

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-88072-1

Client Project/Site: Table 910-1 / Rogers 1-11H

For:

Rosewood Resources, Inc.
529 N Albany St
Ste 1270
Yuma, Colorado 80759

Attn: Azucena Torres

Jennifer Gambill

Authorized for release by:
3/22/2018 5:13:39 PM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-88072-1	Rogers 1-11H (BKG)	Solid	03/08/18 08:30	03/08/18 09:00
490-88072-2	Rogers 1-11H	Solid	03/08/18 09:00	03/08/18 09:00

Case Narrative

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Job ID: 490-88072-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-88072-1

Comments

No additional comments.

Receipt

The samples were received on 03/8/2018 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9° C.

GC/MS VOA

Method(s) 8260B: The method blank for 246973 contained Xylenes, Total above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Client Sample ID: Rogers 1-11H (BKG)

Lab Sample ID: 490-88072-1

Date Collected: 03/08/18 08:30

Matrix: Solid

Date Received: 03/08/2018

09:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00187	0.000627	mg/Kg		03/08/18 15:30	03/09/18 16:37	1
Ethylbenzene	ND		0.00187	0.000627	mg/Kg		03/08/18 15:30	03/09/18 16:37	1
Toluene	ND		0.00187	0.000693	mg/Kg		03/08/18 15:30	03/09/18 16:37	1
Xylenes, Total	0.00114	J B	0.00281	0.000627	mg/Kg		03/08/18 15:30	03/09/18 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		70 - 130	03/08/18 15:30	03/09/18 16:37	1
4-Bromofluorobenzene (Surr)	102		70 - 130	03/08/18 15:30	03/09/18 16:37	1
Dibromofluoromethane (Surr)	105		70 - 130	03/08/18 15:30	03/09/18 16:37	1
Toluene-d8 (Surr)	90		70 - 130	03/08/18 15:30	03/09/18 16:37	1

Method: 20B - Sodium Adsorption Ratio

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	ND		0.100	0.100	NONE			03/20/18 11:06	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	962		197	98.4	mg/Kg		03/13/18 08:34	03/13/18 18:09	1
Magnesium	769		197	98.4	mg/Kg		03/13/18 08:34	03/13/18 18:09	1
Sodium	ND		197	98.4	mg/Kg		03/13/18 08:34	03/13/18 18:09	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.99		0.100	0.100	SU			03/11/18 12:44	1
Temperature	22.8		0.100	0.100	Degrees C			03/11/18 12:44	1
Electrical Conductivity	0.379		0.0100	0.0100	mmhos/cm		03/08/18 14:45	03/13/18 15:07	1

TestAmerica Nashville

Client Sample Results

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Client Sample ID: Rogers 1-11H

Date Collected: 03/07/18 09:00

Date Received: 03/08/18 09:00

Lab Sample ID: 490-88072-1

Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00185	0.000619	mg/Kg		03/08/18:30	03/09/18 16:07	1
Ethylbenzene	ND		0.00185	0.000619	mg/Kg		03/08/18:30	03/09/18 16:07	1
Toluene	ND		0.00185	0.000684	mg/Kg		03/08/18:30	03/09/18 16:07	1
Xylenes, Total	0.000744		0.00277	0.000619	mg/Kg		03/08/18:30	03/09/18 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 130	03/08/18:30	03/09/18 16:07	1
4-Bromofluorobenzene (Surr)	104		70 - 130	03/08/18:30	03/09/18 16:07	1
Dibromofluoromethane (Surr)	101		70 - 130	03/08/18:30	03/09/18 16:07	1
Toluene-d8 (Surr)	94		70 - 130	03/08/18:30	03/09/18 16:07	1

Method: 20B - Sodium Adsorption Ratio

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	2.54		0.100	0.100	NONE			03/20/18 11:06	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	362		198	98.8	mg/Kg		03/13/18 08:34	03/13/18 18:14	1
Magnesium	214		198	98.8	mg/Kg		03/13/18 08:34	03/13/18 18:14	1
Sodium	247		198	98.8	mg/Kg		03/13/18 08:34	03/13/18 18:14	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.97		0.100	0.100	SU			03/11/18 12:44	1
Temperature	22.8		0.100	0.100	Degrees C			03/11/18 12:44	1
Electrical Conductivity	1.45		0.0100	0.0100	mmhos/cm		03/08/18 14:45	03/13/18:07	1

