



9/12/2014

Maralex Resources, Inc.
864 20 Road
Unit A
Fruita, CO 81521
Attn: Jim GravesWork Order #: B1408176
Date: 9/12/2014
Work ID: Maralex Resources, Inc.
Date Received: 8/25/2014
Proj #: Soils**Sample Identification**

Lab Sample Number	Client Description	Lab Sample Number	Client Description
B1408176-01	Wagon Trail Fed	B1408176-02	USA 1-34 (Govt Fed 1-34)
B1408176-03	USA 1-15 LG	B1408176-04	Hancock Gulch
B1408176-05	South Shale Compressor	B1408176-06	USA 1-14 HC

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

Carissa Cumine
Project Manager*"The Science of Analysis, The Art of Service"*

Case Narrative

Analytica Group, LLC - Thornton

Work Order: B1408176

Samples were prepared and analyzed according to EPA or equivalent methods outlined in the following references:

Standard Methods for the Examination of Water and Wastewater, 21st Edition, 2005.

Standard Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures, ASTM D 2216-80, July 1980.

Test Methods for Evaluating Solid Waste, USEPA SW-846, Third Edition, Revision 4, December 1996.

SAMPLE RECEIPT:

Six (6) samples were received on 8/25/2014 12:55:00 PM at a temperature of 1.8°C at Analytica-Thornton. The samples were received in good condition and in order per chain of custody.

REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN

A summary of our review is shown below.

All analytical results contained in this report have been reviewed under Analytica's internal quality assurance and quality control program. Any deviations in quality control parameters for specific analyses are noted in the following text. A complete quality assurance report, including laboratory control, matrix spike, and sample duplicate recoveries, is kept on file in our office and is available upon request.

All method specifications were met for the following tests, unless otherwise noted:

Test Method: Aromatic VOCs by GC/PID via method 8021B - BTEX - Soil
Test Method: ASTM D2216 - Pmoist - Soil
Test Method: Corrosivity in Waste by pH - pH - Soil
Test Method: SM3500-CrB - Chromium, Colorimetric Method - Total Cr(III) calculat - Soil
Test Method: Specific Conductance - Cond. - Soil
Test Method: SW6010B - ICP - Total - Soil
Test Method: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total Hg - Soil

Test Method: VOC by GC/FID via method 8015B - GRO - Soil

MS/MSD and DUP OUTLIERS:

The matrix spike and matrix spike duplicate recoveries shown below indicate a possible matrix effect. No corrective action was taken, as the recoveries of these compounds in the LCS/LCSD were acceptable.

Type	Client Sample	LabSample	Analyte	Recovery	LCL	UCL	Parent	Spike
MS	USA 1-34 (Govt F	B1408176-02C	Gasoline Range Organ	21.7	50	138	7.93	562
MSD	USA 1-34 (Govt F	B1408176-02C	Gasoline Range Organ	34.4	50	138	7.93	562

Test Method: SVOC by GC/FID via method 8015B - DRO - Soil

MS/MSD and DUP OUTLIERS:

The matrix spike recovery shown below indicates a possible matrix effect. No corrective action was taken, as the recoveries of this compound in the LCS/LCSD were acceptable.

Case Narrative

Analytica Group, LLC - Thornton

Work Order: B1408176

(continued)

Type	Client	Sample	LabSample	Analyte	Recovery	LCL	UCL	Parent	Spike	
MS	USA	1-14	HC	B1408176-06A	Diesel Range Organic	134	50	129	276	71.1

The following are subcontracted tests and have been represented to us as meeting criteria:

Test Method: Chromium, Hexavalent (Colorimetric) - Cr(VI) - Soil

Test Method: Sodium Absorption Ratio - Soil

Test Method: SW6020 - ICPMS - Low Level Metals ALS-F - Soil

Test Method: SW8270C - Semivolatile Organics by GC/MS - SC - Soil

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **Wagon Trail Fed**

Matrix: Soil Collection Date: 8/21/2014 7:50:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-01B	Analysis Date:	9/4/2014 8:22:41PM
Prep Date:	08-29-2014 12:08	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	14090412.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T140902014	Percent Moisture:	20
Report Basis:	Dry Weight Basis	Analyst Initials:	TL
Sample prep wt./vol:	29.95 g	Prep Extract Vol:	1.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Diesel Range Organics	n/a	ND		mg/Kg	6.2	1.8					1
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
o-Terphenyl	84-15-1	1.8		mg/Kg	0.42	0.33	2.1	86.2	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-01A	Analysis Date:	9/3/2014 4:33:50PM
Prep Date:	09-03-2014 10:09	Instrument:	Hank-Hg
Analytical Method ID:	SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total H	File Name:	090314S.CSV
Prep Method ID:	7471A	Dilution Factor:	1
Prep Batch Number:	T140902015	Percent Moisture:	20
Report Basis:	Dry Weight Basis	Analyst Initials:	EH
Sample prep wt./vol:	0.64 g	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Mercury	7439-97-6	ND		mg/Kg	0.049	0.0067					1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-01A	Analysis Date:	9/8/2014 4:05:12PM
Prep Date:	09-05-2014 12:09	Instrument:	Optima7300Icp
Analytical Method ID:	SW6010B - ICP - Total	File Name:	090814.csv
Prep Method ID:	3050B	Dilution Factor:	1
Prep Batch Number:	T140905006	Percent Moisture:	20
Report Basis:	Dry Weight Basis	Analyst Initials:	AC
Sample prep wt./vol:	0.50 g	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Barium	7440-39-3	530		mg/Kg	0.50	0.17					1
Cadmium	7440-43-9	ND		mg/Kg	0.99	0.69					
Chromium	7440-47-3	8.1		mg/Kg	2.5	1.4					
Copper	7440-50-8	16		mg/Kg	0.75	0.49					
Lead	7439-92-1	ND		mg/Kg	15	13					
Nickel	7440-02-0	ND		mg/Kg	5.0	3.1					
Selenium	7784-49-2	ND		mg/Kg	31	27					
Silver	7440-22-4	ND		mg/Kg	1.9	0.35					
Zinc	7440-66-6	33		mg/Kg	0.75	0.27					

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **Wagon Trail Fed**

Matrix: Soil

Collection Date: 8/21/2014 7:50:00AM

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-01D

Analysis Date:

Prep Date:

Instrument:

Analytical Method ID: SW6020 - ICPMS - Low Level Metals ALS-F

File Name:

Prep Method ID:

Dilution Factor:

Prep Batch Number: T140911027

Percent Moisture

Report Basis: As Received

Analyst Initials:

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report	7440-38-2			mg/Kg	0.20	0.50	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-01D

Analysis Date:

Prep Date:

Instrument:

Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - SC

File Name:

Prep Method ID: 3550B

Dilution Factor:

Prep Batch Number: T140911024

Percent Moisture

Report Basis: As Received

Analyst Initials:

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report	108-98-5			ug/Kg	330	41	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-01D

Analysis Date:

Prep Date:

Instrument:

Analytical Method ID: Chromium, Hexavalent (Colorimetric) - Cr(VI)

File Name:

Prep Method ID: 3060A

Dilution Factor:

Prep Batch Number: T140911025

Percent Moisture

Report Basis: As Received

Analyst Initials:

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report				mg/Kg	1.0	0.11	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-01D

Analysis Date:

Prep Date:

Instrument:

Analytical Method ID: Sodium Absorption Ratio

File Name:

Prep Method ID:

Dilution Factor:

Prep Batch Number: T140911023

Percent Moisture

Report Basis: As Received

Analyst Initials:

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
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Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **Wagon Trail Fed**

Matrix: Soil Collection Date: 8/21/2014 7:50:00AM

Lab Sample Number: B1408176-01D

Analysis Date:

Prep Date:

Instrument:

Analytical Method ID: Sodium Absorption Ratio

File Name:

Prep Method ID:

Dilution Factor:

Prep Batch Number: T140911023

Percent Moisture

Report Basis: As Received

Analyst Initials:

Sample prep wt./vol:

Prep Extract Vol: ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
See Subcontractor Report	SAR			SAR	0.010	0.010	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-01C

Analysis Date: 8/29/2014 3:08:00PM

Prep Date: 08-29-2014 12:08

Instrument: GC_B

Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX

File Name: 14082906.D

Prep Method ID: 5030B

Dilution Factor: 1

Prep Batch Number: T140902013

Percent Moisture 20

Report Basis: Dry Weight Basis

Analyst Initials: CK

Sample prep wt./vol: 5.00 g

Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzene	71-43-2	ND		ug/Kg	1.2	0.41	1
Ethylbenzene	100-41-4	ND		ug/Kg	1.9	0.57	
Toluene	108-88-3	ND		ug/Kg	1.2	0.24	
Xylenes, Total	1330-20-7	ND		ug/Kg	3.7	1.0	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	33		ug/Kg	0.62	0.41	34	98.8	70	130	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-01C

Analysis Date: 8/27/2014 1:51:00PM

Prep Date: 08-27-2014 10:08

Instrument: GC_B

Analytical Method ID: VOC by GC/FID via method 8015B - GRO

File Name: 14082707.D

Prep Method ID: 5030B

Dilution Factor: 1

Prep Batch Number: T140828007

Percent Moisture 20

Report Basis: Dry Weight Basis

Analyst Initials: EH

Sample prep wt./vol: 5.00 g

Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Gasoline Range Organics	n/a	ND		ug/Kg	250	33	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	32		ug/Kg	3.7	1.2	34	94.4	50	150	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **Wagon Trail Fed**

Matrix: Soil Collection Date: 8/21/2014 7:50:00AM

Lab Sample Number: B1408176-01A Analysis Date: 9/12/2014 4:20:28PM
Prep Date: 09-12-2014 16:09 Instrument: N/A
Analytical Method ID: SM3500-CrB - Chromium, Colorimetric Method - Total Cr(III) cal File Name:
Prep Method ID: 3500-Cr-B Dilution Factor: 1
Prep Batch Number: T140912014 Percent Moisture
Report Basis: As Received Analyst Initials: jkk
Sample prep wt./vol: 1.00 ml Prep Extract Vol: 1.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Chromium, Trivalent	16065-83-1	8.1		mg/L	0.010	0.0020	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-01A Analysis Date: 9/11/2014 3:30:00PM
Prep Date: 09-08-2014 15:09 Instrument: Probe
Analytical Method ID: Specific Conductance - Cond. File Name:
Prep Method ID: 9050A Dilution Factor: 1
Prep Batch Number: T140911020 Percent Moisture
Report Basis: As Received Analyst Initials: KD
Sample prep wt./vol: 39.93 g Prep Extract Vol: 39.93 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Conductance		740		umhos/cm	5.0	1.0	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-01A Analysis Date: 8/25/2014 4:28:00PM
Prep Date: 08-25-2014 16:08 Instrument: Hach HQ40d
Analytical Method ID: Corrosivity in Waste by pH - pH File Name:
Prep Method ID: 9045B Dilution Factor: 1
Prep Batch Number: T140825020 Percent Moisture
Report Basis: As Received Analyst Initials: jkk
Sample prep wt./vol: 10.02 g Prep Extract Vol: 10.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
pH		9.70		pH	0.100	0.100	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **USA 1-34 (Govt Fed 1-34)**

Matrix: Soil Collection Date: 8/21/2014 9:00:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-02B	Analysis Date:	9/4/2014 10:00:08PM
Prep Date:	08-29-2014 12:08	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	14090414.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T140902014	Percent Moisture:	11
Report Basis:	Dry Weight Basis	Analyst Initials:	TL
Sample prep wt./vol:	30.01 g	Prep Extract Vol:	1.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Diesel Range Organics	n/a	260		mg/Kg	5.6	1.6					1
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
o-Terphenyl	84-15-1	1.6		mg/Kg	0.37	0.29	1.9	86.0	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-02A	Analysis Date:	9/3/2014 4:35:48PM
Prep Date:	09-03-2014 10:09	Instrument:	Hank-Hg
Analytical Method ID:	SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total H	File Name:	090314S.CSV
Prep Method ID:	7471A	Dilution Factor:	1
Prep Batch Number:	T140902015	Percent Moisture:	11
Report Basis:	Dry Weight Basis	Analyst Initials:	EH
Sample prep wt./vol:	0.60 g	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Mercury	7439-97-6	ND		mg/Kg	0.047	0.0064					1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-02A	Analysis Date:	9/8/2014 4:07:52PM
Prep Date:	09-05-2014 12:09	Instrument:	Optima7300Icp
Analytical Method ID:	SW6010B - ICP - Total	File Name:	090814.csv
Prep Method ID:	3050B	Dilution Factor:	1
Prep Batch Number:	T140905006	Percent Moisture:	11
Report Basis:	Dry Weight Basis	Analyst Initials:	AC
Sample prep wt./vol:	0.50 g	Prep Extract Vol:	50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Barium	7440-39-3	400		mg/Kg	0.45	0.15					1
Cadmium	7440-43-9	ND		mg/Kg	0.89	0.62					
Chromium	7440-47-3	17		mg/Kg	2.2	1.3					
Copper	7440-50-8	15		mg/Kg	0.67	0.44					
Lead	7439-92-1	ND		mg/Kg	13	12					
Nickel	7440-02-0	16		mg/Kg	4.5	2.8					
Selenium	7784-49-2	ND		mg/Kg	28	24					
Silver	7440-22-4	ND		mg/Kg	1.7	0.32					
Zinc	7440-66-6	55		mg/Kg	0.67	0.24					

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **USA 1-34 (Govt Fed 1-34)**

Matrix: Soil Collection Date: 8/21/2014 9:00:00AM

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-02D

Analysis Date:

Prep Date:

Instrument:

Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - SC

File Name:

Prep Method ID: 3550B

Dilution Factor:

Prep Batch Number: T140911024

Percent Moisture

Report Basis: As Received

Analyst Initials:

