO, GA 30830	CITY: RICHMOND, VIRGINIA 23228	LOCATION: PROVIDENCE FORGE, VIRGINIA
PHONE: 804-833-4286	PHONE: 804-264-2228	LABORATORY: AIR, WATER, & SOIL LABORATORIES

TURN AROUND: 1 2 3 5 10 DAYS	P.O. #: R15434R-12	ANALYSES REQUESTED
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LAB USE ONLY	SAMPLE INFORMATION	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
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LAB ID	SAMPLE ID	DATE	TIME	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
	EAI-CS-1	11/16	13:30		✓	1	S	✓	
	EAI-CS-2	11/16	15:30		✓	1	S	✓	

SAMPLED BY: <i>Kendall Dunham</i>	PRINTED NAME: Kendall Dunham	Level 2 data package. Please report all concentrations in mg/kg (dry weight). All dry weight analyses shall be total analysis.
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RELINQUISHED BY: <i>Kendall Dunham</i>	DATE: 11/16	TIME: 17:01	RECEIVED BY: <i>[Signature]</i>	DATE: 11/16/17	1701
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TEMP: 22.4	pH:	CONTENTS: A = AIR; S=SOIL; G=GROUNDWATER; WW=WASTEWATER
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*No Seal
No Ice*

DA **17K0603**
New Kent Wood Preservatives (NK)
Recd: 11/16/2017 Due: 11/20/2017



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/20/2017 17:28
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	22.40°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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



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Certificate of Analysis

Final Report

Laboratory Order ID 17K0700

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: November 20, 2017 14:16

Date Issued: November 21, 2017 17:01

Project Number: R15434R-12

Submitted To: Thomas Liesfeld

Purchase Order:

Client Site I.D.: NKWP Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 11/20/2017 14:16. 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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld Date Issued: 11/21/2017 17:01
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: R15434R-12
Client Site I.D.: NKWP Confirmatory Sampling Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17K0700

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA1-CS-3B	17K0700-01	Soil	11/17/2017 08:50	11/20/2017 14:16
EA1-CS-4B	17K0700-02	Soil	11/17/2017 09:05	11/20/2017 14:16
EA1-CS-5	17K0700-03	Soil	11/17/2017 13:45	11/20/2017 14:16
EA1-CS-6	17K0700-04	Soil	11/17/2017 15:50	11/20/2017 14:16

Results have been calculated based on dry weight.



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 11/21/2017 17:01
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0700

Analytical Results

Sample I.D. EA1-CS-3B	Laboratory Sample ID: 17K0700-01
Grab Date/Time: 11/17/2017 08:50	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	<1.03 mg/kg dry	1.03	1		11/21/17 07:45	11/21/17 16:35	CGT
Chromium	01	SW6010C	5.07 mg/kg dry	0.516	1		11/21/17 07:45	11/21/17 16:35	CGT
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	94.9 %	0.10	1		11/20/17 14:30	11/20/17 14:30	TMB



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 11/21/2017 17:01
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0700

Analytical Results

Sample I.D. EA1-CS-4B

Laboratory Sample ID: 17K0700-02

Grab Date/Time: 11/17/2017 09:05

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	<1.00 mg/kg dry	1.00	1	11/21/17 07:45	11/21/17 16:37	CGT	
Chromium	02	SW6010C	3.70 mg/kg dry	0.500	1	11/21/17 07:45	11/21/17 16:37	CGT	
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	95.3 %	0.10	1	11/20/17 14:30	11/20/17 14:30	TMB	



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 11/21/2017 17:01
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0700

Analytical Results

Sample I.D. EA1-CS-5	Laboratory Sample ID: 17K0700-03
Grab Date/Time: 11/17/2017 13:45	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	03	SW6010C	<1.00 mg/kg dry	1.00	1		11/21/17 07:45	11/21/17 16:39	CGT
Chromium	03	SW6010C	11.0 mg/kg dry	0.500	1		11/21/17 07:45	11/21/17 16:39	CGT
Wet Chemistry Analysis									
Percent Solids	03	SM18 2540G	95.2 %	0.10	1		11/20/17 14:30	11/20/17 14:30	TMB



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 11/21/2017 17:01
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0700

Analytical Results

Sample I.D. EA1-CS-6	Laboratory Sample ID: 17K0700-04
Grab Date/Time: 11/17/2017 15:50	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	04	SW6010C	5.91 mg/kg dry	1.00	1		11/21/17 07:45	11/21/17 16:41	CGT
Chromium	04	SW6010C	14.7 mg/kg dry	0.500	1		11/21/17 07:45	11/21/17 16:41	CGT
Wet Chemistry Analysis									
Percent Solids	04	SM18 2540G	94.1 %	0.10	1		11/20/17 14:30	11/20/17 14:30	TMB

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
			Preparation Method: No Prep Wet Chem		
17K0700-01	1.00 g / 1.00 mL	SM18 2540G	BAK0627	SAK0650	
17K0700-02	1.00 g / 1.00 mL	SM18 2540G	BAK0627	SAK0650	
17K0700-03	1.00 g / 1.00 mL	SM18 2540G	BAK0627	SAK0650	
17K0700-04	1.00 g / 1.00 mL	SM18 2540G	BAK0627	SAK0650	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method: SW3050B		
17K0700-01	1.02 g / 50.0 mL	SW6010C	BAK0665	SAK0664	AK70123
17K0700-02	1.07 g / 50.0 mL	SW6010C	BAK0665	SAK0664	AK70123
17K0700-03	1.06 g / 50.0 mL	SW6010C	BAK0665	SAK0664	AK70123
17K0700-04	1.09 g / 50.0 mL	SW6010C	BAK0665	SAK0664	AK70123



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 17:01
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP Confirmatory Sampling	Purchase Order:	

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qual
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Batch BAK0665 - SW3050B

Blank (BAK0665-BLK1)

Prepared & Analyzed: 11/21/2017

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BAK0665-BS1)

Prepared & Analyzed: 11/21/2017

Chromium	94.3 mg/kg wet	0.500	mg/kg wet	92.7	mg/kg wet	102	80-120		
Arsenic	90.5 mg/kg wet	1.00	mg/kg wet	92.7	mg/kg wet	97.6	80-120		

LCS Dup (BAK0665-BSD1)

Prepared & Analyzed: 11/21/2017

Chromium	95.8 mg/kg wet	0.500	mg/kg wet	95.1	mg/kg wet	101	80-120	1.62	20
Arsenic	93.3 mg/kg wet	1.00	mg/kg wet	95.1	mg/kg wet	98.2	80-120	3.09	20

Matrix Spike (BAK0665-MS1)

Source: 17K0700-04

Prepared & Analyzed: 11/21/2017

Chromium	121 mg/kg dry	0.515	mg/kg dry	103	14.7 mg/kg dry	104	75-125		
Arsenic	106 mg/kg dry	1.03	mg/kg dry	103	5.91 mg/kg dry	97.2	75-125		

Matrix Spike Dup (BAK0665-MSD1)

Source: 17K0700-04

Prepared & Analyzed: 11/21/2017

Chromium	120 mg/kg dry	0.524	mg/kg dry	105	14.7 mg/kg dry	101	75-125	0.946	20
Arsenic	106 mg/kg dry	1.05	mg/kg dry	105	5.91 mg/kg dry	95.3	75-125	0.267	20



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 17:01
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - 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 BAK0627 - No Prep Wet Chem

Blank (BAK0627-BLK1)				Prepared & Analyzed: 11/20/2017						
Percent Solids	100 %	0.10	%							
Duplicate (BAK0627-DUP1)				Prepared & Analyzed: 11/20/2017						
	Source: 17K0700-04									
Percent Solids	94.3 %	0.10	%		94.1 %			0.245	20	
Duplicate (BAK0627-DUP2)				Prepared & Analyzed: 11/20/2017						
	Source: 17K0700-01									
Percent Solids	94.9 %	0.10	%		94.9 %			0.0665	20	



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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 17:01
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Solids</i>	
Arsenic	VELAP
Chromium	VELAP

Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9439	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2017



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 17:01
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP Confirmatory Sampling	Purchase Order:	

Summary of Data Qualifiers

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.

CHAIN OF CUSTODY

CLIENT: LIESFELD FARMS	CONSULTANT: DRAPER ADEN ASSOCIATES	COPY COA TO CONSULTANT? YES
ATTN: THOMAS LIESFELD	ATTN: WILLIAM A SALOMONE (WSALOMONE@DAA.COM)	COPY INVOICE TO CONSULTANT? YES
STREET: 859 BEN HATCHER ROAD	STREET: 8090 VILLA PARK DRIVE	PROJECT: NKWP / CONFIRMATORY SAMPLING
CITY: WAYNESBORO, GA 30830	CITY: RICHMOND, VIRGINIA 23228	LOCATION: PROVIDENCE FORGE, VIRGINIA
PHONE: 804-833-4286	PHONE: 804-264-2228	LABORATORY: AIR, WATER, & SOIL LABORATORIES

TURN AROUND: 1 2 3 5 10 DAYS	P.O. #: R15434R-12	ANALYSES REQUESTED
------------------------------	--------------------	--------------------

LAB USE ONLY	SAMPLE INFORMATION	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)						COMMENTS (SAMPLING INTERVAL)

LAB ID	SAMPLE ID	DATE	TIME	COMPOSITE	Grab	NO. OF JARS	MATRIX					
	EAI-CS-3B	11/17	0850		✓	1	S	✓				
	EAI-CS-4B	11/17	0905		✓	1	S	✓				
	EAI-CS-5	11/17	1345		✓	1	S	✓				
	EAI-CS-6	11/17	1550		✓	1	S	✓				

NDS seal NO Ice

SAMPLED BY: <i>W.A. Salome</i>	PRINTED NAME: William Salomone.	Level 2 data package. Please report all concentrations in mg/kg (dry weight). All dry weight analyses shall be total analysis.
--------------------------------	---------------------------------	--

RELINQUISHED BY: <i>W.A. Salome</i>	DATE: 11/20/17	TIME: 1140	RECEIVED BY: <i>[Signature]</i>	DATE: 11/20/17	TIME: 1140
<i>[Signature]</i>	11/20/17	1416	<i>[Signature]</i>	20 NOV 2017	1416

TEMP: 15.6 °C	pH:	CONTENTS: A = AIR; S=SOIL; G=GROUNDWATER; WW=WASTEWATER
---------------	-----	---

DA 17K0700
 New Kent Wood Preservatives (NK)
 Recd: 11/20/2017 Due: 11/21/2017
 v130325002



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	11/21/2017 17:01
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	15.60°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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



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Certificate of Analysis

Final Report

Laboratory Order ID 17K0713

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: November 20, 2017 17:07

Date Issued: December 7, 2017 16:43

Project Number: R15434R-12

Submitted To: Thomas Liesfeld

Purchase Order:

Client Site I.D.: NKWP/Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 11/20/2017 17:07. 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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld Date Issued: 12/7/2017 16:43
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17K0713

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EAI-CS-8A	17K0713-01	Solids	11/20/2017 10:25	11/20/2017 17:07
EAI-CS-7A	17K0713-02	Solids	11/20/2017 10:25 to 11/20/2017 13:50	11/20/2017 17:07

Results have been calculated based on dry weight.



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/7/2017 16:43
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0713

Analytical Results

Sample I.D. EAI-CS-8A	Laboratory Sample ID: 17K0713-01
Grab Date/Time: 11/20/2017 10:25	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW7010	<0.500 mg/kg dry		0.500	1	11/22/17 11:16	12/04/17 13:53	CGT
Chromium	01	SW7010	4.97 mg/kg dry	E	0.983	20	11/22/17 11:16	12/07/17 10:30	RCV
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	92.9 %		0.10	1	11/21/17 16:08	11/21/17 16:08	TMB



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/7/2017 16:43
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0713

Analytical Results

Sample I.D. EAI-CS-7A	Laboratory Sample ID: 17K0713-02
Grab Date/Time: 11/20/2017 13:50	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW7010	0.557 mg/kg dry		0.520	1	11/22/17 11:16	12/04/17 13:59	CGT
Chromium	02	SW7010	6.25 mg/kg dry	E	1.04	20	11/22/17 11:16	12/07/17 10:36	RCV
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	94.6 %		0.10	1	11/21/17 16:08	11/21/17 16:08	TMB

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
			Preparation Method: No Prep Wet Chem		
17K0713-01	1.00 g / 1.00 mL	SM18 2540G	BAK0692	SAK0699	
17K0713-02	1.00 g / 1.00 mL	SM18 2540G	BAK0692	SAK0699	
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method: SW3050B-AA		
17K0713-01	1.10 g / 50.0 mL	SW7010	BAL0063	SAL0058	AL70010
17K0713-01	1.10 g / 50.0 mL	SW7010	BAL0063	SAL0195	AL70043
17K0713-02	1.02 g / 50.0 mL	SW7010	BAL0063	SAL0058	AL70010
17K0713-02	1.02 g / 50.0 mL	SW7010	BAL0063	SAL0195	AL70043



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/7/2017 16:43
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qual
Batch BAL0063 - SW3050B-AA										
Blank (BAL0063-BLK1) Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	<0.500 mg/kg wet	0.500	mg/kg wet							
Blank (BAL0063-BLK2) Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	0.118 mg/kg wet	0.050	mg/kg wet							B, E
LCS (BAL0063-BS1) Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	95.3 mg/kg wet	47.1	mg/kg wet	94.2	mg/kg wet	101	80-120			
LCS (BAL0063-BS2) Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	94.2 mg/kg wet	47.1	mg/kg wet	94.2	mg/kg wet	100	80-120			E
LCS Dup (BAL0063-BSD1) Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	90.0 mg/kg wet	45.5	mg/kg wet	91.0	mg/kg wet	98.9	80-120	5.79	20	
LCS Dup (BAL0063-BSD2) Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	88.9 mg/kg wet	45.5	mg/kg wet	91.0	mg/kg wet	97.7	80-120	5.84	20	E
Matrix Spike (BAL0063-MS1) Source: 17K0743-02 Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	108 mg/kg wet	49.3	mg/kg wet	98.5	<49.3 mg/kg wet	109	75-125			
Matrix Spike (BAL0063-MS2) Source: 17K0743-02 Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	155 mg/kg wet	49.3	mg/kg wet	98.5	mg/kg wet	157	75-125			M2, E
Matrix Spike Dup (BAL0063-MSD1) Source: 17K0743-02 Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	103 mg/kg wet	47.1	mg/kg wet	94.3	<47.1 mg/kg wet	109	75-125	4.78	20	
Matrix Spike Dup (BAL0063-MSD2) Source: 17K0743-02 Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	148 mg/kg wet	47.1	mg/kg wet	94.3	mg/kg wet	157	75-125	4.51	20	M2, E



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/7/2017 16:43
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - 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 BAK0692 - No Prep Wet Chem

Blank (BAK0692-BLK1)

Prepared & Analyzed: 11/21/2017

Percent Solids	100 %	0.10	%
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Duplicate (BAK0692-DUP1)

Source: 17K0722-01

Prepared & Analyzed: 11/21/2017

Percent Solids	87.0 %	0.10	%	87.7 %		0.835	20
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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/7/2017 16:43
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
<i>SW7010 in Solids</i>	
Arsenic	VELAP
Chromium	VELAP

Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9475	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/7/2017 16:43
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Summary of Data Qualifiers

- B Blank contamination. The recorded result is associated with a contaminated blank.
- E Estimated concentration, outside calibration range
- M2 Sample was diluted due to matrix interference.
- 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.