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QC Sample Results

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: 490-78083-A-2-E MS

Matrix: Solid

Analysis Batch: 246973

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 246878

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Benzene	ND		0.0452	0.04125		mg/Kg		91	31 - 143
Ethylbenzene	ND		0.0452	0.04077		mg/Kg		90	23 - 161
Toluene	ND		0.0452	0.04122		mg/Kg		91	30 - 155
Xylenes, Total	ND		0.0904	0.07945		mg/Kg		88	25 - 162

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	100		70 - 130
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 490-78083-A-2-F MSD

Matrix: Solid

Analysis Batch: 246973

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 246878

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	ND		0.0451	0.04083		mg/Kg		90	31 - 143	1	50
Ethylbenzene	ND		0.0451	0.04121		mg/Kg		91	23 - 161	1	50
Toluene	ND		0.0451	0.04223		mg/Kg		94	30 - 155	2	50
Xylenes, Total	ND		0.0903	0.07922		mg/Kg		88	25 - 162	0	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	100		70 - 130
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: MB 490-246973/8

Matrix: Solid

Analysis Batch: 246973

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00200	0.000670	mg/Kg			03/09/18 10:11	1
Ethylbenzene	ND		0.00200	0.000670	mg/Kg			03/09/18 10:11	1
Toluene	ND		0.00200	0.000740	mg/Kg			03/09/18 10:11	1
Xylenes, Total	0.001629	J	0.00300	0.000670	mg/Kg			03/09/18 10:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		03/09/18 10:11	1
4-Bromofluorobenzene (Surr)	102		70 - 130		03/09/18 10:11	1
Dibromofluoromethane (Surr)	106		70 - 130		03/09/18 10:11	1
Toluene-d8 (Surr)	104		70 - 130		03/09/18 10:11	1

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QC Sample Results

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 490-246973/4

Matrix: Solid

Analysis Batch: 246973

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.05858		mg/Kg		117	75 - 127
Ethylbenzene	0.0500	0.05756		mg/Kg		115	80 - 134
Toluene	0.0500	0.05968		mg/Kg		119	80 - 132
Xylenes, Total	0.100	0.1146		mg/Kg		115	80 - 137

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	102		70 - 130
Dibromofluoromethane (Surr)	103		70 - 130
Toluene-d8 (Surr)	105		70 - 130

Lab Sample ID: LCSD 490-246973/5

Matrix: Solid

Analysis Batch: 246973

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.0500	0.05824		mg/Kg		116	75 - 127	1	50
Ethylbenzene	0.0500	0.05728		mg/Kg		115	80 - 134	0	50
Toluene	0.0500	0.05952		mg/Kg		119	80 - 132	0	50
Xylenes, Total	0.100	0.1128		mg/Kg		113	80 - 137	2	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	103		70 - 130
Dibromofluoromethane (Surr)	104		70 - 130
Toluene-d8 (Surr)	104		70 - 130

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 490-247799/1-A

Matrix: Solid

Analysis Batch: 248165

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247799

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		201	100	mg/Kg		03/13/18 08:34	03/13/18 17:23	1
Magnesium	ND		201	100	mg/Kg		03/13/18 08:34	03/13/18 17:23	1
Sodium	ND		201	100	mg/Kg		03/13/18 08:34	03/13/18 17:23	1

Lab Sample ID: LCS 490-247799/2-A

Matrix: Solid

Analysis Batch: 248165

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247799

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	1980	1982		mg/Kg		100	80 - 120
Magnesium	1980	1943		mg/Kg		98	80 - 120
Sodium	1980	1963		mg/Kg		99	80 - 120

TestAmerica Nashville

QC Sample Results

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSD 490-247799/3-A
Matrix: Solid
Analysis Batch: 248165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 247799

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	1980	1975		mg/Kg		100	80 - 120	0	20
Magnesium	1980	1922		mg/Kg		97	80 - 120	1	20
Sodium	1980	1933		mg/Kg		98	80 - 120	2	20

Lab Sample ID: 490-78083-A-1-G MS
Matrix: Solid
Analysis Batch: 248165

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 247799

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	881		1960	2871		mg/Kg		102	75 - 125		
Magnesium	776		1960	2679		mg/Kg		97	75 - 125		
Sodium	ND		1960	2010		mg/Kg		103	75 - 125		

Lab Sample ID: 490-78083-A-1-H MSD
Matrix: Solid
Analysis Batch: 248165

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 247799

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	881		1980	2693		mg/Kg		91	75 - 125	6	20
Magnesium	776		1980	2618		mg/Kg		93	75 - 125	2	20
Sodium	ND		1980	1914		mg/Kg		97	75 - 125	5	20