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report	108-98-5			ug/Kg	330	41	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-02D

Analysis Date:

Prep Date:

Instrument:

Analytical Method ID: Chromium, Hexavalent (Colorimetric) - Cr(VI)

File Name:

Prep Method ID: 3060A

Dilution Factor:

Prep Batch Number: T140911025

Percent Moisture

Report Basis: As Received

Analyst Initials:

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report				mg/Kg	1.0	0.11	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-02D

Analysis Date:

Prep Date:

Instrument:

Analytical Method ID: SW6020 - ICPMS - Low Level Metals - Sol

File Name:

Prep Method ID:

Dilution Factor:

Prep Batch Number: T140911026

Percent Moisture

Report Basis: As Received

Analyst Initials:

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report				NA	1.0	1.0	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-02D

Analysis Date:

Prep Date:

Instrument:

Analytical Method ID: Sodium Absorption Ratio

File Name:

Prep Method ID:

Dilution Factor:

Prep Batch Number: T140911023

Percent Moisture

Report Basis: As Received

Analyst Initials:

Sample prep wt./vol:

Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report	SAR			SAR	0.010	0.010	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **USA 1-34 (Govt Fed 1-34)**

Matrix: Soil Collection Date: 8/21/2014 9:00:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-02C	Analysis Date: 8/29/2014 3:41:00PM
Prep Date: 08-29-2014 12:08	Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX	File Name: 14082907.D
Prep Method ID: 5030B	Dilution Factor: 1
Prep Batch Number: T140902013	Percent Moisture: 11
Report Basis: Dry Weight Basis	Analyst Initials: CK
Sample prep wt./vol: 5.00 g	Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Benzene	71-43-2	ND		ug/Kg	1.1	0.37					1
Ethylbenzene	100-41-4	ND		ug/Kg	1.7	0.52					
Toluene	108-88-3	ND		ug/Kg	1.1	0.22					
Xylenes, Total	1330-20-7	ND		ug/Kg	3.4	0.92					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	30		ug/Kg	0.56	0.37	30	98.4	70	130	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-02C	Analysis Date: 8/27/2014 2:24:00PM
Prep Date: 08-27-2014 10:08	Instrument: GC_B
Analytical Method ID: VOC by GC/FID via method 8015B - GRO	File Name: 14082708.D
Prep Method ID: 5030B	Dilution Factor: 1
Prep Batch Number: T140828007	Percent Moisture: 11
Report Basis: Dry Weight Basis	Analyst Initials: EH
Sample prep wt./vol: 5.00 g	Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Gasoline Range Organics	n/a	ND		ug/Kg	220	30					1
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	29		ug/Kg	3.4	1.1	30	95.1	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-02A	Analysis Date: 9/12/2014 4:20:28PM
Prep Date: 09-12-2014 16:09	Instrument: N/A
Analytical Method ID: SM3500-CrB - Chromium, Colorimetric Method - Total Cr(III) cal	File Name:
Prep Method ID: 3500-Cr-B	Dilution Factor: 1
Prep Batch Number: T140912014	Percent Moisture:
Report Basis: As Received	Analyst Initials: jkk
Sample prep wt./vol: 1.00 ml	Prep Extract Vol: 1.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Chromium, Trivalent	16065-83-1	17		mg/L	0.010	0.0020					1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **USA 1-34 (Govt Fed 1-34)**

Matrix: Soil Collection Date: 8/21/2014 9:00:00AM

Lab Sample Number: B1408176-02A Analysis Date: 9/11/2014 3:30:00PM
Prep Date: 09-08-2014 15:09 Instrument: Probe
Analytical Method ID: Specific Conductance - Cond. File Name:
Prep Method ID: 9050A Dilution Factor: 1
Prep Batch Number: T140911020 Percent Moisture
Report Basis: As Received Analyst Initials: KD
Sample prep wt./vol: 40.09 g Prep Extract Vol: 40.09 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Conductance		1,500		umhos/cm	5.0	1.0	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-02A Analysis Date: 9/11/2014 3:38:00PM
Prep Date: 09-11-2014 15:09 Instrument: Hach HQ40d
Analytical Method ID: Corrosivity in Waste by pH - pH File Name:
Prep Method ID: 9045B Dilution Factor: 1
Prep Batch Number: T140911021 Percent Moisture
Report Basis: As Received Analyst Initials: jkk
Sample prep wt./vol: 10.08 g Prep Extract Vol: 10.08 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
pH		10.3		pH	0.10	0.10	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name:

USA 1-15 LG

Matrix: Soil

Collection Date: 8/21/2014 10:35:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-03B Analysis Date: 9/4/2014 11:37:23PM
Prep Date: 08-29-2014 12:08 Instrument: GC_E
Analytical Method ID: SVOC by GC/FID via method 8015B - DRO File Name: 14090416.D
Prep Method ID: 3550B Dilution Factor: 1
Prep Batch Number: T140902014 Percent Moisture: 18
Report Basis: Dry Weight Basis Analyst Initials: TL
Sample prep wt./vol: 30.05 g Prep Extract Vol: 1.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Diesel Range Organics	n/a	240		mg/Kg	6.1	1.8				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
o-Terphenyl	84-15-1	1.9		mg/Kg	0.41	0.32	2.0	94.7	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-03A Analysis Date: 9/3/2014 4:37:45PM
Prep Date: 09-03-2014 10:09 Instrument: Hank-Hg
Analytical Method ID: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total H File Name: 090314S.CSV
Prep Method ID: 7471A Dilution Factor: 1
Prep Batch Number: T140902015 Percent Moisture: 18
Report Basis: Dry Weight Basis Analyst Initials: EH
Sample prep wt./vol: 0.60 g Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
Mercury	7439-97-6	1.3		mg/Kg	0.051	0.0070				1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-03A Analysis Date: 9/8/2014 4:10:47PM
Prep Date: 09-05-2014 12:09 Instrument: Optima7300Icp
Analytical Method ID: SW6010B - ICP - Total File Name: 090814.csv
Prep Method ID: 3050B Dilution Factor: 1
Prep Batch Number: T140905006 Percent Moisture: 18
Report Basis: Dry Weight Basis Analyst Initials: AC
Sample prep wt./vol: 0.50 g Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
Barium	7440-39-3	320		mg/Kg	0.49	0.16				1
Cadmium	7440-43-9	ND		mg/Kg	0.97	0.67				
Chromium	7440-47-3	22		mg/Kg	2.4	1.4				
Copper	7440-50-8	31		mg/Kg	0.73	0.48				
Lead	7439-92-1	25		mg/Kg	15	13				
Nickel	7440-02-0	21		mg/Kg	4.9	3.0				
Selenium	7784-49-2	ND		mg/Kg	30	26				
Silver	7440-22-4	ND		mg/Kg	1.8	0.35				
Zinc	7440-66-6	110		mg/Kg	0.73	0.27				

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **USA 1-15 LG**

Matrix: Soil Collection Date: 8/21/2014 10:35:00AM

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-03D Analysis Date:
Prep Date: Instrument:
Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - SC File Name:
Prep Method ID: 3550B Dilution Factor:
Prep Batch Number: T140911024 Percent Moisture
Report Basis: As Received Analyst Initials:
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report	108-98-5			ug/Kg	330	41	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-03D Analysis Date:
Prep Date: Instrument:
Analytical Method ID: Chromium, Hexavalent (Colorimetric) - Cr(VI) File Name:
Prep Method ID: 3060A Dilution Factor:
Prep Batch Number: T140911025 Percent Moisture
Report Basis: As Received Analyst Initials:
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report				mg/Kg	1.0	0.11	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-03D Analysis Date:
Prep Date: Instrument:
Analytical Method ID: SW6020 - ICPMS - Low Level Metals - Sol File Name:
Prep Method ID: Dilution Factor:
Prep Batch Number: T140911026 Percent Moisture
Report Basis: As Received Analyst Initials:
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report				NA	1.0	1.0	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-03D Analysis Date:
Prep Date: Instrument:
Analytical Method ID: Sodium Absorption Ratio File Name:
Prep Method ID: Dilution Factor:
Prep Batch Number: T140911023 Percent Moisture
Report Basis: As Received Analyst Initials:
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report	SAR			SAR	0.010	0.010	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **USA 1-15 LG**

Matrix: Soil Collection Date: 8/21/2014 10:35:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-03C Analysis Date: 8/29/2014 4:14:00PM
Prep Date: 08-29-2014 12:08 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 14082908.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T140902013 Percent Moisture: 18
Report Basis: Dry Weight Basis Analyst Initials: CK
Sample prep wt./vol: 5.00 g Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL				run #:	
Benzene	71-43-2	ND		ug/Kg	1.2	0.40				1	
Ethylbenzene	100-41-4	ND		ug/Kg	1.8	0.56					
Toluene	108-88-3	ND		ug/Kg	1.2	0.24					
Xylenes, Total	1330-20-7	ND		ug/Kg	3.7	1.0					
Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	33		ug/Kg	0.61	0.40	33	98.8	70	130	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-03C Analysis Date: 8/27/2014 4:37:00PM
Prep Date: 08-27-2014 10:08 Instrument: GC_B
Analytical Method ID: VOC by GC/FID via method 8015B - GRO File Name: 14082712.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T140828007 Percent Moisture: 18
Report Basis: Dry Weight Basis Analyst Initials: EH
Sample prep wt./vol: 5.00 g Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL				run #:	
Gasoline Range Organics	n/a	ND		ug/Kg	240	32				1	
Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	18		ug/Kg	3.7	1.2	33	54.1	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-03A Analysis Date: 9/12/2014 4:20:28PM
Prep Date: 09-12-2014 16:09 Instrument: N/A
Analytical Method ID: SM3500-CrB - Chromium, Colorimetric Method - Total Cr(III) cal File Name:
Prep Method ID: 3500-Cr-B Dilution Factor: 1
Prep Batch Number: T140912014 Percent Moisture:
Report Basis: As Received Analyst Initials: jkk
Sample prep wt./vol: 1.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL				run #:
Chromium, Trivalent	16065-83-1	22		mg/L	0.010	0.0020				1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **USA 1-15 LG**

Matrix: Soil Collection Date: 8/21/2014 10:35:00AM

Lab Sample Number: B1408176-03A Analysis Date: 9/11/2014 3:30:00PM
Prep Date: 09-08-2014 15:09 Instrument: Probe
Analytical Method ID: Specific Conductance - Cond. File Name:
Prep Method ID: 9050A Dilution Factor: 1
Prep Batch Number: T140911020 Percent Moisture
Report Basis: As Received Analyst Initials: KD
Sample prep wt./vol: 40.07 g Prep Extract Vol: 40.07 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Conductance		280		umhos/cm	5.0	1.0	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-03A Analysis Date: 9/11/2014 3:38:00PM
Prep Date: 09-11-2014 15:09 Instrument: Hach HQ40d
Analytical Method ID: Corrosivity in Waste by pH - pH File Name:
Prep Method ID: 9045B Dilution Factor: 1
Prep Batch Number: T140911021 Percent Moisture
Report Basis: As Received Analyst Initials: jkk
Sample prep wt./vol: 10.04 g Prep Extract Vol: 10.04 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
pH		9.81		pH	0.10	0.10	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **Hancock Gulch**

Matrix: Soil Collection Date: 8/21/2014 11:40:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-04B Analysis Date: 9/5/2014 3:40:04AM
Prep Date: 08-29-2014 12:08 Instrument: GC_E
Analytical Method ID: SVOC by GC/FID via method 8015B - DRO File Name: 14090421.D
Prep Method ID: 3550B Dilution Factor: 1
Prep Batch Number: T140902014 Percent Moisture: 12
Report Basis: Dry Weight Basis Analyst Initials: TL
Sample prep wt./vol: 30.01 g Prep Extract Vol: 1.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Diesel Range Organics	n/a	38		mg/Kg	5.7	1.6				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
o-Terphenyl	84-15-1	1.7		mg/Kg	0.38	0.30	1.9	89.1	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-04A Analysis Date: 9/3/2014 4:39:41PM
Prep Date: 09-03-2014 10:09 Instrument: Hank-Hg
Analytical Method ID: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total H File Name: 090314S.CSV
Prep Method ID: 7471A Dilution Factor: 1
Prep Batch Number: T140902015 Percent Moisture: 12
Report Basis: Dry Weight Basis Analyst Initials: EH
Sample prep wt./vol: 0.62 g Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
Mercury	7439-97-6	ND		mg/Kg	0.046	0.0063				1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-04A Analysis Date: 9/8/2014 4:16:13PM
Prep Date: 09-05-2014 12:09 Instrument: Optima7300Icp
Analytical Method ID: SW6010B - ICP - Total File Name: 090814.csv
Prep Method ID: 3050B Dilution Factor: 1
Prep Batch Number: T140905006 Percent Moisture: 12
Report Basis: Dry Weight Basis Analyst Initials: AC
Sample prep wt./vol: 0.50 g Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
Barium	7440-39-3	87		mg/Kg	0.45	0.15				1
Cadmium	7440-43-9	ND		mg/Kg	0.90	0.63				
Chromium	7440-47-3	11		mg/Kg	2.3	1.3				
Copper	7440-50-8	8.5		mg/Kg	0.68	0.45				
Lead	7439-92-1	ND		mg/Kg	14	12				
Nickel	7440-02-0	7.1		mg/Kg	4.5	2.8				
Selenium	7784-49-2	ND		mg/Kg	28	24				
Silver	7440-22-4	ND		mg/Kg	1.7	0.32				
Zinc	7440-66-6	27		mg/Kg	0.68	0.25				