CHAIN OF CUSTODY

CLIENT: LIESFELD FARMS	CONSULTANT: DRAPER ADEN ASSOCIATES	COPY COA TO CONSULTANT? YES
ATTN: THOMAS LIESFELD	ATTN: WILLIAM A SALOMONE (WSALOMONE@DAA.COM)	COPY INVOICE TO CONSULTANT? YES
STREET: 859 BEN HATCHER ROAD	STREET: 8090 VILLA PARK DRIVE	PROJECT: NKWP / CONFIRMATORY SAMPLING
CITY: WAYNESBORO, GA 30830	CITY: RICHMOND, VIRGINIA 23228	LOCATION: PROVIDENCE FORGE, VIRGINIA
PHONE: 804-833-4286	PHONE: 804-264-2228	LABORATORY: AIR, WATER, & SOIL LABORATORIES

TURN AROUND: 1 2 3 5 10 DAYS	P.O. #: R15434R-12	ANALYSES REQUESTED
-------------------------------------	--------------------	--------------------

LAB USE ONLY	SAMPLE INFORMATION	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
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LAB ID	SAMPLE ID	DATE	TIME	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
	EAI-CS-8A	11/20	10:25		✓	1	S	✓	
	EAI-CS-7A	11/20	13:50		✓	1	S	✓	

SAMPLED BY: <i>Kendall Dunham</i>	PRINTED NAME: Kendall Dunham	Level 2 data package. Please report all concentrations in mg/kg (dry weight). All dry weight analyses shall be total analysis.
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RELINQUISHED BY: <i>Kendall Dunham</i>	DATE: <i>11/20</i>	TIME: <i>17:07</i>	RECEIVED BY: <i>[Signature]</i>	DATE: <i>11/20/17</i>	TIME: <i>1707</i>
--	--------------------	--------------------	---------------------------------	-----------------------	-------------------

TEMP: 22.0°C	pH:	CONTENTS: A = AIR; S=SOIL; G=GROUNDWATER; WW=WASTEWATER
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*No Seal
No Ice*

DA **17K0713**
New Kent Wood Preservatives (NK)
Recd: 11/20/2017 Due: 11/22/2017



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/7/2017 16:43
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	22.00°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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?	Yes
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

Bill Soloman at Draper Aden was notified via email of delay in metals reporting due to instrument issues.

A final COA will be issued ASAP. KLC 11/28/17 16:50.

Due to instrument failure; ok per Thomas Liesfeld, As and Cr will be analyzed by GFAA. KLC 12/5/17 13:44.



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Certificate of Analysis

Final Report

Laboratory Order ID 17K0802

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: November 22, 2017 16:39

Date Issued: December 1, 2017 18:24

Project Number: R15434R-12

Submitted To: Thomas Liesfeld

Purchase Order:

Client Site I.D.: NKWP/Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 11/22/2017 16:39. 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: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro GA, 30830
Date Issued: 12/1/2017 18:24

Submitted To: Thomas Liesfeld
Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling
Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17K0802

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA1-CS-11	17K0802-01	Soil	11/22/2017 10:00	11/22/2017 16:39
EA1-CS-10	17K0802-02	Soil	11/22/2017 14:20	11/22/2017 16:39
EA1-CS-13	17K0802-03	Soil	11/22/2017 15:05	11/22/2017 16:39

Analysis for Arsenic and Chromium was subcontracted to Analytics Laboratories. The subcontracted results are attached at the end of this Certificate of Analysis.



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/1/2017 18:24
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0802

Analytical Results

Sample I.D. EA1-CS-11 **Laboratory Sample ID:** 17K0802-01

Grab Date/Time: 11/22/2017 10:00

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	<1.07 mg/kg dry	1.07	1	11/27/17 09:30	11/28/17 16:54	BG	
Chromium	01	SW6010C	4.84 mg/kg dry	0.533	1	11/27/17 09:30	11/28/17 16:54	BG	
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	92.2 %	0.10	1	11/28/17 15:32	11/28/17 15:32	JCM	



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/1/2017 18:24
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0802

Analytical Results

Sample I.D. EA1-CS-10	Laboratory Sample ID: 17K0802-02
Grab Date/Time: 11/22/2017 14:20	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	<1.00 mg/kg dry	1.00	1		11/27/17 09:30	11/28/17 16:59	BG
Chromium	02	SW6010C	5.54 mg/kg dry	0.500	1		11/27/17 09:30	11/28/17 16:58	BG
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	94.3 %	0.10	1		11/28/17 15:32	11/28/17 15:32	JCM



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/1/2017 18:24
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0802

Analytical Results

Sample I.D. EA1-CS-13	Laboratory Sample ID: 17K0802-03
Grab Date/Time: 11/22/2017 15:05	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
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Wet Chemistry Analysis

Percent Solids	03	SM18 2540G	95.0 %	0.10	1	11/28/17 15:32	11/28/17 15:32	JCM
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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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Wet Chemistry Analysis	Preparation Method:	No Prep Wet Chem
17K0802-01	1.00 g / 1.00 mL	SM18 2540G BAK0855 SAK0797
17K0802-02	1.00 g / 1.00 mL	SM18 2540G BAK0855 SAK0797
17K0802-03	1.00 g / 1.00 mL	SM18 2540G BAK0855 SAK0797

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
-----------	-------------------------------------	--------	----------	-------------	----------------

Metals (Total) by EPA 6000/7000 Series Methods	Preparation Method:	SW3050B
17K0802-01	1.02 g / 50.0 mL	SW6010C BAK0760 SAK0776 AK70144
17K0802-02	1.07 g / 50.0 mL	SW6010C BAK0760 SAK0776 AK70144

Metals (Total) by EPA 6000/7000 Series Methods	Preparation Method:	SW3050B
17K0802-03		SW6010C BAK0803



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/1/2017 18:24
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Metals (Total) by EPA 6000/7000 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 BAK0760 - SW3050B

Blank (BAK0760-BLK1) Prepared: 11/27/2017 Analyzed: 11/28/2017

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BAK0760-BS1) Prepared: 11/27/2017 Analyzed: 11/28/2017

Chromium	94.1 mg/kg wet	0.500	mg/kg wet	96.2	mg/kg wet	97.7	80-120		
Arsenic	91.1 mg/kg wet	1.00	mg/kg wet	96.2	mg/kg wet	94.7	80-120		

LCS Dup (BAK0760-BSD1) Prepared: 11/27/2017 Analyzed: 11/28/2017

Chromium	91.7 mg/kg wet	0.500	mg/kg wet	94.5	mg/kg wet	97.0	80-120	2.55	20
Arsenic	88.4 mg/kg wet	1.00	mg/kg wet	94.5	mg/kg wet	93.5	80-120	3.06	20

Matrix Spike (BAK0760-MS1) Source: 17K0785-01 Prepared: 11/27/2017 Analyzed: 11/28/2017

Chromium	89.7 mg/kg wet	0.500	mg/kg wet	91.2	10.8 mg/kg wet	86.5	75-125		
Arsenic	84.5 mg/kg wet	1.00	mg/kg wet	91.2	2.37 mg/kg wet	90.1	75-125		

Matrix Spike Dup (BAK0760-MSD1) Source: 17K0785-01 Prepared: 11/27/2017 Analyzed: 11/28/2017

Chromium	97.1 mg/kg wet	0.500	mg/kg wet	97.9	10.8 mg/kg wet	88.1	75-125	7.98	20
Arsenic	90.0 mg/kg wet	1.00	mg/kg wet	97.9	2.37 mg/kg wet	89.5	75-125	6.31	20



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/1/2017 18:24
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - 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 BAK0855 - No Prep Wet Chem

Blank (BAK0855-BLK1)		Prepared & Analyzed: 11/28/2017								
Percent Solids	100 %	0.10	%							
Duplicate (BAK0855-DUP1)		Source: 17K0837-05 Prepared & Analyzed: 11/28/2017								
Percent Solids	91.6 %	0.10	%		92.7 %			1.22	20	
Duplicate (BAK0855-DUP2)		Source: 17K0837-15 Prepared & Analyzed: 11/28/2017								
Percent Solids	94.0 %	0.10	%		94.3 %			0.248	20	



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/1/2017 18:24
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications		
<i>SW6010C in Solids</i>			
Arsenic	VELAP		
Chromium	VELAP		
Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9475	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/1/2017 18:24
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Summary of Data Qualifiers

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.

CHAIN OF CUSTODY

CLIENT: LIESFELD FARMS	CONSULTANT: DRAPER ADEN ASSOCIATES	COPY COA TO CONSULTANT? YES
ATTN: THOMAS LIESFELD	ATTN: WILLIAM A SALOMONE (WSALOMONE@DAA.COM)	COPY INVOICE TO CONSULTANT? YES
STREET: 859 BEN HATCHER ROAD	STREET: 8090 VILLA PARK DRIVE	PROJECT: NKWP / CONFIRMATORY SAMPLING
CITY: WAYNESBORO, GA 30830	CITY: RICHMOND, VIRGINIA 23228	LOCATION: PROVIDENCE FORGE, VIRGINIA
PHONE: 804-833-4286	PHONE: 804-264-2228	LABORATORY: AIR, WATER, & SOIL LABORATORIES
TURN AROUND: 1 2 3 5 10 DAYS	P.O. #: R15434R-12	ANALYSES REQUESTED

LAB USE ONLY	SAMPLE INFORMATION	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
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LAB ID	SAMPLE ID	DATE	TIME	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
	EAI-CS-11	11/22	10:00		✓	1	S	✓	
	EAI-CS-10	11/22	14:20		✓	1	S	✓	
	EAI-CS-13	11/22	15:05		✓	1	S	✓	

SAMPLED BY: <i>Kendall Dunham</i>	PRINTED NAME: Kendall Dunham	Level 2 data package. Please report all concentrations in mg/kg (dry weight). All dry weight analyses shall be total analysis.
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RELINQUISHED BY: <i>Kendall Dunham</i>	DATE: 11/22	TIME: 16:39	RECEIVED BY: <i>[Signature]</i>	DATE: 22 Nov 2017	TIME: 16:39
--	-------------	-------------	---------------------------------	-------------------	-------------

TEMP: 22.9°C	pH:	CONTENTS: A = AIR; S=SOIL; G=GROUNDWATER; WW=WASTEWATER
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NO SEAL
NO ICE

DA **17K0802**
New Kent Wood Preservatives (NK)
Recd: 11/22/2017 Due: 12/01/2017



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/1/2017 18:24
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	22.90°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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



Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804) 365-3000
Fax: (908) 365-3002

December 01, 2017

KATRINA COOKE
AIR WATER SOIL
1941 REYMET ROAD
Richmond, VA 23237

Account ID: 45819840 45819840
Purchase Order:
Client ID: 17K0802
Work Order: 1040490

Dear KATRINA COOKE

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, November 30, 2017. The signature below certifies that the results are based on the referenced methods and applicable certifications or accreditations are noted for each parameter reported (see key at end of report).

Unless otherwise specified all analyses of solid materials are based on dry weight.

Reported results relate only to the items tested, as received by the laboratory.

On-site analysis (analysis ASAP) is recommended for the following tests: pH, temperature, dissolved oxygen, residual chlorine and sulfite. When performed off-site, these tests do not meet NELAC standards.

Abbreviations: ug/L = micrograms per Liter, mg/L = milligrams per Liter, ug/g = micrograms per gram, mg/kg = milligrams per kilogram ug/wp = micrograms per wipe, ug/ml = micrograms per millimeter, uS/cm = microsiemens per centimeter at 25 degrees Celcius ppb = parts per billion, DF = Dilution Factor.

If you have any questions concerning this report, please feel free to call Client Services at 1-800-888-8061.

Sincerely,

Dawn Casto
Technical Director (or designee)

Enclosures

CERTIFICATE OF ANALYSIS

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Analytics Corporation
 10329 Stony Run Lane
 Ashland, VA 23005
 Phone: (804) 365-3000
 Fax: (908) 365-3002

ANALYTICAL RESULTS

Workorder: 1040490 17K0802

Lab ID: 1040490001 Date Received: 11/30/2017 15:05 Matrix Soil/Solids/Sediment
 Sample ID: 17K0802-03 Date Collected: 11/22/2017 15:05 Sample Type: GRAB

Parameters	Results	Units	LOQ	DF	Prepared	By	Analyzed	By	Qual	Certifications
------------	---------	-------	-----	----	----------	----	----------	----	------	----------------

Analytical Method: SW-846 3550 sec 7.2

Percent Moisture	5.00	%		1	NA	NA	11/28/2017 00:00	AWS		
------------------	------	---	--	---	----	----	------------------	-----	--	--

Analytical Method: SW-846 6010B Preparation Method: SW-846 3050

Arsenic	<4.21	ug/g	4.21	1	11/28/2017	09:30	AWS	12/1/2017	12:18	BJJ	V
Chromium	<4.21	ug/g	4.21	1	11/28/2017	09:30	AWS	12/1/2017	12:18	BJJ	V

CERTIFICATE OF ANALYSIS

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Analytics Corporation
10329 Stony Run Lane
Ashland, VA 23005
Phone: (804) 365-3000
Fax: (908) 365-3002

ANALYTICAL RESULTS

Workorder: 1040490 17K0802

Work Order Qualifiers

-- AWS = Samples prepared by Air, Water & Soil Laboratories

Qualifiers

--

Certification Index:

V = Virginia (NELAC) - 1 VAC 30-46 H 1, Laboratory ID: 460160, Certificate #: 9013

CERTIFICATE OF ANALYSIS

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Analytics Laboratories
10329 Stony Run Lane
Ashland VA 23005