Method: 9045D - pH

Lab Sample ID: LCS 490-247331/6
Matrix: Solid
Analysis Batch: 247331

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH	7.00	7.010		SU		100	95 - 105		

Lab Sample ID: 490-88072-1 DU
Matrix: Solid
Analysis Batch: 247331

Client Sample ID: Rogers 1-11H (BKG)
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.99		7.000		SU		0.1	20
Temperature	22.8		22.80		Degrees C		0	20

Method: 9050A - Specific Conductance

Lab Sample ID: 490-78083-A-2-A DU
Matrix: Solid
Analysis Batch: 248039

Client Sample ID: Duplicate
Prep Type: Soluble
Prep Batch: 246903

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Electrical Conductivity	0.209		0.2090		mmhos/cm		0	10

TestAmerica Nashville

QC Association Summary

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

GC/MS VOA

Prep Batch: 246878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-88072-1	Rogers 1-11H (BKG)	Total/NA	Solid	5030B	
490-88072-1	Rogers 1-11H Matrix	Total/NA	Solid	5030B	
490-78083-A-2-E MS	Spike	Total/NA	Solid	5030B	
490-78083-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	

Analysis Batch: 246973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-88072-1	Rogers 1-11H (BKG)	Total/NA	Solid	8260B	246878
490-88072-1	Rogers 1-11H Matrix	Total/NA	Solid	8260B	246878
490-78083-A-2-E MS	Spike	Total/NA	Solid	8260B	246878
490-78083-A-2-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	246878
LCS 490-246973/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 490-246973/5	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 490-246973/8	Method Blank	Total/NA	Solid	8260B	

Metals

Prep Batch: 247799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-88072-1	Rogers 1-11H (BKG)	Total/NA	Solid	3051A	
490-88072-1	Rogers 1-11H Matrix	Total/NA	Solid	3051A	
490-78083-A-1-G MS	Spike	Total/NA	Solid	3051A	
490-78083-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	3051A	
LCS 490-247799/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 490-247799/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	
MB 490-247799/1-A	Method Blank	Total/NA	Solid	3051A	

Analysis Batch: 248165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-88072-1	Rogers 1-11H (BKG)	Total/NA	Solid	6010C	247799
490-88072-1	Rogers 1-11H Matrix	Total/NA	Solid	6010C	247799
490-78083-A-1-G MS	Spike	Total/NA	Solid	6010C	247799
490-78083-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	6010C	247799
LCS 490-247799/2-A	Lab Control Sample	Total/NA	Solid	6010C	247799
LCSD 490-247799/3-A	Lab Control Sample Dup	Total/NA	Solid	6010C	247799
MB 490-247799/1-A	Method Blank	Total/NA	Solid	6010C	247799

Analysis Batch: 249796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-88072-1	Rogers 1-11H (BKG)	Total/NA	Solid	20B	
490-88072-1	Rogers 1-11H	Total/NA	Solid	20B	

General Chemistry

Prep Batch: 246903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-88072-1	Rogers 1-11H (BKG)	Soluble	Solid	Sat Paste Ext	
490-88072-1	Rogers 1-11H	Soluble	Solid	Sat Paste Ext	
490-78083-A-2-A DU	Duplicate	Soluble	Solid	Sat Paste Ext	

TestAmerica Nashville

QC Association Summary

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

General Chemistry (Continued)

Leach Batch: 247118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-88072-1	Rogers 1-11H (BKG)	Soluble	Solid	DI Leach	
490-88072-1 DU	Rogers 1-11H (BKG)	Soluble	Solid	DI Leach	
490-88072-1	Rogers 1-11H	Soluble	Solid	DI Leach	

Analysis Batch: 247331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-88072-1	Rogers 1-11H (BKG)	Soluble	Solid	9045D	247118
490-88072-1 DU	Rogers 1-11H (BKG)	Soluble	Solid	9045D	247118
490-88072-1	Rogers 1-11H	Soluble	Solid	9045D	247118
LCS 490-247331/6	Lab Control Sample	Total/NA	Solid	9045D	

Analysis Batch: 248039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-88072-1	Rogers 1-11H (BKG)	Soluble	Solid	9050A	246903
490-88072-1	Rogers 1-11H	Soluble	Solid	9050A	246903
490-78083-A-2-A DU	Duplicate	Soluble	Solid	9050A	246903