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **Hancock Gulch**

Matrix: Soil Collection Date: 8/21/2014 11:40:00AM

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-04D Analysis Date:
Prep Date: Instrument:
Analytical Method ID: SW8270C - Semivolatile Organics by GC/MS - SC File Name:
Prep Method ID: 3550B Dilution Factor:
Prep Batch Number: T140911024 Percent Moisture
Report Basis: As Received Analyst Initials:
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report	108-98-5			ug/Kg	330	41	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-04D Analysis Date:
Prep Date: Instrument:
Analytical Method ID: Chromium, Hexavalent (Colorimetric) - Cr(VI) File Name:
Prep Method ID: 3060A Dilution Factor:
Prep Batch Number: T140911025 Percent Moisture
Report Basis: As Received Analyst Initials:
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report				mg/Kg	1.0	0.11	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-04D Analysis Date:
Prep Date: Instrument:
Analytical Method ID: SW6020 - ICPMS - Low Level Metals - Sol File Name:
Prep Method ID: Dilution Factor:
Prep Batch Number: T140911026 Percent Moisture
Report Basis: As Received Analyst Initials:
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report				NA	1.0	1.0	1

The following test was conducted by: ALS Environmental - F

Lab Sample Number: B1408176-04D Analysis Date:
Prep Date: Instrument:
Analytical Method ID: Sodium Absorption Ratio File Name:
Prep Method ID: Dilution Factor:
Prep Batch Number: T140911023 Percent Moisture
Report Basis: As Received Analyst Initials:
Sample prep wt./vol: Prep Extract Vol: ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
See Subcontractor Report	SAR			SAR	0.010	0.010	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **Hancock Gulch**

Matrix: Soil Collection Date: 8/21/2014 11:40:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-04C	Analysis Date:	9/3/2014 2:48:00PM
Prep Date:	09-03-2014 09:09	Instrument:	GC_B
Analytical Method ID:	Aromatic VOCs by GC/PID via method 8021B - BTEX	File Name:	14090306.D
Prep Method ID:	5030B	Dilution Factor:	1
Prep Batch Number:	T140904009	Percent Moisture:	12
Report Basis:	Dry Weight Basis	Analyst Initials:	EH
Sample prep wt./vol:	5.00 g	Prep Extract Vol:	5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Benzene	71-43-2	ND		ug/Kg	1.1	0.38					2
Ethylbenzene	100-41-4	ND		ug/Kg	1.7	0.52					
Toluene	108-88-3	ND		ug/Kg	1.1	0.22					
Xylenes, Total	1330-20-7	ND		ug/Kg	3.4	0.93					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	28		ug/Kg	0.57	0.38	31	92.5	70	130	2

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-04C	Analysis Date:	8/27/2014 5:44:00PM
Prep Date:	08-27-2014 10:08	Instrument:	GC_B
Analytical Method ID:	VOC by GC/FID via method 8015B - GRO	File Name:	14082714.D
Prep Method ID:	5030B	Dilution Factor:	1
Prep Batch Number:	T140828007	Percent Moisture:	12
Report Basis:	Dry Weight Basis	Analyst Initials:	EH
Sample prep wt./vol:	5.00 g	Prep Extract Vol:	5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Gasoline Range Organics	n/a	ND		ug/Kg	230	30					1
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	27		ug/Kg	3.4	1.1	31	86.4	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-04A	Analysis Date:	9/12/2014 4:20:28PM
Prep Date:	09-12-2014 16:09	Instrument:	N/A
Analytical Method ID:	SM3500-CrB - Chromium, Colorimetric Method - Total Cr(III) cal	File Name:	
Prep Method ID:	3500-Cr-B	Dilution Factor:	1
Prep Batch Number:	T140912014	Percent Moisture:	
Report Basis:	As Received	Analyst Initials:	jkk
Sample prep wt./vol:	1.00 ml	Prep Extract Vol:	1.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
Chromium, Trivalent	16065-83-1	11		mg/L	0.010	0.0020					1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **Hancock Gulch**

Matrix: Soil Collection Date: 8/21/2014 11:40:00AM

Lab Sample Number: B1408176-04A Analysis Date: 9/11/2014 3:30:00PM
Prep Date: 09-08-2014 15:09 Instrument: Probe
Analytical Method ID: Specific Conductance - Cond. File Name:
Prep Method ID: 9050A Dilution Factor: 1
Prep Batch Number: T140911020 Percent Moisture
Report Basis: As Received Analyst Initials: KD
Sample prep wt./vol: 39.97 g Prep Extract Vol: 39.97 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Conductance		2,200		umhos/cm	5.0	1.0	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-04A Analysis Date: 9/11/2014 3:38:00PM
Prep Date: 09-11-2014 15:09 Instrument: Hach HQ40d
Analytical Method ID: Corrosivity in Waste by pH - pH File Name:
Prep Method ID: 9045B Dilution Factor: 1
Prep Batch Number: T140911021 Percent Moisture
Report Basis: As Received Analyst Initials: jkk
Sample prep wt./vol: 10.15 g Prep Extract Vol: 10.15 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
pH		10.2		pH	0.10	0.10	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: **South Shale Compressor**

Matrix: Soil

Collection Date: 8/21/2014 12:00:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-05A Analysis Date: 9/5/2014 6:05:15AM
Prep Date: 08-29-2014 12:08 Instrument: GC_E
Analytical Method ID: SVOC by GC/FID via method 8015B - DRO File Name: 14090424.D
Prep Method ID: 3550B Dilution Factor: 10
Prep Batch Number: T140902014 Percent Moisture: 7.34
Report Basis: Dry Weight Basis Analyst Initials: TL
Sample prep wt./vol: 29.95 g Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Diesel Range Organics	n/a	3,400		mg/Kg	270	77				2	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
o-Terphenyl	84-15-1	ND		mg/Kg	18	14	1.8	122	50	150	2 DIL

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-05B Analysis Date: 8/29/2014 5:20:00PM
Prep Date: 08-29-2014 12:08 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 14082910.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T140902013 Percent Moisture: 7.34
Report Basis: Dry Weight Basis Analyst Initials: CK
Sample prep wt./vol: 5.00 g Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Benzene	71-43-2	ND		ug/Kg	1.1	0.36				1	
Ethylbenzene	100-41-4	ND		ug/Kg	1.6	0.50					
Toluene	108-88-3	ND		ug/Kg	1.1	0.21					
Xylenes, Total	1330-20-7	ND		ug/Kg	3.2	0.88					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	30		ug/Kg	0.54	0.36	29	102	70	130	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1408176-05B Analysis Date: 8/27/2014 6:50:00PM
Prep Date: 08-27-2014 10:08 Instrument: GC_B
Analytical Method ID: VOC by GC/FID via method 8015B - GRO File Name: 14082716.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T140828007 Percent Moisture: 7.34
Report Basis: Dry Weight Basis Analyst Initials: EH
Sample prep wt./vol: 5.00 g Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Gasoline Range Organics	n/a	ND		ug/Kg	220	28				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	19		ug/Kg	3.2	1.1	29	63.9	50	150	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Client Sample Report

Client Sample Name: USA 1-14 HC

Matrix: Soil Collection Date: 8/21/2014 1:05:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1408176-06A	Analysis Date:	9/5/2014 6:53:57AM
Prep Date:	08-29-2014 12:08	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	14090425.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T140902014	Percent Moisture:	6.29
Report Basis:	Dry Weight Basis	Analyst Initials:	TL
Sample prep wt./vol:	30.03 g	Prep Extract Vol:	1.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Diesel Range Organics	n/a	280	M	mg/Kg	5.3	1.5				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
o-Terphenyl	84-15-1	1.6		mg/Kg	0.36	0.28	1.8	92.7	50	150	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Solid

Collection Date: 8/29/2014 12:20:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T140902014-MB Analysis Date: 9/4/2014 3:28:11PM
Prep Date: 08-29-2014 12:08 Instrument: GC_E
Analytical Method ID: SVOC by GC/FID via method 8015B - DRO File Name: 14090406.D
Prep Method ID: 3550B Dilution Factor: 1
Prep Batch Number: T140902014 Percent Moisture: NA
Report Basis: As Received Analyst Initials: TL
Sample prep wt./vol: 30.04 g Prep Extract Vol: 1.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Diesel Range Organics	n/a	ND		mg/Kg	5.0	1.4				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
o-Terphenyl	84-15-1	1.1		mg/Kg	0.33	0.26	1.7	67.4	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T140902015-MB Analysis Date: 9/3/2014 3:41:02PM
Prep Date: 09-03-2014 10:09 Instrument: Hank-Hg
Analytical Method ID: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total H File Name: 090314S.CSV
Prep Method ID: 7471A Dilution Factor: 1
Prep Batch Number: T140902015 Percent Moisture: NA
Report Basis: As Received Analyst Initials: EH
Sample prep wt./vol: 0.60 g Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
Mercury	7439-97-6	ND		mg/Kg	0.042	0.0057				1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T140905006-MB Analysis Date: 9/8/2014 3:13:39PM
Prep Date: 09-05-2014 12:09 Instrument: Optima7300Icp
Analytical Method ID: SW6010B - ICP - Total File Name: 090814.csv
Prep Method ID: 3050B Dilution Factor: 1
Prep Batch Number: T140905006 Percent Moisture: NA
Report Basis: As Received Analyst Initials: AC
Sample prep wt./vol: 0.50 g Prep Extract Vol: 50.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
Barium	7440-39-3	ND		mg/Kg	0.40	0.13				2
Cadmium	7440-43-9	ND		mg/Kg	0.80	0.56				
Chromium	7440-47-3	ND		mg/Kg	2.0	1.2				
Copper	7440-50-8	ND		mg/Kg	0.60	0.39				
Lead	7439-92-1	ND		mg/Kg	12	11				
Nickel	7440-02-0	ND		mg/Kg	4.0	2.5				
Selenium	7784-49-2	ND		mg/Kg	25	21				
Silver	7440-22-4	ND		mg/Kg	1.5	0.28				
Zinc	7440-66-6	ND		mg/Kg	0.60	0.22				

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Solid

Collection Date: 8/29/2014 12:13:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T140902013-MB Analysis Date: 8/29/2014 1:19:00PM
Prep Date: 08-29-2014 12:08 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 14082903.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T140902013 Percent Moisture: NA
Report Basis: As Received Analyst Initials: CK
Sample prep wt./vol: 5.00 g Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
Benzene	71-43-2	ND		ug/Kg	1.0	0.33				1
Ethylbenzene	100-41-4	ND		ug/Kg	1.5	0.46				
Toluene	108-88-3	ND		ug/Kg	1.0	0.20				
Xylenes, Total	1330-20-7	ND		ug/Kg	3.0	0.82				

<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	27		ug/Kg	0.50	0.33	27	102	70	130	1

Lab Sample Number: T140904009-MB Analysis Date: 9/3/2014 1:09:00PM
Prep Date: 09-03-2014 09:09 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 14090303.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T140904009 Percent Moisture: NA
Report Basis: As Received Analyst Initials: EH
Sample prep wt./vol: 5.00 g Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
Benzene	71-43-2	ND		ug/Kg	1.0	0.33				1
Ethylbenzene	100-41-4	ND		ug/Kg	1.5	0.46				
Toluene	108-88-3	ND		ug/Kg	1.0	0.20				
Xylenes, Total	1330-20-7	ND		ug/Kg	3.0	0.82				

<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	29		ug/Kg	0.50	0.33	27	106	70	130	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T140828007-MB Analysis Date: 8/27/2014 11:25:00AM
Prep Date: 08-27-2014 10:08 Instrument: GC_B
Analytical Method ID: VOC by GC/FID via method 8015B - GRO File Name: 14082703.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T140828007 Percent Moisture: NA
Report Basis: As Received Analyst Initials: EH
Sample prep wt./vol: 5.00 g Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Gasoline Range Organics	n/a	ND		ug/Kg	200	26				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	26		ug/Kg	3.0	1.0	27	97.9	50	150	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Solid Collection Date: 8/27/2014 10:05:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	T140911020-MB	Analysis Date:	9/11/2014 3:30:00PM
Prep Date:	09-08-2014 15:09	Instrument:	Probe
Analytical Method ID:	Specific Conductance - Cond.	File Name:	
Prep Method ID:	9050A	Dilution Factor:	1
Prep Batch Number:	T140911020	Percent Moisture:	NA
Report Basis:	As Received	Analyst Initials:	KD
Sample prep wt./vol:	40.00 g	Prep Extract Vol:	40.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>
Conductance		ND		umhos/cm	5.0	1.0	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176
Project: Maralex Resources, Inc.
Client: Maralex Resources, Inc.
Client Project Number: Soils

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado
 Workorder (SDG): B1408176
 Project: Maralex Resources, Inc.
 Project Number:
 Prep Batch: **T140902014**

QUALITY CONTROL REPORT

LCS REPORT

Analysis: SVOC by GC/FID via method 8015B - DRO MB: T140902014-MB
 Prep Date: 8/29/2014
 MB Anal. Date: 9/4/2014 3:28:11PM Units: mg/Kg
 LCS Anal. Date: 9/4/2014 5:55:51PM Matrix: Solid

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Diesel Range Organics	ND	56.7	66.8	84.9	75 - 125		

MS/MSD REPORT

Analysis: SVOC by GC/FID via method 8015B - DRO Parent: B1408176-06A
 Prep Date: 8/29/2014
 Samp. Anal. Date: 9/5/2014 6:53:57AM Units: mg/Kg
 MS Anal. Date: 9/5/2014 9:19:07AM MSD Anal. Date: 9/5/2014 10:56:06AM Matrix: Soil

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Diesel Range Organics	276	372	365	71.1	71.3	135.0	124.9	1.9	50 - 129	20	highMS

FOOTNOTES TO QC REPORT

- Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.
- Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.
- Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.
- Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T140905006**