CHAIN OF CUSTODY

COMPANY NAME: AWS Labs, Inc.		INVOICE TO: AWS Labs, Inc.	PROJECT NAME/Quote #
CONTACT: Katrina Cooke		INVOICE CONTACT: Jennifer Sult	SITE NAME: 17K0802
ADDRESS: 1941 Reymet Road, Richmond, VA 23237		INVOICE ADDRESS: 1941 Reymet Rd., Richmond, VA 23237	PROJECT NUMBER: 17K0802
PHONE #: (804) 358-8295		INVOICE PHONE #: (804) 358-8295	P.O. #:
FAX #:		EMAIL: support@awslabs.com	Pretreatment Program:
Is sample for compliance reporting? YES NO		Is sample from a chlorinated supply? YES NO	
SAMPLER NAME (PRINT):		SAMPLER SIGNATURE:	
Matrix Codes: WW=Water Water GW=Ground Water DW=Drinking Water S=Soil/Soilids OR=Organic A=Air WP=Wipe OT=Other		PWS I.D. #:	
COMMENTS		Turn Around Time:	

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)				
											As	Cr			
1) 17K0802-03	X					1/22/17	1505		S	1	X				
2)															
3)															
4)															
5)															
6)															
7)															
8)															
9)															

RELINQUISHED: <i>Adong</i>	DATE / TIME: 3/20/2017 1500	RECEIVED: <i>[Signature]</i>	DATE / TIME: 11/30/17	QC Data Package	LAB USE ONLY	COOLER TEMP: 28.2 °
RELINQUISHED: <i>[Signature]</i>	DATE / TIME: 11/30/17	RECEIVED: <i>[Signature]</i>	DATE / TIME: 11/30/17	Level I <input type="checkbox"/>		
RELINQUISHED: <i>[Signature]</i>	DATE / TIME: 11/30/17	RECEIVED: <i>[Signature]</i>	DATE / TIME: 11/30/17	Level II <input type="checkbox"/>		
RELINQUISHED: <i>[Signature]</i>	DATE / TIME: 11/30/17	RECEIVED: <i>[Signature]</i>	DATE / TIME: 11/30/17	Level III <input type="checkbox"/>		
RELINQUISHED: <i>[Signature]</i>	DATE / TIME: 11/30/17	RECEIVED: <i>[Signature]</i>	DATE / TIME: 11/30/17	Level IV <input type="checkbox"/>		

**DUE: 4
Dec 2017
*report on
dry
weight**



Sample Container Receipt Form
Version 6-24-2011

Work Order: 1040490
Customer Name: AIR WATER & SOIL
45819840 4581984

CLIENT SAMPLE ID	LAB CONTAINER ID	TYPE OF CONTAINER	QTY	Temp(C)	pH	Chlorine on Arrival (ppm)	Condition Code	Preservative
17K0802-03	1040490001-A	Digitube	1	28.2		NA	WM	HNO3
Notes								

Sample Custodian Signature: *Heather E. Mue* Date: 11/30/17

Condition Code Definitions
WM Received out of 2-6 C range



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Certificate of Analysis

Final Report

Laboratory Order ID 17K0757

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: November 21, 2017 17:10

Date Issued: December 7, 2017 16:42

Project Number: R15434R-12

Submitted To: Thomas Liesfeld

Purchase Order:

Client Site I.D.: NKWP/Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 11/21/2017 17:10. 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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld Date Issued: 12/7/2017 16:42
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17K0757

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EAI-CS-14	17K0757-01	Soil	11/21/2017 13:05	11/21/2017 17:10
EAI-CS-12	17K0757-02	Soil	11/21/2017 16:00	11/21/2017 17:10



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/7/2017 16:42
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0757

Analytical Results

Sample I.D. EAI-CS-14 **Laboratory Sample ID:** 17K0757-01

Grab Date/Time: 11/21/2017 13:05

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW7010	2.26 mg/kg dry		0.536	1	11/22/17 11:16	12/04/17 15:02	CGT
Chromium	01	SW7010	7.17 mg/kg dry	E	1.07	20	11/22/17 11:16	12/07/17 11:02	RCV
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	87.5 %		0.10	1	11/22/17 10:20	11/22/17 10:20	TMB



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/7/2017 16:42
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0757

Analytical Results

Sample I.D. EAI-CS-12	Laboratory Sample ID: 17K0757-02
Grab Date/Time: 11/21/2017 16:00	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW7010	0.586 mg/kg dry		0.511	1	11/22/17 11:16	12/04/17 15:08	CGT
Chromium	02	SW7010	5.99 mg/kg dry	E	1.02	20	11/22/17 11:16	12/07/17 11:21	RCV
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	92.2 %		0.10	1	11/22/17 10:20	11/22/17 10:20	TMB

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
			Preparation Method: No Prep Wet Chem		
17K0757-01	1.00 g / 1.00 mL	SM18 2540G	BAK0711	SAK0722	
17K0757-02	1.00 g / 1.00 mL	SM18 2540G	BAK0711	SAK0722	
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method: SW3050B-AA		
17K0757-01	1.07 g / 50.0 mL	SW7010	BAL0063	SAL0058	AL70010
17K0757-01	1.07 g / 50.0 mL	SW7010	BAL0063	SAL0195	AL70043
17K0757-02	1.06 g / 50.0 mL	SW7010	BAL0063	SAL0058	AL70010
17K0757-02	1.06 g / 50.0 mL	SW7010	BAL0063	SAL0195	AL70043



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/7/2017 16:42
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qual
Batch BAL0063 - SW3050B-AA										
Blank (BAL0063-BLK1) Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	<0.500 mg/kg wet	0.500	mg/kg wet							
Blank (BAL0063-BLK2) Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	0.118 mg/kg wet	0.050	mg/kg wet							B, E
LCS (BAL0063-BS1) Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	95.3 mg/kg wet	47.1	mg/kg wet	94.2	mg/kg wet	101	80-120			
LCS (BAL0063-BS2) Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	94.2 mg/kg wet	47.1	mg/kg wet	94.2	mg/kg wet	100	80-120			E
LCS Dup (BAL0063-BSD1) Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	90.0 mg/kg wet	45.5	mg/kg wet	91.0	mg/kg wet	98.9	80-120	5.79	20	
LCS Dup (BAL0063-BSD2) Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	88.9 mg/kg wet	45.5	mg/kg wet	91.0	mg/kg wet	97.7	80-120	5.84	20	E
Matrix Spike (BAL0063-MS1) Source: 17K0743-02 Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	108 mg/kg wet	49.3	mg/kg wet	98.5	<49.3 mg/kg wet	109	75-125			
Matrix Spike (BAL0063-MS2) Source: 17K0743-02 Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	155 mg/kg wet	49.3	mg/kg wet	98.5	mg/kg wet	157	75-125			M2, E
Matrix Spike Dup (BAL0063-MSD1) Source: 17K0743-02 Prepared: 11/22/2017 Analyzed: 12/04/2017										
Arsenic	103 mg/kg wet	47.1	mg/kg wet	94.3	<47.1 mg/kg wet	109	75-125	4.78	20	
Matrix Spike Dup (BAL0063-MSD2) Source: 17K0743-02 Prepared: 11/22/2017 Analyzed: 12/07/2017										
Chromium	148 mg/kg wet	47.1	mg/kg wet	94.3	mg/kg wet	157	75-125	4.51	20	M2, E



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/7/2017 16:42
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - 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 BAK0711 - No Prep Wet Chem

Blank (BAK0711-BLK1)

Prepared & Analyzed: 11/22/2017

Percent Solids	100 %	0.10	%
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Duplicate (BAK0711-DUP1)

Source: 17K0757-02

Prepared & Analyzed: 11/22/2017

Percent Solids	92.1 %	0.10	%	92.2 %		0.124	20
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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/7/2017 16:42
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
<i>SW7010 in Solids</i>	
Arsenic	VELAP
Chromium	VELAP

Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9475	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/7/2017 16:42
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Summary of Data Qualifiers

- B Blank contamination. The recorded result is associated with a contaminated blank.
- E Estimated concentration, outside calibration range
- M2 Sample was diluted due to matrix interference.
- 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.

CHAIN OF CUSTODY

CLIENT: LIESFELD FARMS	CONSULTANT: DRAPER ADEN ASSOCIATES	COPY COA TO CONSULTANT? YES
ATTN: THOMAS LIESFELD	ATTN: WILLIAM A SALOMONE (WSALOMONE@DAA.COM)	COPY INVOICE TO CONSULTANT? YES
STREET: 859 BEN HATCHER ROAD	STREET: 8090 VILLA PARK DRIVE	PROJECT: NKWP / CONFIRMATORY SAMPLING
CITY: WAYNESBORO, GA 30830	CITY: RICHMOND, VIRGINIA 23228	LOCATION: PROVIDENCE FORGE, VIRGINIA
PHONE: 804-833-4286	PHONE: 804-264-2228	LABORATORY: AIR, WATER, & SOIL LABORATORIES

TURN AROUND: 1 2 3 5 10 DAYS	P.O. #: R15434R-12	ANALYSES REQUESTED
------------------------------	--------------------	--------------------

LAB USE ONLY	SAMPLE INFORMATION				COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
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LAB ID	SAMPLE ID	DATE	TIME	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
	EAI-CS-14	11/21	13:05		✓	1	S	✓	
	EAI-CS-12	11/21	16:00		✓	1	S	✓	

SAMPLED BY: <i>Kendall Dunham</i>	PRINTED NAME: Kendall Dunham	Level 2 data package. Please report all concentrations in mg/kg (dry weight). All dry weight analyses shall be total analysis.
-----------------------------------	------------------------------	--

RELINQUISHED BY: <i>Kendall Dunham</i>	DATE: 11/21	TIME: 17:10	RECEIVED BY: <i>[Signature]</i>	DATE: 21 NOV 2017 17:10	DATE:
--	-------------	-------------	---------------------------------	-------------------------	-------

TEMP: 19.9°C	pH:	CONTENTS: A = AIR; S=SOIL; G=GROUNDWATER; WW=WASTEWATER
--------------	-----	---

*NO SEAL
NO ICE
ON
21 NOV 2017*

DA **17K0757**
New Kent Wood Preservatives (NK)
Recd: 11/21/2017 Due: 11/27/2017



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/7/2017 16:42
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	19.90°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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?	Yes
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

Bill Soloman at Draper Aden was notified via email of delay in metals reporting due to instrument issues.

A final COA will be issued ASAP. KLC 11/28/17 16:50.

Due to instrument failure; ok per Thomas Liesfeld, As and Cr will be analyzed by GFAA. KLC 12/5/17 14:38.



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Certificate of Analysis

Final Report

Laboratory Order ID 17K0876

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: November 28, 2017 17:20

Date Issued: December 8, 2017 15:41

Project Number: R15434R-12

Submitted To: Thomas Liesfeld

Purchase Order:

Client Site I.D.: NKWP/Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 11/28/2017 17:20. 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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro GA, 30830
Date Issued: 12/8/2017 15:41

Submitted To: Thomas Liesfeld
Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling
Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17K0876

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA3-CS-2	17K0876-01	Solids	11/28/2017 13:35	11/28/2017 17:20



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/8/2017 15:41
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17K0876

Analytical Results

Sample I.D. EA3-CS-2	Laboratory Sample ID: 17K0876-01
Grab Date/Time: 11/28/2017 13:35	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW7010	8.79 mg/kg dry		5.13	10	12/01/17 10:20	12/05/17 17:07	RCV
Chromium	01	SW7010	8.39 mg/kg dry	E	1.03	20	12/01/17 10:20	12/07/17 17:56	RCV
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	94.4 %		0.10	1	11/29/17 16:40	11/29/17 16:40	JCM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
17K0876-01	1.00 g / 1.00 mL	SM18 2540G	BAK0867	SAL0031	
Preparation Method: No Prep Wet Chem					
Metals (Total) by EPA 6000/7000 Series Methods					
17K0876-01	1.03 g / 50.0 mL	SW7010	BAL0121	SAL0127	AL70024
17K0876-01	1.03 g / 50.0 mL	SW7010	BAL0121	SAL0195	AL70043
Preparation Method: SW3050B-AA					



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/8/2017 15:41
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qual
Batch BAL0121 - SW3050B-AA									
Blank (BAL0121-BLK1)					Prepared: 12/01/2017 Analyzed: 12/05/2017				
Arsenic	<0.500 mg/kg wet	0.500	mg/kg wet						
Blank (BAL0121-BLK2)					Prepared: 12/01/2017 Analyzed: 12/07/2017				
Chromium	<0.050 mg/kg wet	0.050	mg/kg wet						
LCS (BAL0121-BS1)					Prepared: 12/01/2017 Analyzed: 12/05/2017				
Arsenic	95.7 mg/kg wet	48.2	mg/kg wet	96.4	mg/kg wet	99.3	80-120		
LCS (BAL0121-BS2)					Prepared: 12/01/2017 Analyzed: 12/07/2017				
Chromium	99.4 mg/kg wet	48.2	mg/kg wet	96.4	mg/kg wet	103	80-120		E
LCS Dup (BAL0121-BSD1)					Prepared: 12/01/2017 Analyzed: 12/05/2017				
Arsenic	90.1 mg/kg wet	45.6	mg/kg wet	91.2	mg/kg wet	98.8	80-120	6.04	20
LCS Dup (BAL0121-BSD2)					Prepared: 12/01/2017 Analyzed: 12/07/2017				
Chromium	85.9 mg/kg wet	45.6	mg/kg wet	91.2	mg/kg wet	94.2	80-120	14.5	20 E
Matrix Spike (BAL0121-MS1)					Source: 17K0890-08 Prepared: 12/01/2017 Analyzed: 12/05/2017				
Arsenic	9.23 mg/kg dry	0.504	mg/kg dry	101	2.03 mg/kg dry	7.15	75-125		M, E
Matrix Spike (BAL0121-MS2)					Source: 17K0890-18 Prepared: 12/01/2017 Analyzed: 12/05/2017				
Arsenic	15.3 mg/kg dry	0.522	mg/kg dry	104	0.633 mg/kg dry	14.0	75-125		M, E
Matrix Spike (BAL0121-MS3)					Source: 17K0890-08 Prepared: 12/01/2017 Analyzed: 12/07/2017				
Chromium	114 mg/kg dry	50.4	mg/kg dry	101	<50.4 mg/kg dry	113	75-125		E
Matrix Spike (BAL0121-MS4)					Source: 17K0890-18 Prepared: 12/01/2017 Analyzed: 12/07/2017				
Chromium	124 mg/kg dry	52.2	mg/kg dry	104	<52.2 mg/kg dry	118	75-125		E



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/8/2017 15:41
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qual
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Batch BAL0121 - SW3050B-AA

Matrix Spike Dup (BAL0121-MSD1)		Source: 17K0890-08		Prepared: 12/01/2017 Analyzed: 12/05/2017	
Arsenic	9.13 mg/kg dry	0.512	mg/kg dry	102	2.03 mg/kg dry 6.94 75-125 1.12 20 M, E
Matrix Spike Dup (BAL0121-MSD2)		Source: 17K0890-18		Prepared: 12/01/2017 Analyzed: 12/05/2017	
Arsenic	15.3 mg/kg dry	0.517	mg/kg dry	103	0.633 mg/kg dry 14.2 75-125 0.438 20 M, E
Matrix Spike Dup (BAL0121-MSD3)		Source: 17K0890-08		Prepared: 12/01/2017 Analyzed: 12/07/2017	
Chromium	124 mg/kg dry	51.2	mg/kg dry	102	<51.2 mg/kg dry 121 75-125 8.40 20 E
Matrix Spike Dup (BAL0121-MSD4)		Source: 17K0890-18		Prepared: 12/01/2017 Analyzed: 12/07/2017	
Chromium	112 mg/kg dry	51.7	mg/kg dry	103	<51.7 mg/kg dry 108 75-125 10.2 20 E



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/8/2017 15:41
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - 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 BAK0867 - No Prep Wet Chem

Blank (BAK0867-BLK1)				Prepared & Analyzed: 11/29/2017						
Percent Solids	100 %	0.10	%							
Duplicate (BAK0867-DUP1)				Source: 17K0849-03 Prepared & Analyzed: 11/29/2017						
Percent Solids	88.7 %	0.10	%		89.0 %			0.307	20	
Duplicate (BAK0867-DUP2)				Source: 17K0890-10 Prepared & Analyzed: 11/29/2017						
Percent Solids	95.5 %	0.10	%		95.3 %			0.213	20	



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/8/2017 15:41
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
<i>SW7010 in Solids</i>	
Arsenic	VELAP
Chromium	VELAP

Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9475	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/8/2017 15:41
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Summary of Data Qualifiers

E Estimated concentration, outside calibration range

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.