Lab Chronicle

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Client Sample ID: Rogers 1-11H (BKG)

Date Collected: 03/07/18 08:30

Date Received: 03/08/18 09:00

Lab Sample ID: 490-88072-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.34 g	5.0 mL	246878	03/08/18:30	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5.34 g	5.0 mL	246973	03/09/18 16:37	RP	TAL NSH
Total/NA	Analysis	20B		1			249796	03/20/18 11:06	LEG	TAL NSH
Total/NA	Prep	3051A			0.508 g	100 mL	247799	03/13/18 08:34	ZLN	TAL NSH
Total/NA	Analysis	6010C		1	0.508 g	100 mL	248165	03/13/18 18:09	LEG	TAL NSH
Soluble	Leach	DI Leach			20 g	20 mL	247118	03/09/18 17:09	AOJ	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	247331	03/11/18 12:44	SJM	TAL NSH
Soluble	Prep	Sat Paste Ext			1 g	1 mL	246903	03/08/18 14:45	MAA	TAL NSH
Soluble	Analysis	9050A		1	1 g	1 mL	248039	03/13/18:07	BMC	TAL NSH

Client Sample ID: Rogers 1-11H

Date Collected: 03/07/18 09:00

Date Received: 03/08/18 09:00

Lab Sample ID: 490-88072-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			5.41 g	5.0 mL	246878	03/08/18:30	JLP	TAL NSH
Total/NA	Analysis	8260B		1	5.41 g	5.0 mL	246973	03/09/18 16:07	RP	TAL NSH
Total/NA	Analysis	20B		1			249796	03/20/18 11:06	LEG	TAL NSH
Total/NA	Prep	3051A			0.506 g	100 mL	247799	03/13/18 08:34	ZLN	TAL NSH
Total/NA	Analysis	6010C		1	0.506 g	100 mL	248165	03/13/18 18:14	LEG	TAL NSH
Soluble	Leach	DI Leach			20 g	20 mL	247118	03/09/18 17:09	AOJ	TAL NSH
Soluble	Analysis	9045D		1	20 g	20 mL	247331	03/11/18 12:44	SJM	TAL NSH
Soluble	Prep	Sat Paste Ext			1 g	1 mL	246903	03/08/18 14:45	MAA	TAL NSH
Soluble	Analysis	9050A		1	1 g	1 mL	248039	03/13/18:07	BMC	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL NSH
20B	Sodium Adsorption Ratio	USDA	TAL NSH
6010C	Metals (ICP)	SW846	TAL NSH
9045D	pH	SW846	TAL NSH
9050A	Specific Conductance	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
USDA = "USDA Agriculture Handbook 60, section 20B".

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: Rosewood Resources, Inc.
Project/Site: Table 910-1 / Rogers 1-11H

TestAmerica Job ID: 490-88072-1

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-15
Arizona	State Program	9	AZ0473	03-16
Arkansas DEQ	State Program	6	88-0737	04-25-16
California	State Program	9	2938	10-31-16
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Illinois	NELAP	5	200010	12-09-15
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	05-31-15
Kentucky (UST)	State Program	4	19	06-30-15
Kentucky (WW)	State Program	4	90038	12-31-15
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-16
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-15
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-15
New Jersey	NELAP	2	TN965	06-30-15
New York	NELAP	2	11342	03-31-16
North Carolina (WW/SW)	State Program	4	387	12-31-15
North Dakota	State Program	8	R-146	06-30-15
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-15
Oregon	NELAP	10	TN200001	04-27-16
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-15
South Carolina	State Program	4	84009 (001)	02-28-16
South Carolina (DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-15
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-16
Wisconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15



TestAmerica Nashville

COOLER RECEIPT FORM



Chain of Custody

Cooler Received/Opened On 3-8-18 @ 09:00

1. Tracking # 7270 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun ID 17960358

2. Temperature of rep. sample or temp blank when opened: 1.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 2 front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) EA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) EA

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) EA

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) EA

I certify that I attached a label with the unique LIMS number to each container (initial) EA

21. Were there Non-Conformance issues at login? YES NO Was a PIPE generated? YES NO # 1

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

THE LEADER IN ENVIRONMENTAL TESTING

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3/22/2018

Login Sample Receipt Checklist

Client: Rosewood Resources, Inc.

Job Number: 490-88072-1

SDG Number:

List Source: TestAmerica Nashville

List Number: 1

Creator: Ford, Easton

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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