SAMPLE DUPLICATE REPORT

Analysis: SW6010B - ICP - Total

Base Sample: B1408176-04A

Prep Date: 9/5/2014

Samp. Anal. Date: 9/8/2014 4:16:13PM

Units: mg/Kg

DUP Anal. Date: 9/8/2014 4:18:58PM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>DUPRes.</u>	<u>RPD</u>	<u>RPDLim</u>	<u>Flag</u>
Barium	86.6	194	76.6	35	OUT
Cadmium	ND	ND	0.0	35	
Chromium	11.0	13.2	18.2	35	
Copper	8.47	10.7	23.3	35	
Lead	ND	ND	0.0	35	
Nickel	7.09	6.26	12.4	35	
Selenium	ND	ND	0.0	35	
Silver	ND	ND	0.0	35	
Zinc	26.6	26.8	0.7	35	

LCS REPORT

Analysis: SW6010B - ICP - Total

MB: T140905006-MB

Prep Date: 9/5/2014

MB Anal. Date: 9/8/2014 3:13:39PM

Units: mg/Kg

LCS Anal. Date: 9/8/2014 3:23:33PM

Matrix: Solid

<u>Analyte Name</u>	<u>SampResult</u>	<u>LCSRes.</u>	<u>SPLev</u>	<u>Recov.</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Barium	ND	205	200	102.5	70 - 130		
Cadmium	ND	50.9	50.0	101.8	70 - 130		
Chromium	ND	18.6	20.0	93.0	70 - 130		
Copper	ND	24.8	25.0	99.2	70 - 130		
Lead	ND	103	100	103.0	70 - 130		
Nickel	ND	51.0	50.0	102.0	70 - 130		
Selenium	ND	199	200	99.5	70 - 130		
Silver	ND	25.5	25.0	102.0	70 - 130		
Zinc	ND	48.5	50.0	97.0	70 - 130		

MS/MSD REPORT

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T140905006**

MS/MSD REPORT

Analysis: SW6010B - ICP - Total

Parent: B1408176-04A

Prep Date: 9/5/2014

Samp. Anal. Date: 9/8/2014 4:16:13PM

Units: mg/Kg

MS Anal. Date: 9/8/2014 4:24:22PM MSD Anal. Date: 9/8/2014 4:27:08PM

Matrix: Soil

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Barium	86.6	336	368	227	226	109.9	124.7	9.1	70 - 130	35	
Cadmium	ND	52.1	50.9	56.7	56.4	91.8	90.3	2.3	70 - 130	35	
Chromium	11.0	39.9	36.4	22.7	22.6	127.4	112.6	9.2	70 - 130	35	
Copper	8.47	35.0	36.7	28.4	28.2	93.5	100.1	4.7	70 - 130	35	
Lead	ND	119	113	113	113	104.9	100.2	5.2	70 - 130	35	
Nickel	7.09	59.8	57.7	56.7	56.4	92.9	89.7	3.6	70 - 130	35	
Selenium	ND	177	195	227	226	78.0	86.4	9.7	70 - 130	35	
Silver	ND	26.3	25.4	28.4	28.2	92.7	90.1	3.5	70 - 130	35	
Zinc	26.6	93.9	86.8	56.7	56.4	118.6	106.7	7.9	70 - 130	35	

POST DIGESTION SPIKE REPORT

Analysis: SW6010B - ICP - Total

Base Sample: B1408176-04A

Prep Date: 9/5/2014

Samp. Anal. Date: 9/8/2014 4:16:13PM

Units: mg/Kg

PDS Anal. Date: 9/8/2014 4:29:51PM

Matrix: Soil

Analyte Name	SampResult	PDSRes.	SPLev	Recov.	Recov Lim	Flag
Barium	86.6	326	227	105.4	70 - 130	
Cadmium	ND	52.0	56.7	92.5	70 - 130	
Chromium	11.0	35.7	22.7	108.6	70 - 130	
Copper	8.47	33.0	28.4	86.5	70 - 130	
Lead	ND	113	113	93.4	70 - 130	
Nickel	7.09	56.6	56.7	87.3	70 - 130	
Selenium	ND	184	227	78.6	70 - 130	
Silver	ND	25.5	28.4	91.9	70 - 130	
Zinc	26.6	76.5	56.7	87.9	70 - 130	

SERIAL DILUTION REPORT

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T140905006**

SERIAL DILUTION REPORT

Analysis: SW6010B - ICP - Total

Base Sample: B1408176-04A

Prep Date: 9/5/2014

Samp. Anal. Date: 9/8/2014 4:16:13PM

Units: mg/Kg

SER DIL. Date: 9/8/2014 4:21:46PM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>PQL</u>	<u>MDL</u>	<u>SerialRes.</u>	<u>SerPQL</u>	<u>RPD</u>	<u>Flag</u>
Barium	86.6	0.45	0.15	90.4	2.3	4.2	
Cadmium	ND	0.90	0.63	ND	4.5		
Chromium	11.0	2.3	1.3	ND	11		
Copper	8.47	0.68	0.45	5.31	3.4	45.8	Note 4
Lead	ND	14	12	ND	68		
Nickel	7.09	4.5	2.8	ND	23		
Selenium	ND	28	24	ND	140		
Silver	ND	1.7	0.32	ND	8.5		
Zinc	26.6	0.68	0.25	16.6	3.4	46.3	OUT

Prep Batch: **T140902015**

LCS REPORT

Analysis: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Tot

MB: T140902015-MB

Prep Date: 9/3/2014

MB Anal. Date: 9/3/2014 3:41:02PM

Units: mg/Kg

LCS Anal. Date: 9/3/2014 3:42:59PM

Matrix: Solid

<u>Analyte Name</u>	<u>SampResult</u>	<u>LCSRes.</u>	<u>SPLev</u>	<u>Recov.</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Mercury	ND	0.437	0.417	104.9	70 - 130		

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T140828010**

SAMPLE DUPLICATE REPORT

Analysis: ASTM D2216 - Pmoist

Base Sample: B1408176-06A

Prep Date: 8/26/2014

Samp. Anal. Date: 8/28/2014 2:05:03PM

Units: %

DUP Anal. Date: 8/28/2014 2:05:03PM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>DUPRes.</u>	<u>RPD</u>	<u>RPDLim</u>	<u>Flag</u>
Moisture	6.29	6.13	2.6	20	

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T140828007**

LCS REPORT

Analysis: VOC by GC/FID via method 8015B - GRO

MB: T140828007-MB

Prep Date: 8/27/2014

MB Anal. Date: 8/27/2014 11:25:00AM

Units: ug/Kg

LCS Anal. Date: 8/27/2014 11:57:00AM

Matrix: Solid

<u>Analyte Name</u>	<u>SampResult</u>	<u>LCSRes.</u>	<u>SPLev</u>	<u>Recov.</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Gasoline Range Organics	ND	523	500	104.6	60 - 118		

MS/MSD REPORT

Analysis: VOC by GC/FID via method 8015B - GRO

Parent: B1408176-02C

Prep Date: 8/27/2014

Samp. Anal. Date: 8/27/2014 2:24:00PM

Units: ug/Kg

MS Anal. Date: 8/27/2014 2:57:00PM MSD Anal. Date: 8/27/2014 7:23:00PM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>MSRes.</u>	<u>MSDRes</u>	<u>SPLev</u>	<u>SPDLev</u>	<u>Recov.</u>	<u>MSD Rec.</u>	<u>RPD</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Gasoline Range Organics	ND	122	193	562	562	21.7	34.4	45.1	50 - 138	20	lowMS lowMSD RPD

Prep Batch: **T140902013**

LCS REPORT

Analysis: Aromatic VOCs by GC/PID via method 8021B - BTEX

MB: T140902013-MB

Prep Date: 8/29/2014

MB Anal. Date: 8/29/2014 1:19:00PM

Units: ug/Kg

LCS Anal. Date: 8/29/2014 1:52:00PM

Matrix: Solid

<u>Analyte Name</u>	<u>SampResult</u>	<u>LCSRes.</u>	<u>SPLev</u>	<u>Recov.</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Benzene	ND	9.95	10.0	99.5	70 - 130		
Toluene	ND	9.90	10.0	99.0	70 - 130		
Ethylbenzene	ND	9.89	10.0	98.9	70 - 130		
Xylenes, Total	ND	29.4	30.0	98.0	70 - 130		

Prep Batch: **T140904009**

LCS REPORT

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T140904009**

LCS REPORT

Analysis: Aromatic VOCs by GC/PID via method 8021B - BTEX

MB: T140904009-MB

Prep Date: 9/3/2014

MB Anal. Date: 9/3/2014 1:09:00PM

Units: ug/Kg

LCS Anal. Date: 9/3/2014 1:42:00PM

Matrix: Solid

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Benzene	ND	10.4	10.0	104.0	70 - 130		
Toluene	ND	10.2	10.0	102.0	70 - 130		
Ethylbenzene	ND	10.1	10.0	101.0	70 - 130		
Xylenes, Total	ND	30.4	30.0	101.3	70 - 130		

MS/MSD REPORT

Analysis: Aromatic VOCs by GC/PID via method 8021B - BTEX

Parent: B1408176-04C

Prep Date: 9/3/2014

Samp. Anal. Date: 9/3/2014 2:48:00PM

Units: ug/Kg

MS Anal. Date: 9/3/2014 3:22:00PM MSD Anal. Date: 9/3/2014 3:55:00PM

Matrix: Soil

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	11.7	12.2	11.4	11.4	102.9	107.3	4.2	70 - 130	20	
Toluene	ND	11.6	11.9	11.4	11.4	102.0	104.7	2.6	70 - 130	20	
Ethylbenzene	ND	11.5	11.9	11.4	11.4	101.2	104.7	3.4	70 - 130	20	
Xylenes, Total	ND	34.9	35.7	34.1	34.1	102.3	104.7	2.3	70 - 130	20	

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T140825020**

SAMPLE DUPLICATE REPORT

Analysis: Corrosivity in Waste by pH - pH

Base Sample: B1408176-01A

Prep Date: 8/25/2014

Samp. Anal. Date: 8/25/2014 4:28:00PM

Units: pH

DUP Anal. Date: 8/25/2014 4:28:00PM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>DUPRes.</u>	<u>RPD</u>	<u>RPDLim</u>	<u>Flag</u>
pH	9.70	9.46	2.5	35	

Prep Batch: **T140911021**

SAMPLE DUPLICATE REPORT

Analysis: Corrosivity in Waste by pH - pH

Base Sample: B1408176-02A

Prep Date: 9/11/2014

Samp. Anal. Date: 9/11/2014 3:38:00PM

Units: pH

DUP Anal. Date: 9/11/2014 3:38:00PM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>DUPRes.</u>	<u>RPD</u>	<u>RPDLim</u>	<u>Flag</u>
pH	10.3	10.3	0.0	35	

Prep Batch: **T140911020**

LCS/LCSD REPORT

Analysis: Specific Conductance - Cond.

MB: T140911020-MB

Prep Date: 9/8/2014

MB Anal. Date: 9/11/2014 3:30:00PM

Units: umhos/cm

LCS Anal. Date: 9/11/2014 3:30:00PM LCSD Anal. Date: 9/11/2014 3:30:00PM

Matrix: Solid

<u>Analyte Name</u>	<u>SampResult</u>	<u>LCSRes.</u>	<u>SDRes.</u>	<u>SPLev</u>	<u>SPDLev</u>	<u>Recov.</u>	<u>SD Recov</u>	<u>RPD</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Conductance	ND	147	150	141	141	104.0	106.2	2.0	80 - 120	20	

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

SURROGATE RECOVERY SUMMARY REPORT

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Test Method: **SVOC by GC/FID via method 8015B - DRO**

Lab Sample #: B1408176-01B Dilution: 1
Analysis Date: 9/4/2014 8:22:41PM Client Sample: **Wagon Trail Fed**
Batch Number: T140902014 Data File: 14090412.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	86	50	150		Complete

Lab Sample #: B1408176-01B Dilution: 10
Analysis Date: 9/4/2014 9:11:33PM Client Sample: **Wagon Trail Fed**
Batch Number: T140902014 Data File: 14090413.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	74	50	150	DILUTED OUT	Confirm

Lab Sample #: B1408176-02B Dilution: 1
Analysis Date: 9/4/2014 10:00:08PM Client Sample: **USA 1-34 (Govt Fed 1-34)**
Batch Number: T140902014 Data File: 14090414.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	86	50	150		Complete

Lab Sample #: B1408176-02B Dilution: 10
Analysis Date: 9/4/2014 10:48:52PM Client Sample: **USA 1-34 (Govt Fed 1-34)**
Batch Number: T140902014 Data File: 14090415.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	85	50	150	DILUTED OUT	Confirm

Lab Sample #: B1408176-03B Dilution: 1
Analysis Date: 9/4/2014 11:37:23PM Client Sample: **USA 1-15 LG**
Batch Number: T140902014 Data File: 14090416.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	95	50	150		Complete

Lab Sample #: B1408176-03B Dilution: 10
Analysis Date: 9/5/2014 2:51:30AM Client Sample: **USA 1-15 LG**
Batch Number: T140902014 Data File: 14090420.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	100	50	150	DILUTED OUT	Confirm

Lab Sample #: B1408176-04B Dilution: 1
Analysis Date: 9/5/2014 3:40:04AM Client Sample: **Hancock Gulch**
Batch Number: T140902014 Data File: 14090421.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	89	50	150		Complete

Lab Sample #: B1408176-04B Dilution: 10
Analysis Date: 9/5/2014 4:28:28AM Client Sample: **Hancock Gulch**
Batch Number: T140902014 Data File: 14090422.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	79	50	150	DILUTED OUT	Confirm

Lab Sample #: B1408176-05A Dilution: 20
Analysis Date: 9/5/2014 5:16:58AM Client Sample: **South Shale Compressor**
Batch Number: T140902014 Data File: 14090423.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
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Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Test Method: **SVOC by GC/FID via method 8015B - DRO**

Lab Sample #:	B1408176-05A	Dilution:	20		
Analysis Date:	9/5/2014 5:16:58AM	Client Sample:	South Shale Compressor		
Batch Number:	T140902014	Data File:	14090423.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	132	50	150	DILUTED OUT	Confirm