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/8/2017 15:41
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	17.00°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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

Due to instrument failure; ok per Thomas Liesfeld, As and Cr will be analyzed by GFAA. KLC 12/5/17 13:44.



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Certificate of Analysis

Final Report

Laboratory Order ID 17L0044

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: December 5, 2017 8:30
Date Issued: December 11, 2017 17:45
Project Number: R15434R-12
Purchase Order:

Submitted To: Thomas Liesfeld

Client Site I.D.: NKWP/Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 12/05/2017 08:30. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld Date Issued: 12/11/2017 17:45
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17L0044

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA3-CS-3	17L0044-01	Soil	12/04/2017 13:30	12/05/2017 08:30
EA3-CS-4	17L0044-02	Soil	12/04/2017 14:05	12/05/2017 08:30
EA3-CS-1	17L0044-03	Soil	12/04/2017 15:10	12/05/2017 08:30



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/11/2017 17:45
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17L0044

Analytical Results

Sample I.D. EA3-CS-3 **Laboratory Sample ID:** 17L0044-01

Grab Date/Time: 12/04/2017 13:30

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW7010	59.1 mg/kg dry		26.9	50	12/06/17 07:45	12/08/17 16:18	RCV
Chromium	01	SW7010	41.3 mg/kg dry	E	5.37	100	12/06/17 07:45	12/08/17 17:34	RCV
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	92.4 %		0.10	1	12/05/17 11:15	12/06/17 12:55	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 17:45
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 17L0044

Analytical Results

Sample I.D. EA3-CS-4	Laboratory Sample ID: 17L0044-02
Grab Date/Time: 12/04/2017 14:05	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW7010	199 mg/kg dry		50.5	100	12/06/17 07:45	12/08/17 16:25	RCV
Chromium	02	SW7010	203 mg/kg dry	E	50.5	1000	12/06/17 07:45	12/08/17 17:53	RCV
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	94.5 %		0.10	1	12/05/17 11:15	12/06/17 12:55	JIW



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/11/2017 17:45
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17L0044

Analytical Results

Sample I.D. EA3-CS-1	Laboratory Sample ID: 17L0044-03
Grab Date/Time: 12/04/2017 15:10	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	03	SW7010	1.31 mg/kg dry		0.500	1	12/06/17 07:45	12/07/17 19:28	RCV
Chromium	03	SW7010	17.0 mg/kg dry	E	4.75	100	12/06/17 07:45	12/08/17 18:54	RCV
Wet Chemistry Analysis									
Percent Solids	03	SM18 2540G	96.2 %		0.10	1	12/05/17 11:15	12/06/17 12:55	JIW

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
			Preparation Method:	No Prep Wet Chem	
17L0044-01	1.00 g / 1.00 mL	SM18 2540G	BAL0098	SAL0132	
17L0044-02	1.00 g / 1.00 mL	SM18 2540G	BAL0098	SAL0132	
17L0044-03	1.00 g / 1.00 mL	SM18 2540G	BAL0098	SAL0132	
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method:	SW3050B	
17L0044-01	1.01 g / 50.0 mL	SW7010	BAL0085	SAL0287	AL70059
17L0044-01	1.01 g / 50.0 mL	SW7010	BAL0085	SAL0289	AL70060
17L0044-02	1.05 g / 50.0 mL	SW7010	BAL0085	SAL0287	AL70059
17L0044-02	1.05 g / 50.0 mL	SW7010	BAL0085	SAL0289	AL70060
17L0044-03	1.10 g / 50.0 mL	SW7010	BAL0085	SAL0227	AL70037
17L0044-03	1.10 g / 50.0 mL	SW7010	BAL0085	SAL0289	AL70060



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/11/2017 17:45
Submitted To: Thomas Liesfeld	Project Number: R15434R-12
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qual
Batch BAL0085 - SW3050B										
Blank (BAL0085-BLK1) Prepared: 12/06/2017 Analyzed: 12/07/2017										
Arsenic	<0.500 mg/kg wet	0.500	mg/kg wet							
Blank (BAL0085-BLK2) Prepared: 12/06/2017 Analyzed: 12/08/2017										
Chromium	0.121 mg/kg wet	0.050	mg/kg wet							B, E
LCS (BAL0085-BS1) Prepared: 12/06/2017 Analyzed: 12/07/2017										
Arsenic	81.9 mg/kg wet	45.7	mg/kg wet	91.3	mg/kg wet	89.7	80-120			
LCS (BAL0085-BS2) Prepared: 12/06/2017 Analyzed: 12/08/2017										
Chromium	80.6 mg/kg wet	45.7	mg/kg wet	91.3	mg/kg wet	88.2	80-120			E
LCS Dup (BAL0085-BSD1) Prepared: 12/06/2017 Analyzed: 12/07/2017										
Arsenic	87.2 mg/kg wet	49.0	mg/kg wet	97.9	mg/kg wet	89.1	80-120	6.26	20	
LCS Dup (BAL0085-BSD2) Prepared: 12/06/2017 Analyzed: 12/08/2017										
Chromium	87.1 mg/kg wet	49.0	mg/kg wet	97.9	mg/kg wet	89.0	80-120	7.82	20	E
Matrix Spike (BAL0085-MS1) Source: 17L0044-03 Prepared: 12/06/2017 Analyzed: 12/07/2017										
Arsenic	97.2 mg/kg dry	49.6	mg/kg dry	99.2	<49.6 mg/kg dry	97.9	75-125			
Matrix Spike (BAL0085-MS2) Source: 17L0044-03 Prepared: 12/06/2017 Analyzed: 12/08/2017										
Chromium	98.7 mg/kg dry	49.6	mg/kg dry	99.2	<49.6 mg/kg dry	99.5	75-125			E
Matrix Spike Dup (BAL0085-MSD1) Source: 17L0044-03 Prepared: 12/06/2017 Analyzed: 12/07/2017										
Arsenic	97.8 mg/kg dry	49.2	mg/kg dry	98.4	<49.2 mg/kg dry	99.4	75-125	0.682	20	
Matrix Spike Dup (BAL0085-MSD2) Source: 17L0044-03 Prepared: 12/06/2017 Analyzed: 12/08/2017										
Chromium	97.9 mg/kg dry	49.2	mg/kg dry	98.4	<49.2 mg/kg dry	99.5	75-125	0.834	20	E



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 17:45
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - 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 BAL0098 - No Prep Wet Chem

Blank (BAL0098-BLK1)

Prepared: 12/05/2017 Analyzed: 12/06/2017

Percent Solids	100 %	0.10	%
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Duplicate (BAL0098-DUP1)

Source: 17L0044-03

Prepared: 12/05/2017 Analyzed: 12/06/2017

Percent Solids	96.3 %	0.10	%	96.2 %		0.124	20
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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 17:45
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications		
<i>SW7010 in Solids</i>			
Arsenic	VELAP		
Chromium	VELAP		
Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9475	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 17:45
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Summary of Data Qualifiers

- B Blank contamination. The recorded result is associated with a contaminated blank.
- E Estimated concentration, outside calibration range
- 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.



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 17:45
Submitted To:	Thomas Liesfeld	Project Number:	R15434R-12
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	0.60°C
How were samples received?	Courier
Were Custody Seals used? If so, were they received intact?	No
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

Analysis is for metals, therefore ice is not required. SNL 05 Dec 2017 0938.

William Salomone has been notified of metal instrument issues for ICP. Metals are to be analyzed by GFAA and analyzed ASAP. KLC 12/6/2017.



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Certificate of Analysis

Final Report

Laboratory Order ID 17L0233

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: December 7, 2017 15:03
Date Issued: December 11, 2017 15:57
Project Number: [none]

Submitted To: Thomas Liesfeld

Purchase Order:

Client Site I.D.: NKWP/ Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 12/07/2017 15:03. 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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld Date Issued: 12/11/2017 15:57
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: [none]
Client Site I.D.: NKWP/ Confirmatory Sampling Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17L0233

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA3-CS-5	17L0233-01	Soil	12/07/2017 13:20	12/07/2017 15:03
EA3-CS-7	17L0233-02	Soil	12/07/2017 13:40	12/07/2017 15:03
EA3-CS-8	17L0233-03	Soil	12/07/2017 14:00	12/07/2017 15:03



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 15:57
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/ Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 17L0233

Analytical Results

Sample I.D. EA3-CS-5 **Laboratory Sample ID:** 17L0233-01

Grab Date/Time: 12/07/2017 13:20

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	1.59 mg/kg dry	1.01	1	12/08/17 09:00	12/08/17 16:47	BG	
Chromium	01	SW6010C	6.70 mg/kg dry	0.505	1	12/08/17 09:00	12/08/17 16:47	BG	
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	94.2 %	0.10	1	12/07/17 18:30	12/07/17 18:30	JCM	



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 15:57
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/ Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 17L0233

Analytical Results

Sample I.D. EA3-CS-7	Laboratory Sample ID: 17L0233-02
Grab Date/Time: 12/07/2017 13:40	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	<1.00 mg/kg dry	1.00	1		12/08/17 09:00	12/08/17 17:05	BG
Chromium	02	SW6010C	5.97 mg/kg dry	0.500	1		12/08/17 09:00	12/08/17 17:05	BG
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	95.2 %	0.10	1		12/07/17 18:30	12/07/17 18:30	JCM



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 12/11/2017 15:57
Submitted To: Thomas Liesfeld	Project Number: [none]
Client Site I.D.: NKWP/ Confirmatory Sampling	Purchase Order:

Laboratory Order ID: 17L0233

Analytical Results

Sample I.D. EA3-CS-8 **Laboratory Sample ID:** 17L0233-03

Grab Date/Time: 12/07/2017 14:00

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	03	SW6010C	<1.02 mg/kg dry		1.02	1	12/08/17 09:00	12/08/17 17:10	BG
Chromium	03	SW6010C	7.05 mg/kg dry		0.510	1	12/08/17 09:00	12/08/17 17:10	BG
Wet Chemistry Analysis									
Percent Solids	03	SM18 2540G	93.3 %		0.10	1	12/07/17 18:30	12/07/17 18:30	JCM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
			Preparation Method: No Prep Wet Chem		
17L0233-01	1.00 g / 1.00 mL	SM18 2540G	BAL0195	SAL0206	
17L0233-02	1.00 g / 1.00 mL	SM18 2540G	BAL0195	SAL0206	
17L0233-03	1.00 g / 1.00 mL	SM18 2540G	BAL0195	SAL0206	
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method: SW3050B		
17L0233-01	1.05 g / 50.0 mL	SW6010C	BAL0222	SAL0261	AL70051
17L0233-02	1.09 g / 50.0 mL	SW6010C	BAL0222	SAL0261	AL70051
17L0233-03	1.05 g / 50.0 mL	SW6010C	BAL0222	SAL0261	AL70051



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 15:57
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/ Confirmatory Sampling	Purchase Order:	

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qual
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Batch BAL0222 - SW3050B

Blank (BAL0222-BLK1) Prepared & Analyzed: 12/08/2017

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BAL0222-BS1) Prepared & Analyzed: 12/08/2017

Chromium	94.3 mg/kg wet	0.500	mg/kg wet	97.1	mg/kg wet	97.1	80-120		
Arsenic	94.4 mg/kg wet	1.00	mg/kg wet	97.1	mg/kg wet	97.2	80-120		

LCS Dup (BAL0222-BSD1) Prepared & Analyzed: 12/08/2017

Chromium	92.8 mg/kg wet	0.500	mg/kg wet	95.0	mg/kg wet	97.7	80-120	1.59	20
Arsenic	93.2 mg/kg wet	1.00	mg/kg wet	95.0	mg/kg wet	98.1	80-120	1.28	20

Matrix Spike (BAL0222-MS1) Source: 17L0100-02 Prepared & Analyzed: 12/08/2017

Chromium	673 mg/kg dry	3.27	mg/kg dry	654	33.0 mg/kg dry	97.9	75-125		
Arsenic	634 mg/kg dry	6.54	mg/kg dry	654	<6.54 mg/kg dry	96.9	75-125		

Matrix Spike Dup (BAL0222-MSD1) Source: 17L0100-02 Prepared & Analyzed: 12/08/2017

Chromium	658 mg/kg dry	3.27	mg/kg dry	654	33.0 mg/kg dry	95.5	75-125	2.20	20
Arsenic	623 mg/kg dry	6.54	mg/kg dry	654	<6.54 mg/kg dry	95.2	75-125	1.72	20



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 15:57
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/ Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - 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 BAL0195 - No Prep Wet Chem

Blank (BAL0195-BLK1)

Prepared & Analyzed: 12/07/2017

Percent Solids	100 %	0.10	%
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Duplicate (BAL0195-DUP1)

Source: 17L0100-02

Prepared & Analyzed: 12/07/2017

Percent Solids	14.5 %	0.10	%	14.6 %		0.451	20
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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 15:57
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/ Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Solids</i>	
Arsenic	VELAP
Chromium	VELAP

Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9475	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld Date Issued: 12/11/2017 15:57
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: [none]
Client Site I.D.: NKWP/ Confirmatory Sampling Purchase Order:

Summary of Data Qualifiers

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.