Lab Sample #:	B1408176-05A	Dilution:	10		
Analysis Date:	9/5/2014 6:05:15AM	Client Sample:	South Shale Compressor		
Batch Number:	T140902014	Data File:	14090424.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	122	50	150	DILUTED OUT	Complete

Lab Sample #:	B1408176-06A	Dilution:	1		
Analysis Date:	9/5/2014 6:53:57AM	Client Sample:	USA 1-14 HC		
Batch Number:	T140902014	Data File:	14090425.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	93	50	150		Complete

Lab Sample #:	B1408176-06A	Dilution:	10		
Analysis Date:	9/5/2014 7:42:17AM	Client Sample:	USA 1-14 HC		
Batch Number:	T140902014	Data File:	14090426.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	88	50	150	DILUTED OUT	Confirm

Lab Sample #:	T140902014-MB	Dilution:	1		
Analysis Date:	9/4/2014 3:28:11PM	Client Sample:	MB		
Batch Number:	T140902014	Data File:	14090406.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	67	60	120		Complete

Lab Sample #:	T140902014-LCS	Dilution:	1		
Analysis Date:	9/4/2014 5:55:51PM	Client Sample:	LCS		
Batch Number:	T140902014	Data File:	14090409.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	102	60	120		Complete

Lab Sample #:	B1408176-06A-MS	Dilution:	1		
Analysis Date:	9/5/2014 8:30:44AM	Client Sample:	MS		
Batch Number:	T140902014	Data File:	14090427.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	88	50	150		Rrun

Lab Sample #:	B1408176-06A-MS	Dilution:	10		
Analysis Date:	9/5/2014 9:19:07AM	Client Sample:	MS		
Batch Number:	T140902014	Data File:	14090428.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	91	50	150	DILUTED OUT	Complete

Lab Sample #:	B1408176-06A-MSD	Dilution:	10		
Analysis Date:	9/5/2014 10:56:06AM	Client Sample:	MSD		
Batch Number:	T140902014	Data File:	14090430.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl					

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Test Method: SVOC by GC/FID via method 8015B - DRO

Lab Sample #: B1408176-06A-MSD

Dilution: 10

Analysis Date: 9/5/2014 10:56:06AM

Client Sample: **MSD**

Batch Number: T140902014

Data File: 14090430.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	92	50	150	DILUTED OUT	Complete

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Test Method: **Aromatic VOCs by GC/PID via method 8021B - BTEX**

Lab Sample #: B1408176-01C Dilution: 1
Analysis Date: 8/29/2014 3:08:00PM Client Sample: **Wagon Trail Fed**
Batch Number: T140902013 Data File: 14082906.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	99	70	130		Complete

Lab Sample #: B1408176-02C Dilution: 1
Analysis Date: 8/29/2014 3:41:00PM Client Sample: **USA 1-34 (Govt Fed 1-34)**
Batch Number: T140902013 Data File: 14082907.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	70	130		Complete

Lab Sample #: B1408176-03C Dilution: 1
Analysis Date: 8/29/2014 4:14:00PM Client Sample: **USA 1-15 LG**
Batch Number: T140902013 Data File: 14082908.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	99	70	130		Complete

Lab Sample #: B1408176-05B Dilution: 1
Analysis Date: 8/29/2014 5:20:00PM Client Sample: **South Shale Compressor**
Batch Number: T140902013 Data File: 14082910.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	102	70	130		Complete

Lab Sample #: B1408176-04C Dilution: 1
Analysis Date: 9/3/2014 2:48:00PM Client Sample: **Hancock Gulch**
Batch Number: T140904009 Data File: 14090306.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	93	70	130		Complete

Lab Sample #: T140902013-MB Dilution: 1
Analysis Date: 8/29/2014 1:19:00PM Client Sample: **MB**
Batch Number: T140902013 Data File: 14082903.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	102	70	130		Complete

Lab Sample #: T140904009-MB Dilution: 1
Analysis Date: 9/3/2014 1:09:00PM Client Sample: **MB**
Batch Number: T140904009 Data File: 14090303.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	106	70	130		Complete

Lab Sample #: T140902013-LCS Dilution: 1
Analysis Date: 8/29/2014 1:52:00PM Client Sample: **LCS**
Batch Number: T140902013 Data File: 14082904.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	101	70	130		Complete

Lab Sample #: T140904009-LCS Dilution: 1
Analysis Date: 9/3/2014 1:42:00PM Client Sample: **LCS**
Batch Number: T140904009 Data File: 14090304.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
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Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Test Method: Aromatic VOCs by GC/PID via method 8021B - BTEX

Lab Sample #: T140904009-LCS Dilution: 1
Analysis Date: 9/3/2014 1:42:00PM Client Sample: **LCS**
Batch Number: T140904009 Data File: 14090304.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	110	70	130		Complete

Lab Sample #: B1408176-04C-MS Dilution: 1
Analysis Date: 8/29/2014 5:52:00PM Client Sample: **MS**
Batch Number: T140902013 Data File: 14082911.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	108	70	130		Complete

Lab Sample #: B1408176-04C-MS Dilution: 1
Analysis Date: 9/3/2014 3:22:00PM Client Sample: **MS**
Batch Number: T140904009 Data File: 14090307.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	110	70	130		Complete

Lab Sample #: B1408176-04C-MSD Dilution: 1
Analysis Date: 8/29/2014 6:25:00PM Client Sample: **MSD**
Batch Number: T140902013 Data File: 14082912.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	109	70	130		Complete

Lab Sample #: B1408176-04C-MSD Dilution: 1
Analysis Date: 9/3/2014 3:55:00PM Client Sample: **MSD**
Batch Number: T140904009 Data File: 14090308.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	106	70	130		Complete

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: **Maralex Resources, Inc.**

Client: **Maralex Resources, Inc.**

Client Project Number: **Soils**

Test Method: **VOC by GC/FID via method 8015B - GRO**

Lab Sample #: B1408176-01C Dilution: 1
 Analysis Date: 8/27/2014 1:51:00PM Client Sample: **Wagon Trail Fed**
 Batch Number: T140828007 Data File: 14082707.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	94	50	150		Complete

Lab Sample #: B1408176-02C Dilution: 1
 Analysis Date: 8/27/2014 2:24:00PM Client Sample: **USA 1-34 (Govt Fed 1-34)**
 Batch Number: T140828007 Data File: 14082708.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	95	50	150		Complete

Lab Sample #: B1408176-03C Dilution: 1
 Analysis Date: 8/27/2014 4:37:00PM Client Sample: **USA 1-15 LG**
 Batch Number: T140828007 Data File: 14082712.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	54	50	150		Complete

Lab Sample #: B1408176-04C Dilution: 1
 Analysis Date: 8/27/2014 5:44:00PM Client Sample: **Hancock Gulch**
 Batch Number: T140828007 Data File: 14082714.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	86	50	150		Complete

Lab Sample #: B1408176-05B Dilution: 1
 Analysis Date: 8/27/2014 6:50:00PM Client Sample: **South Shale Compressor**
 Batch Number: T140828007 Data File: 14082716.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	64	50	150		Complete

Lab Sample #: T140828007-MB Dilution: 1
 Analysis Date: 8/27/2014 11:25:00AM Client Sample: **MB**
 Batch Number: T140828007 Data File: 14082703.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	63	130		Complete

Lab Sample #: T140828007-LCS Dilution: 1
 Analysis Date: 8/27/2014 11:57:00AM Client Sample: **LCS**
 Batch Number: T140828007 Data File: 14082704.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	102	63	130		Complete

Lab Sample #: B1408176-02C-MS Dilution: 1
 Analysis Date: 8/27/2014 2:57:00PM Client Sample: **MS**
 Batch Number: T140828007 Data File: 14082709.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	101	50	150		Complete

Lab Sample #: B1408176-02C-MS Dilution: 1
 Analysis Date: 8/27/2014 3:30:00PM Client Sample: **MS**
 Batch Number: T140828007 Data File: 14082710.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

Test Method: VOC by GC/FID via method 8015B - GRO

Lab Sample #: B1408176-02C-MS Dilution: 1
Analysis Date: 8/27/2014 3:30:00PM Client Sample: **MS**
Batch Number: T140828007 Data File: 14082710.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	101	50	150		Rrun

Lab Sample #: B1408176-02C-MSD Dilution: 1
Analysis Date: 8/27/2014 7:23:00PM Client Sample: **MSD**
Batch Number: T140828007 Data File: 14082717.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	108	50	150		Complete

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 163,443 Lab Project Number: B1408176

Prep Date: 8/27/2014

Lab Method Blank Id: T140828007-MB

Prep Batch ID: T140828007

Method: VOC by GC/FID via method 8015B - GRO

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
T140828007-LCS	LCS	14082704.D	8/27/2014 11:57:00AM
B1408176-01C	Wagon Trail Fed	14082707.D	8/27/2014 1:51:00PM
B1408176-02C	USA 1-34 (Govt Fed 1-34)	14082708.D	8/27/2014 2:24:00PM
B1408176-02C-MS	MS	14082709.D	8/27/2014 2:57:00PM
B1408176-03C	USA 1-15 LG	14082712.D	8/27/2014 4:37:00PM
B1408176-04C	Hancock Gulch	14082714.D	8/27/2014 5:44:00PM
B1408176-05B	South Shale Compressor	14082716.D	8/27/2014 6:50:00PM
B1408176-02C-MSD	MSD	14082717.D	8/27/2014 7:23:00PM

Prep Date: 8/26/2014

Lab Method Blank Id: T140828010-MB

Prep Batch ID: T140828010

Method: ASTM D2216 - Pmoist

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
B1408176-01B	Wagon Trail Fed		8/28/2014 2:05:03PM
B1408176-02B	USA 1-34 (Govt Fed 1-34)		8/28/2014 2:05:03PM
B1408176-03B	USA 1-15 LG		8/28/2014 2:05:03PM
B1408176-04B	Hancock Gulch		8/28/2014 2:05:03PM
B1408176-05A	South Shale Compressor		8/28/2014 2:05:03PM
B1408176-06A	USA 1-14 HC		8/28/2014 2:05:03PM
B1408176-06A-DUP	DUP		8/28/2014 2:05:03PM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 163,443 Lab Project Number: B1408176

Prep Date: 8/29/2014

Lab Method Blank Id: T140902013-MB

Prep Batch ID: T140902013

Method: Aromatic VOCs by GC/PID via method 8021B - BTEX

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
T140902013-LCS	LCS	14082904.D	8/29/2014 1:52:00PM
B1408176-01C	Wagon Trail Fed	14082906.D	8/29/2014 3:08:00PM
B1408176-02C	USA 1-34 (Govt Fed 1-34)	14082907.D	8/29/2014 3:41:00PM
B1408176-03C	USA 1-15 LG	14082908.D	8/29/2014 4:14:00PM
B1408176-05B	South Shale Compressor	14082910.D	8/29/2014 5:20:00PM
B1408176-04C-MS	MS	14082911.D	8/29/2014 5:52:00PM
B1408176-04C-MSD	MSD	14082912.D	8/29/2014 6:25:00PM

Prep Date: 8/29/2014

Lab Method Blank Id: T140902014-MB

Prep Batch ID: T140902014

Method: SVOC by GC/FID via method 8015B - DRO

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
T140902014-LCS	LCS	14090409.D	9/4/2014 5:55:51PM
B1408176-01B	Wagon Trail Fed	14090412.D	9/4/2014 8:22:41PM
B1408176-02B	USA 1-34 (Govt Fed 1-34)	14090414.D	9/4/2014 10:00:08PM
B1408176-03B	USA 1-15 LG	14090416.D	9/4/2014 11:37:23PM
B1408176-04B	Hancock Gulch	14090421.D	9/5/2014 3:40:04AM
B1408176-05A	South Shale Compressor	14090424.D	9/5/2014 6:05:15AM
B1408176-06A	USA 1-14 HC	14090425.D	9/5/2014 6:53:57AM
B1408176-06A-MS	MS	14090428.D	9/5/2014 9:19:07AM
B1408176-06A-MSD	MSD	14090430.D	9/5/2014 10:56:06AM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176
Project: **Maralex Resources, Inc.**
Client: **Maralex Resources, Inc.**
Client Project Number: **Soils**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 163,443 Lab Project Number: B1408176

Prep Date: 9/3/2014

Lab Method Blank Id: T140902015-MB
Prep Batch ID: T140902015
Method: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Tot

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
B1408122-07A	Batch QC	090314S.CSV	9/3/2014 3:44:55PM
B1408176-01A	Wagon Trail Fed	090314S.CSV	9/3/2014 4:33:50PM
B1408176-02A	USA 1-34 (Govt Fed 1-34)	090314S.CSV	9/3/2014 4:35:48PM
B1408176-03A	USA 1-15 LG	090314S.CSV	9/3/2014 4:37:45PM
B1408176-04A	Hancock Gulch	090314S.CSV	9/3/2014 4:39:41PM
T140902015-LCS	LCS	090314S.CSV	9/3/2014 3:42:59PM
B1408122-07A-DUP	DUP	090314S.CSV	9/3/2014 3:46:54PM
B1408122-07A-MS	MS	090314S.CSV	9/3/2014 3:48:50PM
B1408122-07A-MSD	MSD	090314S.CSV	9/3/2014 3:50:47PM

Prep Date: 9/3/2014

Lab Method Blank Id: T140904009-MB
Prep Batch ID: T140904009
Method: Aromatic VOCs by GC/PID via method 8021B - BTEX

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
T140904009-LCS	LCS	14090304.D	9/3/2014 1:42:00PM
B1408176-04C	Hancock Gulch	14090306.D	9/3/2014 2:48:00PM
B1408176-04C-MS	MS	14090307.D	9/3/2014 3:22:00PM
B1408176-04C-MSD	MSD	14090308.D	9/3/2014 3:55:00PM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 163,443 Lab Project Number: B1408176

Prep Date: 9/5/2014

Lab Method Blank Id: T140905006-MB
Prep Batch ID: T140905006
Method: SW6010B - ICP - Total

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
B1408176-01A	Wagon Trail Fed	090814.csv	9/8/2014 4:05:12PM
B1408176-02A	USA 1-34 (Govt Fed 1-34)	090814.csv	9/8/2014 4:07:52PM
B1408176-03A	USA 1-15 LG	090814.csv	9/8/2014 4:10:47PM
B1408176-04A	Hancock Gulch	090814.csv	9/8/2014 4:16:13PM
T140905006-LCS	LCS	090814.csv	9/8/2014 3:23:33PM
B1408176-04A-DUP	DUP	090814.csv	9/8/2014 4:18:58PM
B1408176-04A-MS	MS	090814.csv	9/8/2014 4:24:22PM
B1408176-04A-MSD	MSD	090814.csv	9/8/2014 4:27:08PM
B1408176-04A-PDS	PDS	090814.csv	9/8/2014 4:29:51PM

Prep Date: 9/8/2014

Lab Method Blank Id: T140911020-MB
Prep Batch ID: T140911020
Method: Specific Conductance - Cond.