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/11/2017 15:57
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/ Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	21.60°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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



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Certificate of Analysis

Final Report

Laboratory Order ID 17L0402

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: December 12, 2017 13:47

Date Issued: December 14, 2017 16:11

Project Number: [none]

Submitted To: Thomas Liesfeld

Purchase Order: R15434R-12

Client Site I.D.: NKWP/Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 12/12/2017 13:47. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in cursive script that reads "Carmela L. Tombes".

Carmela Tombes
President

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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld Date Issued: 12/14/2017 16:11
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: [none]
Client Site I.D.: NKWP/Confirmatory Sampling Purchase Order: R15434R-12

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 17L0402

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA3-CS-6	17L0402-01	Soil	12/12/2017 10:30	12/12/2017 13:47
EA3-CS-9	17L0402-02	Soil	12/12/2017 10:35	12/12/2017 13:47
EA3-CS-10	17L0402-03	Soil	12/12/2017 10:40	12/12/2017 13:47



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/14/2017 16:11
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 17L0402

Analytical Results

Sample I.D. EA3-CS-6 **Laboratory Sample ID:** 17L0402-01

Grab Date/Time: 12/12/2017 10:30

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	<1.02 mg/kg dry	1.02	1	12/13/17 09:00	12/14/17 15:31	CGT	
Chromium	01	SW6010C	5.44 mg/kg dry	0.511	1	12/13/17 09:00	12/14/17 15:31	CGT	
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	92.7 %	0.10	1	12/12/17 17:03	12/12/17 17:03	JCM	



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/14/2017 16:11
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 17L0402

Analytical Results

Sample I.D. EA3-CS-9 **Laboratory Sample ID:** 17L0402-02

Grab Date/Time: 12/12/2017 10:35

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	<1.00 mg/kg dry		1.00	1	12/13/17 09:00	12/14/17 15:37	CGT
Chromium	02	SW6010C	4.33 mg/kg dry		0.500	1	12/13/17 09:00	12/14/17 15:37	CGT
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	95.6 %		0.10	1	12/12/17 17:03	12/12/17 17:03	JCM



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/14/2017 16:11
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 17L0402

Analytical Results

Sample I.D. EA3-CS-10	Laboratory Sample ID: 17L0402-03
Grab Date/Time:	12/12/2017 10:40

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	03	SW6010C	1.11 mg/kg dry		1.00	1	12/13/17 09:00	12/14/17 15:42	CGT
Chromium	03	SW6010C	6.35 mg/kg dry		0.500	1	12/13/17 09:00	12/14/17 15:42	CGT
Wet Chemistry Analysis									
Percent Solids	03	SM18 2540G	93.7 %		0.10	1	12/12/17 17:03	12/12/17 17:03	JCM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
			Preparation Method: No Prep Wet Chem		
17L0402-01	1.00 g / 1.00 mL	SM18 2540G	BAL0354	SAL0374	
17L0402-02	1.00 g / 1.00 mL	SM18 2540G	BAL0354	SAL0374	
17L0402-03	1.00 g / 1.00 mL	SM18 2540G	BAL0354	SAL0374	
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method: SW3050B		
17L0402-01	1.06 g / 50.0 mL	SW6010C	BAL0366	SAL0419	AL70079
17L0402-02	1.05 g / 50.0 mL	SW6010C	BAL0366	SAL0419	AL70079
17L0402-03	1.07 g / 50.0 mL	SW6010C	BAL0366	SAL0419	AL70079



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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/14/2017 16:11
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Metals (Total) by EPA 6000/7000 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 BAL0366 - SW3050B

Blank (BAL0366-BLK1)

Prepared: 12/13/2017 Analyzed: 12/14/2017

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BAL0366-BS1)

Prepared: 12/13/2017 Analyzed: 12/14/2017

Chromium	96.9 mg/kg wet	0.500	mg/kg wet	99.7	mg/kg wet	97.2	80-120		
Arsenic	96.7 mg/kg wet	1.00	mg/kg wet	99.7	mg/kg wet	97.0	80-120		

LCS Dup (BAL0366-BSD1)

Prepared: 12/13/2017 Analyzed: 12/14/2017

Chromium	97.9 mg/kg wet	0.500	mg/kg wet	99.5	mg/kg wet	98.4	80-120	0.980	20
Arsenic	98.5 mg/kg wet	1.00	mg/kg wet	99.5	mg/kg wet	99.0	80-120	1.79	20

Matrix Spike (BAL0366-MS1)

Source: 17L0402-03

Prepared: 12/13/2017 Analyzed: 12/14/2017

Chromium	105 mg/kg dry	0.510	mg/kg dry	102	6.35 mg/kg dry	96.6	75-125		
Arsenic	93.5 mg/kg dry	1.02	mg/kg dry	102	1.11 mg/kg dry	90.6	75-125		

Matrix Spike Dup (BAL0366-MSD1)

Source: 17L0402-03

Prepared: 12/13/2017 Analyzed: 12/14/2017

Chromium	109 mg/kg dry	0.524	mg/kg dry	105	6.35 mg/kg dry	98.4	75-125	4.29	20
Arsenic	97.7 mg/kg dry	1.05	mg/kg dry	105	1.11 mg/kg dry	92.2	75-125	4.41	20



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/14/2017 16:11
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Wet Chemistry Analysis - 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 BAL0354 - No Prep Wet Chem

Blank (BAL0354-BLK1)

Prepared & Analyzed: 12/12/2017

Percent Solids	100 %	0.10	%
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Duplicate (BAL0354-DUP1)

Source: 17L0402-01

Prepared & Analyzed: 12/12/2017

Percent Solids	92.9 %	0.10	%	92.7 %	0.247	20
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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/14/2017 16:11
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Solids</i>	
Arsenic	VELAP
Chromium	VELAP

Code	Description	Lab Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2017
VELAP	NELAC-Virginia Certificate #9475	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/14/2017 16:11
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Summary of Data Qualifiers

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.



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	12/14/2017 16:11
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Sample Conditions Checklist

Samples Received at:	17.60°C
How were samples received?	AWS Courier
Were Custody Seals used? If so, were they received intact?	No
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



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Certificate of Analysis

Final Report

Laboratory Order ID 18A0505

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: January 22, 2018 12:52

Date Issued: January 23, 2018 16:27

Project Number: [none]

Submitted To: Thomas Liesfeld

Purchase Order: R15434R-12

Client Site I.D.: NKWP / Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 01/22/2018 12:52. 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.

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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 18A0505

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA2-CS-1	18A0505-01	Soil	01/19/2018 12:06	01/22/2018 12:52
EA2-CS-2	18A0505-02	Soil	01/19/2018 12:08	01/22/2018 12:52
EA2-CS-3	18A0505-03	Soil	01/19/2018 12:16	01/22/2018 12:52
EA2-CS-4	18A0505-04	Soil	01/19/2018 12:19	01/22/2018 12:52
EA2-CS-5	18A0505-05	Soil	01/19/2018 12:26	01/22/2018 12:52
EA2-CS-6	18A0505-06	Soil	01/19/2018 12:36	01/22/2018 12:52
EA2-CS-7	18A0505-07	Soil	01/19/2018 16:00	01/22/2018 12:52
EA2-CS-8	18A0505-08	Soil	01/19/2018 16:03	01/22/2018 12:52
EA2-CS-9	18A0505-09	Soil	01/19/2018 16:12	01/22/2018 12:52
EA2-CS-10	18A0505-10	Soil	01/19/2018 16:15	01/22/2018 12:52

Results have been calculated based on dry weight.



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-1 **Laboratory Sample ID:** 18A0505-01

Grab Date/Time: 01/19/2018 12:06

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	73.2 mg/kg dry	1.07		1	01/22/18 14:00	01/23/18 14:00	JPV
Chromium	01	SW6010C	101 mg/kg dry	0.534		1	01/22/18 14:00	01/23/18 14:00	JPV
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	90.8 %	0.10		1	01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 1/23/2018 16:27
Submitted To: Thomas Liesfeld	Project Number: [none]
Client Site I.D.: NKWP / Confirmatory Sampling	Purchase Order: R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-2 **Laboratory Sample ID:** 18A0505-02

Grab Date/Time: 01/19/2018 12:08

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	3.20 mg/kg dry	1.02	1		01/22/18 14:00	01/23/18 14:03	JPV
Chromium	02	SW6010C	7.49 mg/kg dry	0.509	1		01/22/18 14:00	01/23/18 14:03	JPV
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	91.5 %	0.10	1		01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-3 **Laboratory Sample ID:** 18A0505-03

Grab Date/Time: 01/19/2018 12:16

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	03	SW6010C	<1.04 mg/kg dry	1.04	1		01/22/18 14:00	01/23/18 14:05	JPV
Chromium	03	SW6010C	4.34 mg/kg dry	0.519	1		01/22/18 14:00	01/23/18 14:05	JPV
Wet Chemistry Analysis									
Percent Solids	03	SM18 2540G	90.4 %	0.10	1		01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-4	Laboratory Sample ID: 18A0505-04
Grab Date/Time: 01/19/2018 12:19	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	04	SW6010C	<1.00 mg/kg dry	1.00	1		01/22/18 14:00	01/23/18 14:07	JPV
Chromium	04	SW6010C	5.61 mg/kg dry	0.500	1		01/22/18 14:00	01/23/18 14:07	JPV
Wet Chemistry Analysis									
Percent Solids	04	SM18 2540G	88.6 %	0.10	1		01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-5	Laboratory Sample ID: 18A0505-05
Grab Date/Time: 01/19/2018 12:26	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	05	SW6010C	1.36 mg/kg dry	1.00		1	01/22/18 14:00	01/23/18 14:09	JPV
Chromium	05	SW6010C	7.03 mg/kg dry	0.500		1	01/22/18 14:00	01/23/18 14:09	JPV
Wet Chemistry Analysis									
Percent Solids	05	SM18 2540G	84.3 %	0.10		1	01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-6	Laboratory Sample ID: 18A0505-06
Grab Date/Time: 01/19/2018 12:36	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	06	SW6010C	7.34 mg/kg dry	1.00		1	01/22/18 14:00	01/23/18 14:11	JPV
Chromium	06	SW6010C	5.21 mg/kg dry	0.501		1	01/22/18 14:00	01/23/18 14:11	JPV
Wet Chemistry Analysis									
Percent Solids	06	SM18 2540G	91.1 %	0.10		1	01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-7	Laboratory Sample ID: 18A0505-07
Grab Date/Time: 01/19/2018 16:00	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	07	SW6010C	<1.06 mg/kg dry	1.06	1		01/22/18 14:00	01/23/18 14:14	JPV
Chromium	07	SW6010C	5.47 mg/kg dry	0.529	1		01/22/18 14:00	01/23/18 14:14	JPV
Wet Chemistry Analysis									
Percent Solids	07	SM18 2540G	90.6 %	0.10	1		01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-8	Laboratory Sample ID: 18A0505-08
Grab Date/Time: 01/19/2018 16:03	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	08	SW6010C	<1.05 mg/kg dry	1.05	1		01/22/18 14:00	01/23/18 14:16	JPV
Chromium	08	SW6010C	4.08 mg/kg dry	0.525	1		01/22/18 14:00	01/23/18 14:16	JPV
Wet Chemistry Analysis									
Percent Solids	08	SM18 2540G	89.9 %	0.10	1		01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-9	Laboratory Sample ID: 18A0505-09
Grab Date/Time: 01/19/2018 16:12	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	09	SW6010C	1.51 mg/kg dry	1.00		1	01/22/18 14:00	01/23/18 14:18	JPV
Chromium	09	SW6010C	7.96 mg/kg dry	0.500		1	01/22/18 14:00	01/23/18 14:18	JPV
Wet Chemistry Analysis									
Percent Solids	09	SM18 2540G	86.4 %	0.10		1	01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18A0505

Analytical Results

Sample I.D. EA2-CS-10	Laboratory Sample ID: 18A0505-10
Grab Date/Time: 01/19/2018 16:15	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	10	SW6010C	2.48 mg/kg dry	1.10		1	01/22/18 14:00	01/23/18 14:26	JPV
Chromium	10	SW6010C	7.61 mg/kg dry	0.550		1	01/22/18 14:00	01/23/18 14:26	JPV
Wet Chemistry Analysis									
Percent Solids	10	SM18 2540G	88.8 %	0.10		1	01/22/18 15:00	01/22/18 15:00	JIW



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 1/23/2018 16:27
Submitted To: Thomas Liesfeld	Project Number: [none]
Client Site I.D.: NKWP / Confirmatory Sampling	Purchase Order: R15434R-12

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis		Preparation Method:	No Prep Wet Chem		
18A0505-01	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	
18A0505-02	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	
18A0505-03	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	
18A0505-04	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	
18A0505-05	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	
18A0505-06	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	
18A0505-07	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	
18A0505-08	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	
18A0505-09	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	
18A0505-10	1.00 g / 1.00 mL	SM18 2540G	BBA0543	SBA0478	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods		Preparation Method:	SW3050B		
18A0505-01	1.03 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096
18A0505-02	1.07 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096
18A0505-03	1.06 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096
18A0505-04	1.63 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096
18A0505-05	1.46 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096
18A0505-06	1.10 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096
18A0505-07	1.04 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096
18A0505-08	1.06 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096
18A0505-09	1.36 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096
18A0505-10	1.02 g / 50.0 mL	SW6010C	BBA0540	SBA0473	AA80096



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Metals (Total) by EPA 6000/7000 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
---------	--------	-----------------	-------	-------------	---------------	-----------	--------	-----	-----------	------

Batch BBA0540 - SW3050B

Blank (BBA0540-BLK1)

Prepared: 01/22/2018 Analyzed: 01/23/2018

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BBA0540-BS1)

Prepared: 01/22/2018 Analyzed: 01/23/2018

Chromium	96.8 mg/kg wet	0.500	mg/kg wet	98.6	mg/kg wet	98.1	80-120		
Arsenic	94.3 mg/kg wet	1.00	mg/kg wet	98.6	mg/kg wet	95.6	80-120		

LCS Dup (BBA0540-BSD1)

Prepared: 01/22/2018 Analyzed: 01/23/2018

Chromium	91.1 mg/kg wet	0.500	mg/kg wet	95.6	mg/kg wet	95.3	80-120	6.00	20
Arsenic	89.1 mg/kg wet	1.00	mg/kg wet	95.6	mg/kg wet	93.2	80-120	5.66	20

Matrix Spike (BBA0540-MS1)

Source: 18A0505-10

Prepared: 01/22/2018 Analyzed: 01/23/2018

Chromium	114 mg/kg dry	0.545	mg/kg dry	109	7.61 mg/kg dry	97.1	75-125		
Arsenic	103 mg/kg dry	1.09	mg/kg dry	109	2.48 mg/kg dry	92.0	75-125		

Matrix Spike Dup (BBA0540-MSD1)

Source: 18A0505-10

Prepared: 01/22/2018 Analyzed: 01/23/2018

Chromium	116 mg/kg dry	0.558	mg/kg dry	112	7.61 mg/kg dry	97.5	75-125	2.43	20
Arsenic	106 mg/kg dry	1.12	mg/kg dry	112	2.48 mg/kg dry	92.7	75-125	2.99	20



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qual
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Batch BBA0543 - No Prep Wet Chem

Blank (BBA0543-BLK1)				Prepared & Analyzed: 01/22/2018					
Percent Solids	100 %	0.10	%						
Duplicate (BBA0543-DUP1)				Prepared & Analyzed: 01/22/2018					
		Source: 18A0505-10							
Percent Solids	88.8 %	0.10	%		88.8 %		0.00271	20	
Duplicate (BBA0543-DUP2)				Prepared & Analyzed: 01/22/2018					
		Source: 18A0506-10							
Percent Solids	89.0 %	0.10	%		89.4 %		0.473	20	



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Solids</i>	
Arsenic	VELAP
Chromium	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 #9475	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Summary of Data Qualifiers

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.