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
B1408176-01A	Wagon Trail Fed		9/11/2014 3:30:00PM
B1408176-02A	USA 1-34 (Govt Fed 1-34)		9/11/2014 3:30:00PM
B1408176-03A	USA 1-15 LG		9/11/2014 3:30:00PM
B1408176-04A	Hancock Gulch		9/11/2014 3:30:00PM
B1409026-01A	Batch QC		9/11/2014 3:30:00PM
T140911020-LCS	LCS		9/11/2014 3:30:00PM
T140911020-LCSD	LCSD		9/11/2014 3:30:00PM
B1409026-01A-DUP	DUP		9/11/2014 3:30:00PM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

DATA FLAGS AND DEFINITIONS

The PQL is the Method Quantitation Limit as defined by USACE.

Reporting Limit: Limit below which results are shown as "ND". This may be the PQL, MDL, or a value between. See the report conventions below.

Result Field:

ND = Not Detected at or above the Reporting Limit

NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Lower Control Limit

HIGH = Recovery, RPD, or other parameter is above Upper Control Limit

E = Reported concentration is above the instrument calibration upper range

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank

J = Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Inorganic Analysis Flags:

J = Analyte was detected above the Reporting Limit but below the Quant Limit (PQL)

W = Post digestion spike did not meet criteria

S = Reported value determined by the Method of Standard Additions (MSA)

Several ways of defining the limit of detection and quantitation are prevalent in the laboratory industry and may appear in Analytica reports. These include the following:

MRL = "minimum reporting level", from the EPA Safe Drinking Water program (SDW)

PQL = "practical quantitation limit", from SW-846

EQL = "estimated quantitation limit", from SW-846

LOQ = "limit of quantitation", from a number of authoritative sources

In Analytica's work, all of these terms have the same meaning, equivalent to the EPA definition of the MRL. This reporting level is supported by a satisfactory calibration data point which is at that level or lower, and also is supported by a method detection limit (MDL) determined by the procedure in 40CFR. The MDL is lower than the MRL and represents an estimate of the level where positive detections have a 99% probability of being real, but where quantitation accuracy is unknown.

The MRL as defined by Analytica is the lowest demonstrated point of known quantitation accuracy.

The MRL should not be confused with the MCL, which is the EPA-defined "maximum contaminant level" allowed for certain regulated targets under specific regulations, such as the National Primary Drinking Water Regulations. Normally, the MRL is set at a level which is much lower than the MCL in order to ensure that levels are well below those limits. Not all target analytes have MCL levels established.

Other Flags may be applied. See Case Narrative for Description

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1408176

Project: Maralex Resources, Inc.

Client: Maralex Resources, Inc.

Client Project Number: Soils

REPORTING CONVENTIONS FOR THIS REPORT

B1408176

<u>TestPkgName</u>	<u>Basis</u>	<u># Sig Figs</u>	<u>Reporting Limit</u>
3500-Cr-B/3500-Cr-B (Solid) - Total Cr(III) calculat	As Received	2	Report to PQL
6010B/3050B (Solid) - Total	Dry Weight Basis	2	Report to PQL
6020A (Solid) - Low Level Metals - Sol	Dry Weight Basis	2	Report to PQL
6020A (Solid) - Low Level Metals ALS-K	Dry Weight Basis	3	Report to PQL
7196_A/3060A (Solid) - Cr(VI)	Dry Weight Basis	2	Report to PQL
7471A/7471A (Solid) - Total Hg	Dry Weight Basis	2	Report to PQL
8015/5030B (Solid) - GRO	Dry Weight Basis	2	Report to PQL
8015B/3550B (Solid) - DRO	Dry Weight Basis	2	Report to PQL
8021/5030B (Solid) - BTEX	Dry Weight Basis	2	Report to PQL
8270C/3550B (Solid) - SC	Dry Weight Basis	2	Report to MDL, J qual below PQL
9045B/9045B (Solid) - pH	As Received	3	Report to PQL
9050A/9050A (Solid) - Cond.	As Received	2	Report to PQL
ASTMD2216/ASTMD2216 (Solid) - Pmoist	As Received	3	Report to MDL, J qual below PQL
SAR (Solid)	As Received	2	Report to PQL

Thursday, September 11, 2014

Ms. Carissa Cumine
Analytica Environmental Laboratories
12189 Pennsylvania Street
Thornton, CO 80241

Re: ALS Workorder: 1408662
Project Name:
Project Number: B1408176

Dear Ms. Cumine:

Four soil samples were received from Analytica Environmental Laboratories, on 8/28/2014. The samples were scheduled for the following analyses:

Metals

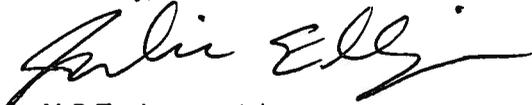
Inorganics

GC/MS Semivolatiles

The results for these analyses are contained in the enclosed reports.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,



ALS Environmental
Julie Ellingson
Project Manager

JME/jme
Enclosure(s):

ALS is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Laboratory Certifications	
Accreditation Body	License or Certification Number
Alaska (AK)	UST-086
Alaska (AK)	CO01099
Arizona (AZ)	AZ0742
California (CA)	06251CA
Colorado (CO)	CO01099
Connecticut (CT)	PH-0232
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
L-A-B (DoD ELAP/ISO 170250)	L2257
Maryland (MD)	285
Missouri	175
Nebraska	NE-OS-24-13
Nevada (NV)	CO000782008A
New Jersey (NJ)	CO003
North Dakota (ND)	R-057
Oklahoma	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	2976
Texas (TX)	T104704241-09-1
Utah (UT)	CO01099
Washington	C1280



1408662

GC/MS Semivolatiles-SIMPAH:

The samples were analyzed using GC/MS following the current revision of SOP 506 based on SW-846 Method 8270D. The samples were analyzed using selective ion monitoring (SIM), in order to achieve lower reporting limits.

All acceptance criteria were met with the following exception:

1. All internal standard recoveries were within acceptance criteria with the following exception:

Internal Standard	Sample	Direction
Chrysene-D ₁₂	-3	High

Re-analysis of the sample confirmed the original result. This suggests that the outliers were due to matrix effects. No further action was taken.

Metals:

The samples were analyzed following SW-846, 3rd Edition procedures. Analysis by ICPMS followed method 6020A and the current revision of SOP 827.

- A serial dilution was analyzed with this ICP batch. All acceptance criteria were not met.

<u>Analyte</u>	<u>Sample ID</u>
Arsenic	1408662-8L

The native sample result is flagged for serial dilution failure.

All remaining acceptance criteria were met.

Inorganics:

The samples were analyzed following SW-846 and USDA Handbook 60 Chapter 6 procedures for the current revisions of the following SOPs and methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Hexavalent chromium	7196A	1122
Paste pH	USDA60	810 Draft
Electrical conductivity	USDA60	810 Draft
Sodium Adsorption Ratio	USDA60	810 Draft

All acceptance criteria were met.

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1408662

Client Name: Analytica Environmental Laboratories

Client Project Name:

Client Project Number: B1408176

Client PO Number: T15011

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Wagon Trail Fed	1408662-1		SOIL	21-Aug-14	
USA 1-34 (Govt Fed 1-34)	1408662-2		SOIL	21-Aug-14	
USA 1-15 LG	1408662-3		SOIL	21-Aug-14	
Hancock Gulch	1408662-4		SOIL	21-Aug-14	
Wagon Trail Fed	1408662-5		SatExtract	21-Aug-14	
USA 1-34 (Govt Fed 1-34)	1408662-6		SatExtract	21-Aug-14	
USA 1-15 LG	1408662-7		SatExtract	21-Aug-14	
Hancock Gulch	1408662-8		SatExtract	21-Aug-14	

ANALYTICA CHAIN OF CUSTODY FOR EXTERNAL LAB ANALYSIS

COC Number: 163443-2

Analytica Group, LLC-Thornton
 12189 Pennsylvania Street
 Thornton, CO 80241
 Report to: Carissa Cumine
 phone: 303-469-8868

PO Number: T15011

Requested Turnaround: Standard

Testing Laboratory:

~~Energy Laboratories
 1120 South 27th St.
 Billings, MT 59101-0916
 phone: 800-735-4489 x6269~~

*ALS Labs
 Fort Collins, CO*

1408662

*6020 = Low Level Arsenic
 8270 = Full 8270 w/ PAHs by SIM*

Client Identifier: **Wagon Trail Fed (1)**

Analytica ID	Test Method	Method Description	Sample Date	Matrix	Comments
B1408176-01D	SAR	SAR (Solid)	8/21/2014 7:50	Soil	
B1408176-01D	6020A	6020A (Solid) - Low Level Metals - Sol	8/21/2014 7:50	Soil	
B1408176-01D	7196_A	7196_A/3060A (Solid) - Cr(VI)	8/21/2014 7:50	Soil	
B1408176-01D	8270C	8270C/3550B (Solid) - SC	8/21/2014 7:50	Soil	

Client Identifier: **USA 1-34 (Govt Fed 1-34) (2)**

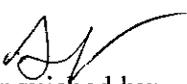
Analytica ID	Test Method	Method Description	Sample Date	Matrix	Comments
B1408176-02D	SAR	SAR (Solid)	8/21/2014 9:00	Soil	
B1408176-02D	6020A	6020A (Solid) - Low Level Metals - Sol	8/21/2014 9:00	Soil	
B1408176-02D	7196_A	7196_A/3060A (Solid) - Cr(VI)	8/21/2014 9:00	Soil	
B1408176-02D	8270C	8270C/3550B (Solid) - SC	8/21/2014 9:00	Soil	

Client Identifier: **USA 1-15 LG (3)**

Analytica ID	Test Method	Method Description	Sample Date	Matrix	Comments
B1408176-03D	SAR	SAR (Solid)	8/21/2014 10:35	Soil	
B1408176-03D	6020A	6020A (Solid) - Low Level Metals - Sol	8/21/2014 10:35	Soil	
B1408176-03D	7196_A	7196_A/3060A (Solid) - Cr(VI)	8/21/2014 10:35	Soil	
B1408176-03D	8270C	8270C/3550B (Solid) - SC	8/21/2014 10:35	Soil	

Client Identifier: **Hancock Gulch (4)**

Analytica ID	Test Method	Method Description	Sample Date	Matrix	Comments
B1408176-04D	SAR	SAR (Solid)	8/21/2014 11:40	Soil	
B1408176-04D	6020A	6020A (Solid) - Low Level Metals - Sol	8/21/2014 11:40	Soil	
B1408176-04D	7196_A	7196_A/3060A (Solid) - Cr(VI)	8/21/2014 11:40	Soil	
B1408176-04D	8270C	8270C/3550B (Solid) - SC	8/21/2014 11:40	Soil	

<u>Analytica Relinquished by:</u>	<u>Date/Time:</u>	<u>Received by:</u>	<u>Date/Time:</u>
	8/27/14 1500		8/28/14 0935
<u>Relinquished by:</u>	<u>Date/Time:</u>	<u>Received by:</u>	<u>Date/Time:</u>

*Please use Client Identifier for Sample ID.
 Please return cooler to Analytica.*



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Analytica Workorder No: 1408662
Project Manager: JR Initials: JR Date: 8/28/14

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	NO
3. Are Custody seals on sample containers intact?	NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ___ < green pea ___ > green pea	N/A	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ___ dusting ___ moderate ___ heavy	N/A	YES	NO
16. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <input checked="" type="radio"/> #4 RAD ONLY		<input checked="" type="radio"/> YES	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>4.6°</u>			
No. of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>14</u>			
Background µR/hr reading: <u>13</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES / NO / NA (If no, see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? YES / NO NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 9/2/14

Form 201r24.xls (06/04/2012) *IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

1408662

FROM: (303) 469-8868
SAMPLE RECEIVING
ANALYTICA GROUP
12189 PENNSYLVANIA ST
THORNTON CO 80241
US

SHIP DATE: 27AUG14
ACTWGT: 32.7 LB
CAD: 564910/CAFE2704

BILL SENDER

SAMPLE RECEIVING
ALS ENVIRONMENTAL LABORATORY
225 COMMERCE DRIVE

14

FORT COLLINS CO 80524

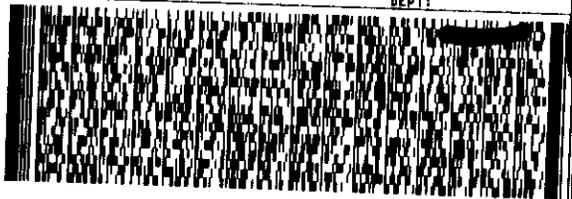
(US)