CHAIN OF CUSTODY

CLIENT: LIESFELD FARMS	CONSULTANT: DRAPER ADEN ASSOCIATES	COPY COA TO CONSULTANT? YES
ATTN: THOMAS LIESFELD	ATTN: WILLIAM A SALOMONE (WSALOMONE@DAA.COM)	COPY INVOICE TO CONSULTANT? YES
STREET: 859 BEN HATCHER ROAD	STREET: 8090 VILLA PARK DRIVE	PROJECT: NKWP / CONFIRMATORY SAMPLING
CITY: WAYNESBORO, GA 30830	CITY: RICHMOND, VIRGINIA 23228	LOCATION: PROVIDENCE FORGE, VIRGINIA
PHONE: 804-833-4286	PHONE: 804-264-2228	LABORATORY: AIR, WATER, & SOIL LABORATORIES
TURN AROUND: 1 2 3 5 10 DAYS	P.O. #: R15434R-12	ANALYSES REQUESTED

LAB ID	SAMPLE ID	DATE	TIME	COMPOSITE	Grab	NO. OF JARS	MATRIX	Metals (As, Cr)	COMMENTS (SAMPLING INTERVAL)
	EA2-CS-1	1/19/18	1206		✓	1	S	✓	
	EA2-CS-2		1208		✓	1	S	✓	
	EA2-CS-3		1216		✓	1	S	✓	
	EA2-CS-4		1219		✓	1	S	✓	
	EA2-CS-5		1226		✓	1	S	✓	
	EA2-CS-6		1236		✓	1	S	✓	
	EA2-CS-7		1600		✓	1	S	✓	
	EA2-CS-8		1603		✓	1	S	✓	
	EA2-CS-9		1612		✓	1	S	✓	
	EA2-CS-10		1615		✓	1	S	✓	

Thomas Liesfeld 18A0505
NKWP - Excavation - R15434R-12
Recd: 01/22/2018 Due: 01/23/2018

v130325002

SAMPLED BY: <i>Kendall Dunham</i>	SAMPLED BY: <i>Kendall Dunham</i>	Level 2 data package. Please report all concentrations in mg/kg (dry weight). All dry weight analyses shall be total analysis.
-----------------------------------	-----------------------------------	--

RELINQUISHED BY: <i>Kendall Dunham</i>	DATE: 1/22/18	TIME: 11:45	RECEIVED BY: <i>Mha</i>	DATE: 1/22/18	TIME: 11:45
<i>[Signature]</i>	1/22/18	1252	<i>[Signature]</i>	1/22/18	1252

20.5°C No Seal
No Ice

pH: _____ CONTENTS: A = AIR; S=SOIL; G=GROUNDWATER; WW=WASTEWATER



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	1/23/2018 16:27
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP / Confirmatory Sampling	Purchase Order:	R15434R-12

Sample Conditions Checklist

Samples Received at:	20.50°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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?	Yes
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



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Certificate of Analysis

Final Report

Laboratory Order ID 18D0546

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: April 17, 2018 14:47

Date Issued: April 19, 2018 15:38

Project Number: [none]

Submitted To: Thomas Liesfeld

Purchase Order:

Client Site I.D.: NKWP/Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 04/17/2018 14:47. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld Date Issued: 4/19/2018 15:38
859 Ben Hatcher Rd
Waynesboro GA, 30830
Submitted To: Thomas Liesfeld Project Number: [none]
Client Site I.D.: NKWP/Confirmatory Sampling Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 18D0546

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EAI-CS-4A	18D0546-01	Solids	04/17/2018 09:50	04/17/2018 14:47
EAI-CS-3A	18D0546-02	Solids	04/17/2018 08:40	04/17/2018 14:47
EAI-CS-2B	18D0546-03	Solids	04/17/2018 08:38	04/17/2018 14:47
EAI-CS-7B	18D0546-04	Solids	04/17/2018 08:22	04/17/2018 14:47
EAI-CS-8B	18D0546-05	Solids	04/17/2018 08:25	04/17/2018 14:47
EAI-CS-9B	18D0546-06	Solids	04/17/2018 13:25	04/17/2018 14:47
EAI-CS-8	18D0546-07	Solids	04/17/2018 13:52	04/17/2018 14:47

Results have been calculated based on dry weight.



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 18D0546

Analytical Results

Sample I.D. EAI-CS-4A **Laboratory Sample ID:** 18D0546-01

Grab Date/Time: 04/17/2018 09:50

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	<1.00 mg/kg dry	1.00	1	04/17/18 15:00	04/18/18 15:28	BG	
Chromium	01	SW6010C	3.98 mg/kg dry	0.500	1	04/17/18 15:00	04/18/18 15:28	BG	
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	95.2 %	0.10	1	04/18/18 13:02	04/19/18 12:01	JIW	



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 18D0546

Analytical Results

Sample I.D. EAI-CS-3A	Laboratory Sample ID: 18D0546-02
Grab Date/Time: 04/17/2018 08:40	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	2.31 mg/kg dry	1.05		1	04/17/18 15:00	04/18/18 15:32	BG
Chromium	02	SW6010C	7.51 mg/kg dry	0.525		1	04/17/18 15:00	04/18/18 15:32	BG
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	93.4 %	0.10		1	04/18/18 13:02	04/19/18 12:01	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 18D0546

Analytical Results

Sample I.D. EAI-CS-2B	Laboratory Sample ID: 18D0546-03
Grab Date/Time: 04/17/2018 08:38	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	03	SW6010C	<1.00 mg/kg dry	1.00	1		04/17/18 15:00	04/18/18 15:45	BG
Chromium	03	SW6010C	4.84 mg/kg dry	0.500	1		04/17/18 15:00	04/18/18 15:45	BG
Wet Chemistry Analysis									
Percent Solids	03	SM18 2540G	94.2 %	0.10	1		04/18/18 13:02	04/19/18 12:01	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 18D0546

Analytical Results

Sample I.D. EAI-CS-7B	Laboratory Sample ID: 18D0546-04
Grab Date/Time: 04/17/2018 08:22	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	04	SW6010C	9.85 mg/kg dry	1.00		1	04/17/18 15:00	04/18/18 15:49	BG
Chromium	04	SW6010C	18.2 mg/kg dry	0.500		1	04/17/18 15:00	04/18/18 15:49	BG
Wet Chemistry Analysis									
Percent Solids	04	SM18 2540G	93.1 %	0.10		1	04/18/18 13:02	04/19/18 12:01	JIW



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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 18D0546

Analytical Results

Sample I.D. EAI-CS-8B	Laboratory Sample ID: 18D0546-05
Grab Date/Time: 04/17/2018 08:25	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	05	SW6010C	1.20 mg/kg dry	1.06		1	04/17/18 15:00	04/18/18 15:53	BG
Chromium	05	SW6010C	8.56 mg/kg dry	0.530		1	04/17/18 15:00	04/18/18 15:53	BG
Wet Chemistry Analysis									
Percent Solids	05	SM18 2540G	92.8 %	0.10		1	04/18/18 13:02	04/19/18 12:01	JIW



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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 18D0546

Analytical Results

Sample I.D. EAI-CS-9B	Laboratory Sample ID: 18D0546-06
Grab Date/Time: 04/17/2018 13:25	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	06	SW6010C	1.73 mg/kg dry	1.01		1	04/17/18 15:00	04/18/18 16:23	BG
Chromium	06	SW6010C	7.43 mg/kg dry	0.503		1	04/17/18 15:00	04/18/18 16:23	BG
Wet Chemistry Analysis									
Percent Solids	06	SM18 2540G	94.1 %	0.10		1	04/18/18 13:02	04/19/18 12:01	JIW



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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Laboratory Order ID: 18D0546

Analytical Results

Sample I.D. EAI-CS-8		Laboratory Sample ID: 18D0546-07	
Grab Date/Time:	04/17/2018 13:52		

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	07	SW6010C	<1.02 mg/kg dry		1.02	1	04/17/18 15:00	04/18/18 16:27	BG
Chromium	07	SW6010C	5.11 mg/kg dry		0.511	1	04/17/18 15:00	04/18/18 16:27	BG
Wet Chemistry Analysis									
Percent Solids	07	SM18 2540G	93.6 %		0.10	1	04/18/18 13:02	04/19/18 12:01	JIW



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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued: 4/19/2018 15:38
Submitted To: Thomas Liesfeld	Project Number: [none]
Client Site I.D.: NKWP/Confirmatory Sampling	Purchase Order:

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis		Preparation Method:	No Prep Wet Chem		
18D0546-01	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	
18D0546-02	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	
18D0546-03	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	
18D0546-04	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	
18D0546-05	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	
18D0546-06	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	
18D0546-07	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods		Preparation Method:	SW3050B		
18D0546-01	1.05 g / 50.0 mL	SW6010C	BBD0474	SBD0464	AD80082
18D0546-02	1.02 g / 50.0 mL	SW6010C	BBD0474	SBD0464	AD80082
18D0546-03	1.08 g / 50.0 mL	SW6010C	BBD0474	SBD0464	AD80082
18D0546-04	1.09 g / 50.0 mL	SW6010C	BBD0474	SBD0464	AD80082
18D0546-05	1.02 g / 50.0 mL	SW6010C	BBD0474	SBD0464	AD80082
18D0546-06	1.06 g / 50.0 mL	SW6010C	BBD0474	SBD0464	AD80082
18D0546-07	1.04 g / 50.0 mL	SW6010C	BBD0474	SBD0464	AD80082



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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qual
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Batch BBD0474 - SW3050B

Blank (BBD0474-BLK1)

Prepared: 04/17/2018 Analyzed: 04/18/2018

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BBD0474-BS1)

Prepared: 04/17/2018 Analyzed: 04/18/2018

Chromium	89.5 mg/kg wet	0.500	mg/kg wet	92.8	mg/kg wet	96.5	80-120		
Arsenic	86.5 mg/kg wet	1.00	mg/kg wet	92.8	mg/kg wet	93.3	80-120		

LCS Dup (BBD0474-BSD1)

Prepared: 04/17/2018 Analyzed: 04/18/2018

Chromium	88.3 mg/kg wet	0.500	mg/kg wet	96.5	mg/kg wet	91.4	80-120	1.38	20
Arsenic	86.3 mg/kg wet	1.00	mg/kg wet	96.5	mg/kg wet	89.4	80-120	0.329	20

Matrix Spike (BBD0474-MS1)

Source: 18D0546-02

Prepared: 04/17/2018 Analyzed: 04/18/2018

Chromium	100 mg/kg dry	0.500	mg/kg dry	100	7.51 mg/kg dry	92.7	75-125		
Arsenic	91.7 mg/kg dry	1.00	mg/kg dry	100	2.31 mg/kg dry	89.3	75-125		

Matrix Spike Dup (BBD0474-MSD1)

Source: 18D0546-02

Prepared: 04/17/2018 Analyzed: 04/18/2018

Chromium	111 mg/kg dry	0.528	mg/kg dry	106	7.51 mg/kg dry	97.8	75-125	9.82	20
Arsenic	100 mg/kg dry	1.06	mg/kg dry	106	2.31 mg/kg dry	92.6	75-125	8.73	20



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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Wet Chemistry Analysis - 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 BBD0541 - No Prep Wet Chem

Blank (BBD0541-BLK1)

Prepared: 04/18/2018 Analyzed: 04/19/2018

Percent Solids	100 %	0.10	%						
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Duplicate (BBD0541-DUP1)

Source: 18D0546-01

Prepared: 04/18/2018 Analyzed: 04/19/2018

Percent Solids	95.2 %	0.10	%	95.2 %			0.0847	20	
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Duplicate (BBD0541-DUP2)

Source: 18D0571-04

Prepared: 04/18/2018 Analyzed: 04/19/2018

Percent Solids	93.4 %	0.10	%	93.4 %			0.0749	20	
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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications		
<i>SW6010C in Solids</i>			
Arsenic	VELAP		
Chromium	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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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Summary of Data Qualifiers

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.



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 15:38
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	21.90°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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

As per Kendall Dunham at drop off, percent solids not needed with these samples.
SWS 4/18/18 1055



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Certificate of Analysis

Final Report

Laboratory Order ID 18D0571

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro, GA 30830

Date Received: April 18, 2018 10:45

Date Issued: April 19, 2018 16:26

Project Number: [none]

Submitted To: Thomas Liesfeld

Purchase Order: R15434R-12

Client Site I.D.: NKWP/Confirmatory Sampling

Enclosed are the results of analyses for samples received by the laboratory on 04/18/2018 10:45. 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.

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Certificate of Analysis

Final Report

Client Name: Thomas Liesfeld
859 Ben Hatcher Rd
Waynesboro GA, 30830
Date Issued: 4/19/2018 16:26

Submitted To: Thomas Liesfeld
Project Number: [none]
Client Site I.D.: NKWP/Confirmatory Sampling
Purchase Order: R15434R-12

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID 18D0571

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EA1-CS-3	18D0571-01	Soil	04/18/2018 08:05	04/18/2018 10:45
EA1-CS-4	18D0571-02	Soil	04/18/2018 10:00	04/18/2018 10:45
EA1-CS-6B	18D0571-03	Soil	04/18/2018 07:45	04/18/2018 10:45
EA1-CS-7	18D0571-04	Soil	04/18/2018 07:50	04/18/2018 10:45

Results have been calculated based on dry weight.