(970) 450-1511

REF:

INV:

DEPT:



FedEx
Ground



J13111306230126

TRK# 5982 7406 0120

80524

9622 0019 0 (000 185 1616) 3 00 5982 7406 0120



4.6°C

ALS Environmental -- FC

SAMPLE SUMMARY REPORT

Client: Analytica Environmental Laboratories
Project: B1408176
Sample ID: Wagon Trail Fed
Legal Location:
Collection Date: 8/21/2014

Date: 10-Sep-14
Work Order: 1408662
Lab ID: 1408662-1
Matrix: SOIL
Percent Moisture: 20.1

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS Semi-volatiles			SW8270SIMPAAH		Prep Date: 9/3/2014	PrepBy: BCH
NAPHTHALENE	1.9	J	4.1	UG/KG	1	9/4/2014 18:21
ACENAPHTHENE	ND		4.1	UG/KG	1	9/4/2014 18:21
FLUORENE	ND		4.1	UG/KG	1	9/4/2014 18:21
ANTHRACENE	ND		4.1	UG/KG	1	9/4/2014 18:21
FLUORANTHENE	ND		4.1	UG/KG	1	9/4/2014 18:21
PYRENE	ND		4.1	UG/KG	1	9/4/2014 18:21
BENZO(A)ANTHRACENE	ND		4.1	UG/KG	1	9/4/2014 18:21
CHRYSENE	ND		4.1	UG/KG	1	9/4/2014 18:21
BENZO(B)FLUORANTHENE	ND		4.1	UG/KG	1	9/4/2014 18:21
BENZO(K)FLUORANTHENE	ND		4.1	UG/KG	1	9/4/2014 18:21
BENZO(A)PYRENE	ND		4.1	UG/KG	1	9/4/2014 18:21
INDENO(1,2,3-CD)PYRENE	ND		4.1	UG/KG	1	9/4/2014 18:21
DIBENZO(A,H)ANTHRACENE	ND		4.1	UG/KG	1	9/4/2014 18:21
Surr: NITROBENZENE-D5	83		28-113	%REC	1	9/4/2014 18:21
Surr: 2-FLUOROBIPHENYL	77		41-106	%REC	1	9/4/2014 18:21
Surr: TERPHENYL-D14	66		25-147	%REC	1	9/4/2014 18:21
Hexavalent Chromium			SW7196		Prep Date: 9/5/2014	PrepBy: AJD
CHROMIUM VI	ND		0.12	MG/KG	1	9/5/2014
ICPMS Metals			SW6020		Prep Date: 9/3/2014	PrepBy: NAQ
ARSENIC	2600	E	230	UG/KG	10	9/4/2014 12:55
Sodium Adsorption Ratio			USDA60		Prep Date: 9/8/2014	PrepBy: KMP
PASTE PH	8.8		0.1	pH	1	9/8/2014

ALS Environmental -- FC

SAMPLE SUMMARY REPORT

Client: Analytica Environmental Laboratories
Project: B1408176
Sample ID: USA 1-34 (Govt Fed 1-34)
Legal Location:
Collection Date: 8/21/2014

Date: 10-Sep-14
Work Order: 1408662
Lab ID: 1408662-2
Matrix: SOIL
Percent Moisture: 10.6

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS Semi-volatiles			SW8270SIMPAAH		Prep Date: 9/3/2014	PrepBy: BCH
NAPHTHALENE	ND		3.7	UG/KG	1	9/4/2014 15:56
ACENAPHTHENE	ND		3.7	UG/KG	1	9/4/2014 15:56
FLUORENE	ND		3.7	UG/KG	1	9/4/2014 15:56
ANTHRACENE	ND		3.7	UG/KG	1	9/4/2014 15:56
FLUORANTHENE	ND		3.7	UG/KG	1	9/4/2014 15:56
PYRENE	ND		3.7	UG/KG	1	9/4/2014 15:56
BENZO(A)ANTHRACENE	ND		3.7	UG/KG	1	9/4/2014 15:56
CHRYSENE	ND		3.7	UG/KG	1	9/4/2014 15:56
BENZO(B)FLUORANTHENE	ND		3.7	UG/KG	1	9/4/2014 15:56
BENZO(K)FLUORANTHENE	ND		3.7	UG/KG	1	9/4/2014 15:56
BENZO(A)PYRENE	ND		3.7	UG/KG	1	9/4/2014 15:56
INDENO(1,2,3-CD)PYRENE	ND		3.7	UG/KG	1	9/4/2014 15:56
DIBENZO(A,H)ANTHRACENE	ND		3.7	UG/KG	1	9/4/2014 15:56
Surr: NITROBENZENE-D5	82		28-113	%REC	1	9/4/2014 15:56
Surr: 2-FLUOROBIPHENYL	79		41-106	%REC	1	9/4/2014 15:56
Surr: TERPHENYL-D14	77		25-147	%REC	1	9/4/2014 15:56
Hexavalent Chromium			SW7196		Prep Date: 9/5/2014	PrepBy: AJD
CHROMIUM VI	ND		0.11	MG/KG	1	9/5/2014
ICPMS Metals			SW6020		Prep Date: 9/3/2014	PrepBy: NAQ
ARSENIC	8000		210	UG/KG	10	9/4/2014 13:10
Sodium Adsorption Ratio			USDA60		Prep Date: 9/8/2014	PrepBy: KMP
PASTE PH	9.6		0.1	pH	1	9/8/2014

ALS Environmental -- FC

SAMPLE SUMMARY REPORT

Client: Analytica Environmental Laboratories
Project: B1408176
Sample ID: USA 1-15 LG
Legal Location:
Collection Date: 8/21/2014

Date: 10-Sep-14
Work Order: 1408662
Lab ID: 1408662-3
Matrix: SOIL
Percent Moisture: 17.8

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS Semi-volatiles			SW8270SIMPAAH		Prep Date: 9/3/2014	PrepBy: BCH
NAPHTHALENE	83		4	UG/KG	1	9/4/2014 19:15
ACENAPHTHENE	ND		4	UG/KG	1	9/4/2014 19:15
FLUORENE	5.1		4	UG/KG	1	9/4/2014 19:15
ANTHRACENE	4.1		4	UG/KG	1	9/4/2014 19:15
FLUORANTHENE	3.7	J	4	UG/KG	1	9/4/2014 19:15
PYRENE	4.4		4	UG/KG	1	9/4/2014 19:15
BENZO(A)ANTHRACENE	2.3	J	4	UG/KG	1	9/4/2014 19:15
CHRYSENE	4.8		4	UG/KG	1	9/4/2014 19:15
BENZO(B)FLUORANTHENE	8.8		4	UG/KG	1	9/4/2014 19:15
BENZO(K)FLUORANTHENE	2.5	J	4	UG/KG	1	9/4/2014 19:15
BENZO(A)PYRENE	ND		4	UG/KG	1	9/4/2014 19:15
INDENO(1,2,3-CD)PYRENE	ND		4	UG/KG	1	9/4/2014 19:15
DIBENZO(A,H)ANTHRACENE	ND		4	UG/KG	1	9/4/2014 19:15
Surr: NITROBENZENE-D5	87		28-113	%REC	1	9/4/2014 19:15
Surr: 2-FLUOROBIPHENYL	65		41-106	%REC	1	9/4/2014 19:15
Surr: TERPHENYL-D14	45		25-147	%REC	1	9/4/2014 19:15
Hexavalent Chromium			SW7196		Prep Date: 9/5/2014	PrepBy: AJD
CHROMIUM VI	ND		0.12	MG/KG	1	9/5/2014
ICPMS Metals			SW6020		Prep Date: 9/3/2014	PrepBy: NAQ
ARSENIC	5100		230	UG/KG	10	9/4/2014 13:13
Sodium Adsorption Ratio			USDA60		Prep Date: 9/8/2014	PrepBy: KMP
PASTE PH	7.6		0.1	pH	1	9/8/2014

ALS Environmental -- FC

SAMPLE SUMMARY REPORT

Client: Analytica Environmental Laboratories
Project: B1408176
Sample ID: Hancock Gulch
Legal Location:
Collection Date: 8/21/2014

Date: 10-Sep-14
Work Order: 1408662
Lab ID: 1408662-4
Matrix: SOIL
Percent Moisture: 12.3

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS Semi-volatiles			SW8270SIMPAAH		Prep Date: 9/3/2014	PrepBy: BCH
NAPHTHALENE	9.9		3.8	UG/KG	1	9/4/2014 15:38
ACENAPHTHENE	ND		3.8	UG/KG	1	9/4/2014 15:38
FLUORENE	ND		3.8	UG/KG	1	9/4/2014 15:38
ANTHRACENE	2.6	J	3.8	UG/KG	1	9/4/2014 15:38
FLUORANTHENE	1.4	J	3.8	UG/KG	1	9/4/2014 15:38
PYRENE	2.6	J	3.8	UG/KG	1	9/4/2014 15:38
BENZO(A)ANTHRACENE	ND		3.8	UG/KG	1	9/4/2014 15:38
CHRYSENE	1.8	J	3.8	UG/KG	1	9/4/2014 15:38
BENZO(B)FLUORANTHENE	4.1		3.8	UG/KG	1	9/4/2014 15:38
BENZO(K)FLUORANTHENE	ND		3.8	UG/KG	1	9/4/2014 15:38
BENZO(A)PYRENE	ND		3.8	UG/KG	1	9/4/2014 15:38
INDENO(1,2,3-CD)PYRENE	ND		3.8	UG/KG	1	9/4/2014 15:38
DIBENZO(A,H)ANTHRACENE	ND		3.8	UG/KG	1	9/4/2014 15:38
Surr: NITROBENZENE-D5	79		28-113	%REC	1	9/4/2014 15:38
Surr: 2-FLUOROBIPHENYL	80		41-106	%REC	1	9/4/2014 15:38
Surr: TERPHENYL-D14	74		25-147	%REC	1	9/4/2014 15:38
Hexavalent Chromium			SW7196		Prep Date: 9/5/2014	PrepBy: AJD
CHROMIUM VI	ND		0.11	MG/KG	1	9/5/2014
ICPMS Metals			SW6020		Prep Date: 9/3/2014	PrepBy: NAQ
ARSENIC	2200		180	UG/KG	10	9/4/2014 13:15
Sodium Adsorption Ratio			USDA60		Prep Date: 9/8/2014	PrepBy: KMP
PASTE PH	7.6		0.1	pH	1	9/8/2014

Client: Analytica Environmental Laboratories
Project: B1408176
Sample ID: Wagon Trail Fed
Legal Location:
Collection Date: 8/21/2014

Date: 10-Sep-14
Work Order: 1408662
Lab ID: 1408662-5
Matrix: SATEXTRACT
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ICP Metals			SW6010		Prep Date: 9/4/2014	PrepBy: NAQ
CALCIUM	10		10	MG/L	10	9/5/2014 13:10
MAGNESIUM	ND		10	MG/L	10	9/5/2014 13:10
SODIUM	350		10	MG/L	10	9/5/2014 13:10
Sodium Adsorption Ratio			USDA60		Prep Date: 9/8/2014	PrepBy: KMP
ELECTRICAL CONDUCTIVITY @ SATURATION	2200		1	umhos/cm	1	9/8/2014
SODIUM ADSORPTION RATIO	19	S	0.54	NU	10	9/5/2014 13:10

Client: Analytica Environmental Laboratories
Project: B1408176
Sample ID: USA 1-34 (Govt Fed 1-34)
Legal Location:
Collection Date: 8/21/2014

Date: 10-Sep-14
Work Order: 1408662
Lab ID: 1408662-6
Matrix: SATEXTRACT
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ICP Metals			SW6010		Prep Date: 9/4/2014	PrepBy: NAQ
CALCIUM	100		10	MG/L	10	9/5/2014 13:11
MAGNESIUM	97		10	MG/L	10	9/5/2014 13:11
SODIUM	290		10	MG/L	10	9/5/2014 13:11
Sodium Adsorption Ratio			USDA60		Prep Date: 9/8/2014	PrepBy: KMP
ELECTRICAL CONDUCTIVITY @ SATURATION	1400		1	umhos/cm	1	9/8/2014
SODIUM ADSORPTION RATIO	4.9		0.54	NU	10	9/5/2014 13:11

Client: Analytica Environmental Laboratories
Project: B1408176
Sample ID: USA 1-15 LG
Legal Location:
Collection Date: 8/21/2014

Date: 10-Sep-14
Work Order: 1408662
Lab ID: 1408662-7
Matrix: SATEXTRACT
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ICP Metals			SW6010		Prep Date: 9/4/2014	PrepBy: NAQ
CALCIUM	59		10	MG/L	10	9/5/2014 13:12
MAGNESIUM	ND		10	MG/L	10	9/5/2014 13:12
SODIUM	ND		10	MG/L	10	9/5/2014 13:12
Sodium Adsorption Ratio			USDA60		Prep Date: 9/8/2014	PrepBy: KMP
ELECTRICAL CONDUCTIVITY @ SATURATION	430		1	umhos/cm	1	9/8/2014
SODIUM ADSORPTION RATIO	0.32	S	0.54	NU	10	9/5/2014 13:12

Client: Analytica Environmental Laboratories
Project: B1408176
Sample ID: Hancock Gulch
Legal Location:
Collection Date: 8/21/2014

Date: 10-Sep-14
Work Order: 1408662
Lab ID: 1408662-8
Matrix: SATEXTRACT
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ICP Metals			SW6010		Prep Date: 9/4/2014	PrepBy: NAQ
CALCIUM	ND		10	MG/L	10	9/5/2014 13:13
MAGNESIUM	ND		10	MG/L	10	9/5/2014 13:13
SODIUM	500		10	MG/L	10	9/5/2014 13:13
Sodium Adsorption Ratio			USDA60		Prep Date: 9/8/2014	PrepBy: KMP
ELECTRICAL CONDUCTIVITY @ SATURATION	2800		1	umhos/cm	1	9/8/2014
SODIUM ADSORPTION RATIO	26	S	0.54	NU	10	9/5/2014 13:13

Client: Analytica Environmental Laboratories
Project: B1408176
Sample ID: Hancock Gulch
Legal Location:
Collection Date: 8/21/2014

Date: 10-Sep-14
Work Order: 1408662
Lab ID: 1408662-8
Matrix: SATEXTRACT
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
----------	--------	------	--------------	-------	-----------------	---------------

Explanation of Qualifiers

Radiochemistry:

- U or ND - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- * - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
- # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
- G - Sample density differs by more than 15% of LCS density.
- D - DER is greater than Control Limit
- M - Requested MDC not met.
- LT - Result is less than requested MDC but greater than achieved MDC.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits
- NC - Not Calculated for duplicate results less than 5 times MDC
- B - Analyte concentration greater than MDC.
- B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

- B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
- U or ND - Indicates that the compound was analyzed for but not detected.
- E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
- M - Duplicate injection precision was not met.
- N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
- Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
- * - Duplicate analysis (relative percent difference) not within control limits.
- S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

- U or ND - Indicates that the compound was analyzed for but not detected.
- B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
- E - Analyte concentration exceeds the upper level of the calibration range.
- J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
- A - A tentatively identified compound is a suspected aldol-condensation product.
- X - The analyte was diluted below an accurate quantitation level.
- * - The spike recovery is equal to or outside the control criteria used.
- + - The relative percent difference (RPD) equals or exceeds the control criteria.
- G - A pattern resembling gasoline was detected in this sample.
- D - A pattern resembling diesel was detected in this sample.
- M - A pattern resembling motor oil was detected in this sample.
- C - A pattern resembling crude oil was detected in this sample.
- 4 - A pattern resembling JP-4 was detected in this sample.
- 5 - A pattern resembling JP-5 was detected in this sample.
- H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
- L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
- Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
 - gasoline
 - JP-8
 - diesel
 - mineral spirits
 - motor oil
 - Stoddard solvent
 - bunker C

ALS Environmental -- FC

Date: 9/10/2014 1:16:

Client: Analytica Environmental Laboratories
 Work Order: 1408662
 Project: B1408176

QC BATCH REPORT

Batch ID: IP140903-2-3 Instrument ID ICPMS2 Method: SW6020

LCS		Sample ID: IM140903-2			Units: UG/KG			Analysis Date: 9/4/2014 11:58			
Client ID:		Run ID: IM140904-10A1						Prep Date: 9/3/2014		DF: 10	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
ARSENIC	10200	200	10000		102	80-120			20		

MB		Sample ID: IP140903-2			Units: UG/KG			Analysis Date: 9/4/2014 11:52			
Client ID:		Run ID: IM140904-10A1						Prep Date: 9/3/2014		DF: 10	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
ARSENIC	ND	200									

MS		Sample ID: 1408662-1			Units: UG/KG			Analysis Date: 9/4/2014 13:03			
Client ID: Wagon Trail Fed		Run ID: IM140904-10A1						Prep Date: 9/3/2014		DF: 10	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
ARSENIC	14400	225	11300	2600	105	75-125			20		

MSD		Sample ID: 1408662-1			Units: UG/KG			Analysis Date: 9/4/2014 13:05			
Client ID: Wagon Trail Fed		Run ID: IM140904-10A1						Prep Date: 9/3/2014		DF: 10	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
ARSENIC	14100	227	11300	2600	101.3	75-125	14400	2	20		

The following samples were analyzed in this batch:

1408662-1	1408662-2	1408662-3
1408662-4		

Client: Analytica Environmental Laboratories

QC BATCH REPORT

Work Order: 1408662

Project: B1408176

Batch ID: EX140903-2-1

Instrument ID HPSV1

Method: SW8270SIMPAH

LCS		Sample ID: EX140903-2			Units: UG/KG			Analysis Date: 9/4/2014 15:02			
Client ID:		Run ID: SV140904-4			Prep Date: 9/3/2014			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
NAPHTHALENE	57.8	3.33	66.7		87	40-107			30		
ACENAPHTHENE	56.1	3.33	66.7		84	46-108			30		
FLUORENE	58.7	3.33	66.7		88	49-108			30		
ANTHRACENE	50.4	3.33	66.7		76	53-107			30		
FLUORANTHENE	49.7	3.33	66.7		75	54-114			30		
PYRENE	40.2	3.33	66.7		60	46-123			30		
BENZO(A)ANTHRACENE	43.2	3.33	66.7		65	52-111			30		
CHRYSENE	44.3	3.33	66.7		66	53-112			30		
BENZO(B)FLUORANTHEN	46.2	3.33	66.7		69	45-114			30		
BENZO(K)FLUORANTHEN	46	3.33	66.7		69	45-123			30		
BENZO(A)PYRENE	45.7	3.33	66.7		69	50-111			30		
INDENO(1,2,3-CD)PYREN	41.3	3.33	66.7		62	38-121			30		
DIBENZO(A,H)ANTHRACE	43.4	3.33	66.7		65	41-125			30		
Surr: NITROBENZENE-D	58.1		66.7		87	28-113					
Surr: 2-FLUOROBIPHEN	53.4		66.7		80	41-106					
Surr: TERPHENYL-D14	38.7		66.7		58	25-147					

MB		Sample ID: EX140903-2			Units: UG/KG			Analysis Date: 9/4/2014 14:44			
Client ID:		Run ID: SV140904-4			Prep Date: 9/3/2014			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
NAPHTHALENE	ND	3.3									
ACENAPHTHENE	ND	3.3									
FLUORENE	ND	3.3									
ANTHRACENE	ND	3.3									
FLUORANTHENE	ND	3.3									
PYRENE	ND	3.3									
BENZO(A)ANTHRACENE	ND	3.3									
CHRYSENE	ND	3.3									
BENZO(B)FLUORANTHEN	ND	3.3									
BENZO(K)FLUORANTHEN	ND	3.3									
BENZO(A)PYRENE	ND	3.3									
INDENO(1,2,3-CD)PYREN	ND	3.3									
DIBENZO(A,H)ANTHRACE	ND	3.3									
Surr: NITROBENZENE-D	56.4		66.7		85	28-113					
Surr: 2-FLUOROBIPHEN	53.7		66.7		81	41-106					
Surr: TERPHENYL-D14	44.8		66.7		67	25-147					

Client: Analytica Environmental Laboratories

QC BATCH REPORT

Work Order: 1408662

Project: B1408176

Batch ID: EX140903-2-1

Instrument ID HPSV1

Method: SW8270SIMPAH

MS		Sample ID: 1408662-1			Units: UG/KG			Analysis Date: 9/4/2014 18:39			
Client ID: Wagon Trail Fed		Run ID: SV140904-4			Prep Date: 9/3/2014			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
NAPHTHALENE	65.3	4.05	81	1.9	78	40-107			30		
ACENAPHTHENE	65.2	4.05	81	4.1	81	46-108			30		
FLUORENE	69.5	4.05	81	4.1	86	49-108			30		
ANTHRACENE	68.8	4.05	81	4.1	85	53-107			30		
FLUORANTHENE	67.3	4.05	81	4.1	83	54-114			30		
PYRENE	56.5	4.05	81	4.1	70	46-123			30		
BENZO(A)ANTHRACENE	62.5	4.05	81	4.1	77	52-111			30		
CHRYSENE	62.7	4.05	81	4.1	77	53-112			30		
BENZO(B)FLUORANTHEN	71	4.05	81	4.1	88	45-114			30		
BENZO(K)FLUORANTHEN	70.3	4.05	81	4.1	87	45-123			30		
BENZO(A)PYRENE	72.1	4.05	81	4.1	89	50-111			30		
INDENO(1,2,3-CD)PYREN	70.1	4.05	81	4.1	87	38-121			30		
DIBENZO(A,H)ANTHRACE	76	4.05	81	4.1	94	41-125			30		
Surr: NITROBENZENE-D	65.4		81		81	28-113					
Surr: 2-FLUOROBIPHEN	63.3		81		78	41-106					
Surr: TERPHENYL-D14	54.5		81		67	25-147					

MSD		Sample ID: 1408662-1			Units: UG/KG			Analysis Date: 9/4/2014 18:57			
Client ID: Wagon Trail Fed		Run ID: SV140904-4			Prep Date: 9/3/2014			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
NAPHTHALENE	65.5	4.08	81.7	1.9	78	40-107	65.3	0	30		
ACENAPHTHENE	63.5	4.08	81.7	4.1	78	46-108	65.2	3	30		
FLUORENE	66.7	4.08	81.7	4.1	82	49-108	69.5	4	30		
ANTHRACENE	67.2	4.08	81.7	4.1	82	53-107	68.8	2	30		
FLUORANTHENE	65.4	4.08	81.7	4.1	80	54-114	67.3	3	30		
PYRENE	54.9	4.08	81.7	4.1	67	46-123	56.5	3	30		
BENZO(A)ANTHRACENE	59	4.08	81.7	4.1	72	52-111	62.5	6	30		
CHRYSENE	59.9	4.08	81.7	4.1	73	53-112	62.7	5	30		
BENZO(B)FLUORANTHEN	67	4.08	81.7	4.1	82	45-114	71	6	30		
BENZO(K)FLUORANTHEN	68	4.08	81.7	4.1	83	45-123	70.3	3	30		
BENZO(A)PYRENE	68.1	4.08	81.7	4.1	83	50-111	72.1	6	30		
INDENO(1,2,3-CD)PYREN	65.7	4.08	81.7	4.1	80	38-121	70.1	6	30		
DIBENZO(A,H)ANTHRACE	71	4.08	81.7	4.1	87	41-125	76	7	30		
Surr: NITROBENZENE-D	65.1		81.7		80	28-113		0			
Surr: 2-FLUOROBIPHEN	61		81.7		75	41-106		4			
Surr: TERPHENYL-D14	51.9		81.7		64	25-147		5			

The following samples were analyzed in this batch:

1408662-1	1408662-2	1408662-3
1408662-4		

Client: Analytica Environmental Laboratories
 Work Order: 1408662
 Project: B1408176

QC BATCH REPORT

Batch ID: **WC140905-1-1** Instrument ID **Spec** Method: **SW7196**

LCS		Sample ID: WC140905-1			Units: MG/KG			Analysis Date: 9/5/2014		
Client ID:		Run ID: CR140905-1A1			Prep Date: 9/5/2014			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
CHROMIUM VI	2.9	0.1	3		97	80-120			20	

MB		Sample ID: WC140905-1			Units: MG/KG			Analysis Date: 9/5/2014		
Client ID:		Run ID: CR140905-1A1			Prep Date: 9/5/2014			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
CHROMIUM VI	ND	0.1								

MS		Sample ID: 1408662-1			Units: MG/KG			Analysis Date: 9/5/2014		
Client ID: Wagon Trail Fed		Run ID: CR140905-1A1			Prep Date: 9/5/2014			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
CHROMIUM VI	1.02	0.125	1.25	0.12	81	75-125			20	

MSD		Sample ID: 1408662-1			Units: MG/KG			Analysis Date: 9/5/2014		
Client ID: Wagon Trail Fed		Run ID: CR140905-1A1			Prep Date: 9/5/2014			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
CHROMIUM VI	1.21	0.125	1.25	0.12	96	75-125	1.02	17	20	

The following samples were analyzed in this batch:

1408662-1	1408662-2	1408662-3
1408662-4		



12189 Pennsylvania St.
Thornton, CO 80241
(303) 469-8968
(303) 469-5254 fax

4307 Arctic Boulevard
Anchorage, AK 99503
(907) 258-2155
(907) 258-6634 fax

475 Hall St.
Fairbanks, AK 99701
(907) 456-3116
(907) 456-3125 fax

701 E. Parks Hwy., Suite 203
Wasilla, AK 99554
(907) 373-5440

Chain of Custody No: **087617**

Analytica Chain of Custody Form

Client Name & Address:

Environmental
Benjices Inc
Report to: Heydenberg
Phone No: (970) 948-8978
Fax No:
E-mail: esi.craig@spris.net
Special Instructions/Comments:

Public Water System (PWS) ID#:

Project Name: **Noralex Resources, Inc.**
Turnaround Time for Results (TAT)

Quote ID:

Account #: **B1408176**
Invoice to Name & Address:
Jim Graves
Noralex Resources

Standard Expedited
Routine Non-Routine
Requested Due Date for Results:

Requested Analysis/Method

P.O. or Contract No:

Kit Prep/Shipping Charge: \$

Client Sample Identification / Location

Do Not Analyze on Report Bore 1

DOGC Trail Fed
OSA 1-34 (bowl Fed 1-34)
OSA 1-15 LG
Hancock Gulch
South Shore Compressor
OSA 1-14 HC

Date Sampled	Time Sampled	Matrix (S-DW-WW-Other)	No. of Containers
8/21/14	7:50	S	6
8/21/14	9:00	S	6
8/21/14	10:35	S	6
8/21/14	11:40	S	6
8/21/14	12:00	S	2
8/21/14	1:05	S	1

Lot #:	Pres:	Lot #:	Pres:	Lot #:	Pres:	Lot #:	Pres:	Lot #:	Pres:	Field Preserved	Field Filtered	MS/MSD ?
Table 910-1												
GRO BTEX												
DRO												

Relinquished by:

HP
Date: 8/23/14 Time: 12:00

Received by:

HP
Date: 8/25/14 Time: 12:55

Condition of Custody Seal?

THO _____ ANG _____ FBKS _____ WAS _____

Relinquished by:

Date: _____ Time: _____

Received by:

Date: _____ Time: _____

Temp/loc: **1.8**

Thermo ID#: _____
Shipped Via: **F**