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 16:26
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18D0571

Analytical Results

Sample I.D. EA1-CS-3	Laboratory Sample ID: 18D0571-01
Grab Date/Time: 04/18/2018 08:05	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	01	SW6010C	<1.05 mg/kg dry	1.05	1		04/18/18 11:15	04/19/18 12:05	BG
Chromium	01	SW6010C	4.47 mg/kg dry	0.525	1		04/18/18 11:15	04/19/18 12:05	BG
Wet Chemistry Analysis									
Percent Solids	01	SM18 2540G	93.5 %	0.10	1		04/18/18 13:02	04/19/18 12:01	JIW



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 16:26
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18D0571

Analytical Results

Sample I.D. EA1-CS-4		Laboratory Sample ID: 18D0571-02
Grab Date/Time:	04/18/2018 10:00	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	02	SW6010C	<1.00 mg/kg dry	1.00	1		04/18/18 11:15	04/19/18 12:18	BG
Chromium	02	SW6010C	4.13 mg/kg dry	0.500	1		04/18/18 11:15	04/19/18 12:18	BG
Wet Chemistry Analysis									
Percent Solids	02	SM18 2540G	94.2 %	0.10	1		04/18/18 13:02	04/19/18 12:01	JIW



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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 16:26
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18D0571

Analytical Results

Sample I.D. EA1-CS-6B	Laboratory Sample ID: 18D0571-03
Grab Date/Time: 04/18/2018 07:45	

Parameter	Samp ID	Method	Result	Reporting Qual	Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	03	SW6010C	5.97 mg/kg dry	1.07		1	04/18/18 11:15	04/19/18 12:22	BG
Chromium	03	SW6010C	25.1 mg/kg dry	0.534		1	04/18/18 11:15	04/19/18 12:22	BG
Wet Chemistry Analysis									
Percent Solids	03	SM18 2540G	93.0 %	0.10		1	04/18/18 13:02	04/19/18 12:01	JIW



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Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 16:26
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Laboratory Order ID: 18D0571

Analytical Results

Sample I.D. EA1-CS-7	Laboratory Sample ID: 18D0571-04
Grab Date/Time: 04/18/2018 07:50	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 6000/7000 Series Methods									
Arsenic	04	SW6010C	7.66 mg/kg dry		1.02	1	04/18/18 11:15	04/19/18 12:26	BG
Chromium	04	SW6010C	20.8 mg/kg dry		0.512	1	04/18/18 11:15	04/19/18 12:26	BG
Wet Chemistry Analysis									
Percent Solids	04	SM18 2540G	93.4 %		0.10	1	04/18/18 13:02	04/19/18 12:01	JIW

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis					
			Preparation Method:	No Prep Wet Chem	
18D0571-01	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	
18D0571-02	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	
18D0571-03	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	
18D0571-04	1.00 g / 1.00 mL	SM18 2540G	BBD0541	SBD0484	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods					
			Preparation Method:	SW3050B	
18D0571-01	1.02 g / 50.0 mL	SW6010C	BBD0495	SBD0498	AD80091
18D0571-02	1.08 g / 50.0 mL	SW6010C	BBD0495	SBD0498	AD80091
18D0571-03	1.01 g / 50.0 mL	SW6010C	BBD0495	SBD0498	AD80091
18D0571-04	1.04 g / 50.0 mL	SW6010C	BBD0495	SBD0498	AD80091



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 16:26
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qual
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Batch BBD0495 - SW3050B

Blank (BBD0495-BLK1)

Prepared: 04/18/2018 Analyzed: 04/19/2018

Chromium	<0.500 mg/kg wet	0.500	mg/kg wet						
Arsenic	<1.00 mg/kg wet	1.00	mg/kg wet						

LCS (BBD0495-BS1)

Prepared: 04/18/2018 Analyzed: 04/19/2018

Chromium	92.8 mg/kg wet	0.500	mg/kg wet	91.3	mg/kg wet	102	80-120		
Arsenic	87.6 mg/kg wet	1.00	mg/kg wet	91.3	mg/kg wet	95.9	80-120		

LCS Dup (BBD0495-BSD1)

Prepared: 04/18/2018 Analyzed: 04/19/2018

Chromium	91.0 mg/kg wet	0.500	mg/kg wet	92.2	mg/kg wet	98.7	80-120	2.03	20
Arsenic	87.1 mg/kg wet	1.00	mg/kg wet	92.2	mg/kg wet	94.5	80-120	0.604	20

Matrix Spike (BBD0495-MS1)

Source: 18D0571-01

Prepared: 04/18/2018 Analyzed: 04/19/2018

Chromium	101 mg/kg dry	0.500	mg/kg dry	99.6	4.47 mg/kg dry	97.3	75-125		
Arsenic	88.8 mg/kg dry	1.00	mg/kg dry	99.6	<1.00 mg/kg dry	89.2	75-125		

Matrix Spike Dup (BBD0495-MSD1)

Source: 18D0571-01

Prepared: 04/18/2018 Analyzed: 04/19/2018

Chromium	106 mg/kg dry	0.526	mg/kg dry	105	4.47 mg/kg dry	97.0	75-125	4.81	20
Arsenic	93.5 mg/kg dry	1.05	mg/kg dry	105	<1.05 mg/kg dry	89.0	75-125	5.16	20



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 16:26
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Wet Chemistry Analysis - 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 BBD0541 - No Prep Wet Chem

Blank (BBD0541-BLK1)

Prepared: 04/18/2018 Analyzed: 04/19/2018

Percent Solids	100 %	0.10	%						
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Duplicate (BBD0541-DUP1)

Source: 18D0546-01

Prepared: 04/18/2018 Analyzed: 04/19/2018

Percent Solids	95.2 %	0.10	%	95.2 %			0.0847	20	
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Duplicate (BBD0541-DUP2)

Source: 18D0571-04

Prepared: 04/18/2018 Analyzed: 04/19/2018

Percent Solids	93.4 %	0.10	%	93.4 %			0.0749	20	
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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 16:26
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Certified Analyses included in this Report

Analyte	Certifications		
<i>SW6010C in Solids</i>			
Arsenic	VELAP		
Chromium	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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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 16:26
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Summary of Data Qualifiers

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.



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Certificate of Analysis

Final Report

Client Name:	Thomas Liesfeld 859 Ben Hatcher Rd Waynesboro GA, 30830	Date Issued:	4/19/2018 16:26
Submitted To:	Thomas Liesfeld	Project Number:	[none]
Client Site I.D.:	NKWP/Confirmatory Sampling	Purchase Order:	R15434R-12

Sample Conditions Checklist

Samples Received at:	21.50°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
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

Environmental Conservation Laboratories, Inc.

102-A Woodwinds Industrial Court

Cary NC, 27511

Phone: 919.467.3090 FAX: 919.467.3515



www.encolabs.com

Wednesday, December 20, 2017

Draper Aden Associates (DR002)

Attn: William Salomone

8090 Villa Park Drive

Richmond, VA 23228

RE: Laboratory Results for

Project Number: R15434R-12, Project Name/Desc: NKWP

ENCO Workorder: CA19433

Dear William Salomone,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, December 14, 2017.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Chuck Smith'.

Chuck Smith

Project Manager

Enclosure(s)



www.encolabs.com

SAMPLE DETECTION SUMMARY

Client ID: EA4-CS-8B **Lab ID: CA19433-01**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	0.858		0.339	0.529	mg/kg dry	EPA 6010D	
Chromium - Total	4.47		0.106	0.529	mg/kg dry	EPA 6010D	

Client ID: EA4-CS-9B **Lab ID: CA19433-02**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	0.872		0.341	0.532	mg/kg dry	EPA 6010D	
Chromium - Total	3.54		0.106	0.532	mg/kg dry	EPA 6010D	

Client ID: EA4-CS-10B **Lab ID: CA19433-03**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	1.35		0.343	0.536	mg/kg dry	EPA 6010D	
Chromium - Total	4.75		0.107	0.536	mg/kg dry	EPA 6010D	



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ANALYTICAL RESULTS

Description: EA4-CS-8B

Lab Sample ID: CA19433-01

Received: 12/14/17 14:00

Matrix: Soil

Sampled: 12/13/17 09:28

Work Order: CA19433

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 94.5

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	0.858		mg/kg dry	1	0.339	0.529	7L15017	EPA 6010D	12/18/17 14:22	JDH	
Chromium [7440-47-3] ^	4.47		mg/kg dry	1	0.106	0.529	7L15017	EPA 6010D	12/18/17 14:22	JDH	



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Description: EA4-CS-9B

Lab Sample ID: CA19433-02

Received: 12/14/17 14:00

Matrix: Soil

Sampled: 12/13/17 09:32

Work Order: CA19433

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 93.9

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	0.872		mg/kg dry	1	0.341	0.532	7L15017	EPA 6010D	12/18/17 14:24	JDH	
Chromium [7440-47-3] ^	3.54		mg/kg dry	1	0.106	0.532	7L15017	EPA 6010D	12/18/17 14:24	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: EA4-CS-10B

Lab Sample ID: CA19433-03

Received: 12/14/17 14:00

Matrix: Soil

Sampled: 12/13/17 09:42

Work Order: CA19433

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 93.3

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	1.35		mg/kg dry	1	0.343	0.536	7L15017	EPA 6010D	12/18/17 14:27	JDH	
Chromium [7440-47-3] ^	4.75		mg/kg dry	1	0.107	0.536	7L15017	EPA 6010D	12/18/17 14:27	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 7L15017 - EPA 3050B

Blank (7L15017-BLK1)

Prepared: 12/15/2017 10:40 Analyzed: 12/18/2017 13:08

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	BLOD		0.500	mg/kg wet							
Chromium	BLOD		0.500	mg/kg wet							

LCS (7L15017-BS1)

Prepared: 12/15/2017 10:40 Analyzed: 12/18/2017 13:56

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	9.96		0.500	mg/kg wet	10.0		100	80-120			
Chromium	10.4		0.500	mg/kg wet	10.0		104	80-120			

Matrix Spike (7L15017-MS1)

Prepared: 12/15/2017 10:40 Analyzed: 12/18/2017 14:01

Source: CA18655-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	15.5		0.722	mg/kg dry	14.6	3.68	81	75-125			
Chromium	50.1		0.722	mg/kg dry	14.6	33.3	115	75-125			

Matrix Spike Dup (7L15017-MSD1)

Prepared: 12/15/2017 10:40 Analyzed: 12/18/2017 14:03

Source: CA18655-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	15.7		0.722	mg/kg dry	13.9	3.68	87	75-125	1	20	
Chromium	50.3		0.722	mg/kg dry	13.9	33.3	122	75-125	0.3	20	

Post Spike (7L15017-PS1)

Prepared: 12/15/2017 10:40 Analyzed: 12/18/2017 14:05

Source: CA18655-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.258		0.0100	mg/L	0.200	0.0510	104	80-120			
Chromium	0.724		0.0100	mg/L	0.200	0.461	131	80-120			QM-08

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
BLOQ	The reported value is between the laboratory Limit of Detection (LOD) and the laboratory Limit of Quantitation (LOQ), adjusted for actual sample preparation data and moisture content, where applicable.
BLOD	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
LOQ	Limit of Quantitation. The LOQ is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.
QM-08	Post-digestion spike did not meet method requirements due to confirmed matrix effects (dilution test).

Environmental Conservation Laboratories, Inc.

102-A Woodwinds Industrial Court

Cary NC, 27511

Phone: 919.467.3090 FAX: 919.467.3515



www.encolabs.com

Friday, December 22, 2017

Draper Aden Associates (DR002)

Attn: William Salomone

8090 Villa Park Drive

Richmond, VA 23228

**RE: Laboratory Results for
Project Number: R15434R-12, Project Name/Desc: NKWP
ENCO Workorder: CA19596**

Dear William Salomone,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Monday, December 18, 2017.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Bill Scott". The signature is written in a cursive, flowing style.

Bill Scott For Chuck Smith

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 9.



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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: EA4-CS-8A	Lab ID: CA19596-01	Sampled: 12/14/17 13:47	Received: 12/18/17 14:00
-----------------------------	---------------------------	--------------------------------	---------------------------------

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010D	06/12/18	12/19/17 11:02	12/20/2017 14:10

Client ID: EA4-CS-9A	Lab ID: CA19596-02	Sampled: 12/15/17 10:08	Received: 12/18/17 14:00
-----------------------------	---------------------------	--------------------------------	---------------------------------

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010D	06/13/18	12/19/17 11:02	12/20/2017 14:30

Client ID: EA4-CS-10A	Lab ID: CA19596-03	Sampled: 12/15/17 10:16	Received: 12/18/17 14:00
------------------------------	---------------------------	--------------------------------	---------------------------------

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010D	06/13/18	12/19/17 11:02	12/20/2017 14:32



SAMPLE DETECTION SUMMARY

Client ID: EA4-CS-8A **Lab ID: CA19596-01**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	0.905		0.337	0.527	mg/kg dry	EPA 6010D	
Chromium - Total	3.34		0.105	0.527	mg/kg dry	EPA 6010D	

Client ID: EA4-CS-9A **Lab ID: CA19596-02**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	1.61		0.342	0.534	mg/kg dry	EPA 6010D	
Chromium - Total	4.89		0.107	0.534	mg/kg dry	EPA 6010D	

Client ID: EA4-CS-10A **Lab ID: CA19596-03**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	1.24		0.350	0.547	mg/kg dry	EPA 6010D	
Chromium - Total	3.69		0.109	0.547	mg/kg dry	EPA 6010D	



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ANALYTICAL RESULTS

Description: EA4-CS-8A

Lab Sample ID: CA19596-01

Received: 12/18/17 14:00

Matrix: Soil

Sampled: 12/14/17 13:47

Work Order: CA19596

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 94.8

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	0.905		mg/kg dry	1	0.337	0.527	7L19016	EPA 6010D	12/20/17 14:10	JDH	
Chromium [7440-47-3] ^	3.34		mg/kg dry	1	0.105	0.527	7L19016	EPA 6010D	12/20/17 14:10	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: EA4-CS-9A

Lab Sample ID: CA19596-02

Received: 12/18/17 14:00

Matrix: Soil

Sampled: 12/15/17 10:08

Work Order: CA19596

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 93.6

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	1.61		mg/kg dry	1	0.342	0.534	7L19016	EPA 6010D	12/20/17 14:30	JDH	
Chromium [7440-47-3] ^	4.89		mg/kg dry	1	0.107	0.534	7L19016	EPA 6010D	12/20/17 14:30	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



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Description: EA4-CS-10A

Lab Sample ID: CA19596-03

Received: 12/18/17 14:00

Matrix: Soil

Sampled: 12/15/17 10:16

Work Order: CA19596

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 91.4

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	1.24		mg/kg dry	1	0.350	0.547	7L19016	EPA 6010D	12/20/17 14:32	JDH	
Chromium [7440-47-3] ^	3.69		mg/kg dry	1	0.109	0.547	7L19016	EPA 6010D	12/20/17 14:32	JDH	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 7L19016 - EPA 3050B

Blank (7L19016-BLK1)

Prepared: 12/19/2017 11:02 Analyzed: 12/20/2017 13:59

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	BLOD		0.500	mg/kg wet							
Chromium	BLOD		0.500	mg/kg wet							

LCS (7L19016-BS1)

Prepared: 12/19/2017 11:02 Analyzed: 12/20/2017 14:07

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	10.1		0.500	mg/kg wet	10.0		101	80-120			
Chromium	10.4		0.500	mg/kg wet	10.0		104	80-120			

Matrix Spike (7L19016-MS1)

Prepared: 12/19/2017 11:02 Analyzed: 12/20/2017 14:13

Source: CA19596-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	9.03		0.527	mg/kg dry	10.1	0.905	80	75-125			
Chromium	13.2		0.527	mg/kg dry	10.1	3.34	98	75-125			

Matrix Spike Dup (7L19016-MSD1)

Prepared: 12/19/2017 11:02 Analyzed: 12/20/2017 14:15

Source: CA19596-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	9.13		0.527	mg/kg dry	10.7	0.905	77	75-125	1	20	
Chromium	13.1		0.527	mg/kg dry	10.7	3.34	92	75-125	1	20	

Post Spike (7L19016-PS1)

Prepared: 12/19/2017 11:02 Analyzed: 12/20/2017 14:17

Source: CA19596-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.227		0.0100	mg/L	0.200	0.0172	105	80-120			
Chromium	0.272		0.0100	mg/L	0.200	0.0634	104	80-120			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
BLOQ	The reported value is between the laboratory Limit of Detection (LOD) and the laboratory Limit of Quantitation (LOQ), adjusted for actual sample preparation data and moisture content, where applicable.
BLOD	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
LOQ	Limit of Quantitation. The LOQ is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.

Environmental Conservation Laboratories, Inc.

102-A Woodwinds Industrial Court

Cary NC, 27511

Phone: 919.467.3090 FAX: 919.467.3515



www.encolabs.com

Friday, December 29, 2017

Draper Aden Associates (DR002)

Attn: William Salomone

8090 Villa Park Drive

Richmond, VA 23228

RE: Laboratory Results for
Project Number: R15434R-12, Project Name/Desc: NKWP
ENCO Workorder: CA19686

Dear William Salomone,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, December 20, 2017.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Chuck Smith'.

Chuck Smith

Project Manager

Enclosure(s)



www.encolabs.com

SAMPLE DETECTION SUMMARY

Client ID: EA4-CS-6 **Lab ID: CA19686-01**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	7.54		0.346	0.540	mg/kg dry	EPA 6010D	
Chromium - Total	8.95		0.108	0.540	mg/kg dry	EPA 6010D	

Client ID: EA4-CS-7 **Lab ID: CA19686-02**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	0.789		0.337	0.527	mg/kg dry	EPA 6010D	
Chromium - Total	3.21		0.105	0.527	mg/kg dry	EPA 6010D	

Client ID: EA4-CS-5 **Lab ID: CA19686-03**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	8.00		0.345	0.539	mg/kg dry	EPA 6010D	
Chromium - Total	4.46		0.108	0.539	mg/kg dry	EPA 6010D	



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ANALYTICAL RESULTS

Description: EA4-CS-6

Lab Sample ID: CA19686-01

Received: 12/20/17 14:30

Matrix: Soil

Sampled: 12/19/17 15:45

Work Order: CA19686

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 92.6

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	7.54		mg/kg dry	1	0.346	0.540	7L21019	EPA 6010D	12/27/17 15:46	JMV	
Chromium [7440-47-3] ^	8.95		mg/kg dry	1	0.108	0.540	7L21019	EPA 6010D	12/27/17 15:46	JMV	



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Description: EA4-CS-7

Lab Sample ID: CA19686-02

Received: 12/20/17 14:30

Matrix: Soil

Sampled: 12/19/17 15:40

Work Order: CA19686

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 94.9

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	0.789		mg/kg dry	1	0.337	0.527	7L21019	EPA 6010D	12/27/17 15:49	JMV	
Chromium [7440-47-3] ^	3.21		mg/kg dry	1	0.105	0.527	7L21019	EPA 6010D	12/27/17 15:49	JMV	



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Description: EA4-CS-5

Lab Sample ID: CA19686-03

Received: 12/20/17 14:30

Matrix: Soil

Sampled: 12/19/17 17:10

Work Order: CA19686

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 92.8

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	8.00		mg/kg dry	1	0.345	0.539	7L21019	EPA 6010D	12/27/17 15:52	JMV	
Chromium [7440-47-3] ^	4.46		mg/kg dry	1	0.108	0.539	7L21019	EPA 6010D	12/27/17 15:52	JMV	



QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 7L21019 - EPA 3050B

Blank (7L21019-BLK1)

Prepared: 12/21/2017 09:57 Analyzed: 12/27/2017 14:59

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	BLOD		0.500	mg/kg wet							
Chromium	BLOD		0.500	mg/kg wet							

LCS (7L21019-BS1)

Prepared: 12/21/2017 09:57 Analyzed: 12/27/2017 15:07

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	10.1		0.500	mg/kg wet	9.90		102	80-120			
Chromium	10.3		0.500	mg/kg wet	9.90		104	80-120			

Matrix Spike (7L21019-MS1)

Prepared: 12/21/2017 09:57 Analyzed: 12/27/2017 15:14

Source: CA19347-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	9.37		0.587	mg/kg dry	11.7	0.665	74	75-125			QM-07
Chromium	20.1		0.587	mg/kg dry	11.7	7.45	108	75-125			

Matrix Spike Dup (7L21019-MSD1)

Prepared: 12/21/2017 09:57 Analyzed: 12/27/2017 15:16

Source: CA19347-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	9.04		0.587	mg/kg dry	11.7	0.665	71	75-125	4	20	QM-07
Chromium	20.3		0.587	mg/kg dry	11.7	7.45	109	75-125	0.9	20	

Post Spike (7L21019-PS1)

Prepared: 12/21/2017 09:57 Analyzed: 12/27/2017 15:19

Source: CA19347-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.203		0.0100	mg/L	0.200	0.0113	96	80-120			
Chromium	0.321		0.0100	mg/L	0.200	0.127	97	80-120			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
BLOQ	The reported value is between the laboratory Limit of Detection (LOD) and the laboratory Limit of Quantitation (LOQ), adjusted for actual sample preparation data and moisture content, where applicable.
BLOD	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
LOQ	Limit of Quantitation. The LOQ is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Environmental Conservation Laboratories, Inc.

102-A Woodwinds Industrial Court

Cary NC, 27511

Phone: 919.467.3090 FAX: 919.467.3515



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Wednesday, January 3, 2018

Draper Aden Associates (DR002)

Attn: William Salomone

8090 Villa Park Drive

Richmond, VA 23228

RE: Laboratory Results for

Project Number: R15434R-12, Project Name/Desc: NKWP

ENCO Workorder: CA19784

Dear William Salomone,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, December 26, 2017.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Chuck Smith'. The signature is written in a cursive, flowing style.

Chuck Smith

Project Manager

Enclosure(s)



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SAMPLE DETECTION SUMMARY

Client ID: EA4-CS-4 **Lab ID: CA19784-01**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	1.79		0.344	0.538	mg/kg dry	EPA 6010D	
Chromium - Total	4.25		0.108	0.538	mg/kg dry	EPA 6010D	

Client ID: EA4-CS-3 **Lab ID: CA19784-02**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	4.89		0.338	0.528	mg/kg dry	EPA 6010D	
Chromium - Total	9.05		0.106	0.528	mg/kg dry	EPA 6010D	

Client ID: EA4-CS-2 **Lab ID: CA19784-03**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	0.681		0.345	0.540	mg/kg dry	EPA 6010D	
Chromium - Total	3.93		0.108	0.540	mg/kg dry	EPA 6010D	

Client ID: EA4-CS-1 **Lab ID: CA19784-04**

Analyte	Results	Flag	LOD	LOQ	Units	Method	Notes
Arsenic - Total	0.927		0.354	0.553	mg/kg dry	EPA 6010D	
Chromium - Total	3.53		0.111	0.553	mg/kg dry	EPA 6010D	



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ANALYTICAL RESULTS

Description: EA4-CS-4

Lab Sample ID: CA19784-01

Received: 12/26/17 11:40

Matrix: Soil

Sampled: 12/22/17 11:16

Work Order: CA19784

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 92.9

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	1.79		mg/kg dry	1	0.344	0.538	7L28004	EPA 6010D	01/02/18 14:14	JMV	
Chromium [7440-47-3] ^	4.25		mg/kg dry	1	0.108	0.538	7L28004	EPA 6010D	01/02/18 14:14	JMV	



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Description: EA4-CS-3

Lab Sample ID: CA19784-02

Received: 12/26/17 11:40

Matrix: Soil

Sampled: 12/22/17 11:18

Work Order: CA19784

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 94.6

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	4.89		mg/kg dry	1	0.338	0.528	7L28004	EPA 6010D	01/02/18 14:16	JMV	
Chromium [7440-47-3] ^	9.05		mg/kg dry	1	0.106	0.528	7L28004	EPA 6010D	01/02/18 14:16	JMV	



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Description: EA4-CS-2

Lab Sample ID: CA19784-03

Received: 12/26/17 11:40

Matrix: Soil

Sampled: 12/22/17 11:05

Work Order: CA19784

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 92.7

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	0.681		mg/kg dry	1	0.345	0.540	7L28004	EPA 6010D	01/02/18 14:19	JMV	
Chromium [7440-47-3] ^	3.93		mg/kg dry	1	0.108	0.540	7L28004	EPA 6010D	01/02/18 14:19	JMV	



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Description: EA4-CS-1

Lab Sample ID: CA19784-04

Received: 12/26/17 11:40

Matrix: Soil

Sampled: 12/22/17 11:08

Work Order: CA19784

Project: NKWP

Sampled By: Kendall Dunham

% Solids: 90.5

Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [VELAP 460146]

<u>Analyte [CAS Number]</u>	<u>Results</u>	<u>Flag</u>	<u>Units</u>	<u>DF</u>	<u>LOD</u>	<u>LOQ</u>	<u>Batch</u>	<u>Method</u>	<u>Analyzed</u>	<u>By</u>	<u>Notes</u>
Arsenic [7440-38-2] ^	0.927		mg/kg dry	1	0.354	0.553	7L28004	EPA 6010D	01/02/18 14:21	JMV	
Chromium [7440-47-3] ^	3.53		mg/kg dry	1	0.111	0.553	7L28004	EPA 6010D	01/02/18 14:21	JMV	



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QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 7L28004 - EPA 3050B

Blank (7L28004-BLK1)

Prepared: 12/28/2017 08:53 Analyzed: 01/02/2018 13:48

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	BLOD		0.500	mg/kg wet							
Chromium	BLOD		0.500	mg/kg wet							

LCS (7L28004-BS1)

Prepared: 12/28/2017 08:53 Analyzed: 01/02/2018 13:51

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	8.21		0.500	mg/kg wet	10.0		82	80-120			
Chromium	8.29		0.500	mg/kg wet	10.0		83	80-120			

Matrix Spike (7L28004-MS1)

Prepared: 12/28/2017 08:53 Analyzed: 01/02/2018 13:56

Source: CA19785-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	13.6		0.500	mg/kg wet	9.90	5.51	82	75-125			
Chromium	15.4		0.500	mg/kg wet	9.90	6.25	93	75-125			

Matrix Spike Dup (7L28004-MSD1)

Prepared: 12/28/2017 08:53 Analyzed: 01/02/2018 13:58

Source: CA19785-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	13.0		0.500	mg/kg wet	10.0	5.51	75	75-125	4	20	
Chromium	15.2		0.500	mg/kg wet	10.0	6.25	90	75-125	1	20	

Post Spike (7L28004-PS1)

Prepared: 12/28/2017 08:53 Analyzed: 01/02/2018 14:00

Source: CA19785-01

Analyte	Result	Flag	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	0.325		0.0100	mg/L	0.200	0.110	107	80-120			
Chromium	0.333		0.0100	mg/L	0.200	0.125	104	80-120			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
BLOQ	The reported value is between the laboratory Limit of Detection (LOD) and the laboratory Limit of Quantitation (LOQ), adjusted for actual sample preparation data and moisture content, where applicable.
BLOD	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
LOQ	Limit of Quantitation. The LOQ is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.

CHAIN OF CUSTODY

CLIENT: LIESFIELD FARMS
 ATTN: THOMAS LIESFIELD
 STREET: 859 BEN HATCHER ROAD
 CITY: WAYNESBORO, GA 30030
 PHONE: 804-833-4286

CONSULTANT: DRAPER ADEN ASSOCIATES
 ATTN: WILLIAM A SALOMONE (WSALOMONE@DAI.COM)
 STREET: 8090 VILLA PARK DRIVE
 CITY: RICHMOND, VIRGINIA 23228
 PHONE: 804-264-2228

P.O. #: R184348-12

TURN AROUND: 1 2 3 5 10 DAYS

COPY COA TO CONSULTANT? YES
 COPY INVOICE TO CONSULTANT? YES
 PROJECT: NMP / CONFIRMATORY SAMPLING
 LOCATION: PROVIDENCE FORGE, VIRGINIA
 LABORATORY: ENCO Labs, 102-A Woodwinds Industrial Court, Cary, NC, 27511 (919) 467-3090
 Attn: Chuck Smith

ANALYSES REQUESTED

LAB USE ONLY

SAMPLE INFORMATION

COMPOSITE

Grab

NO. OF JARS

MATRIX

Metals (As, Cr)

COMMENTS (SAMPLING INTERVAL)

CA 19784

LAB ID	SAMPLE ID	DATE	TIME	COMPOSITE	NO. OF JARS	MATRIX	DATE	TIME
	EA4-CS-4	12/22/17	1110	✓	1	S	12/22/17	1945
	EA4-CS-3		1118	✓	1	S	12/26/17	1140
	EA4-CS-2		1105	✓	1	S		
	EA4-CS-1		1108	✓	1	S		

SAMPLED BY: Kindell Dunham

RECEIVED BY: Kendall Dunham

REMOVED BY: Kindell Dunham

DATE: 12/22/17

TIME: 1545

RECEIVED BY: Fedex

DATE: 12/22/17

TIME: 1945

DATE: 12/26/17

TIME: 1140

TEMP: _____

PH: _____

CONTENTS: A = AIR, S = SOIL, G = GROUNDWATER, WW = WASTEWATER

Level 2 data package.
 Please report all concentrations in mg/kg (dry weight).
 All dry weight analyses shall be total analysis.