



Analytica Group, LLC-Thornton
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5/21/2013

Maralex Resources, Inc.
864 20 Road
Unit A
Fruita, CO 81521
Attn: Jim Graves

Work Order #: B1304160
Date: 5/21/2013
Work ID: Roan Creek Fed 25-3
Date Received: 4/26/2013
Proj #: None

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
B1304160-01	Calcium Chloride Pit	B1304160-02	Separator Pit
B1304160-03	Back Ground #1	B1304160-04	Back Ground #2
B1304160-05	Back Ground #3		

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 Seltrecht
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

Analytica Group, LLC - Thornton

Work Order: B1304160

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

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:

Four (4) samples were received on 4/26/2013 10:18:00 AM at a temperature of 3.5°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: SVOC by GC/FID via method 8015B - DRO - Soil
Test Method: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total Hg - Soil
Test Method: SW8270C - Semivolatile Organics by GC/MS - PAH - Soil
Test Method: VOC by GC/FID via method 8015B - GRO - Soil

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

Test Method: Chromium, Hexavalent (Colorimetric) - Cr(VI) - Soil
Test Method: Sodium Absorption Ratio - Soil
Test Method: SW6010B - ICP - Total Metals sc - Soil
Test Method: SW6020 - ICPMS - Low Level Metals - Sol - Soil

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Calcium Chloride Pit

Matrix: Soil

Collection Date: 4/25/2013 10:12:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1304160-01B	Analysis Date:	5/1/2013 1:17:42PM
Prep Date:	4/29/2013	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	13043012.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T130429011	Percent Moisture	20
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	29.98 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	6.3	1.8				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	1.1		mg/Kg	0.42	0.33	2.1	54.0	50	150	2

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1304160-01B	Analysis Date:	5/1/2013 3:18:00PM
Prep Date:	4/29/2013	Instrument:	MS2BNA
Analytical Method ID:	SW8270C - Semivolatile Organics by GC/MS - PAH	File Name:	13050106.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T130429010	Percent Moisture	20
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	29.96 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>
Acenaphthene	83-32-9	ND		ug/Kg	100	16				2
Anthracene	120-12-7	ND		ug/Kg	210	34				
Benzo(a)anthracene	56-55-3	ND		ug/Kg	210	37				
Benzo(a)pyrene	50-32-8	ND		ug/Kg	210	30				
Benzo(b)fluoranthene	205-99-2	ND		ug/Kg	210	30				
Benzo(k)fluoranthene	207-08-9	ND		ug/Kg	210	36				
Chrysene	218-01-9	ND		ug/Kg	210	46				
Dibenzo(a,h)anthracene	53-70-3	ND		ug/Kg	210	28				
Fluoranthene	206-44-0	ND		ug/Kg	210	38				
Fluorene	86-73-7	ND		ug/Kg	210	31				
Indeno(1,2,3-cd)pyrene	193-39-5	ND		ug/Kg	100	29				
Naphthalene	91-20-3	ND		ug/Kg	100	12				
Pyrene	129-00-0	ND		ug/Kg	210	68				

<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>
2-Fluorobiphenyl	321-60-8	1,700		ug/Kg	100	13	4,200	40.3	36	121	2
D14-Terphenyl	92-94-4D	2,700		ug/Kg	100	13	4,200	63.9	30	134	
D5-Nitrobenzene	98-95-3D	1,700		ug/Kg	100	16	4,200	41.4	30	122	

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Calcium Chloride Pit

Matrix: Soil Collection Date: 4/25/2013 10:12:00AM

Lab Sample Number: B1304160-01D Analysis Date: 5/13/2013 1:11:00PM
Prep Date: 5/13/2013 Instrument: Hank-Hg
Analytical Method ID: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total H File Name: 051313S.CSV
Prep Method ID: 7471A Dilution Factor: 1
Prep Batch Number: T130513015 Percent Moisture: 20
Report Basis: Dry Weight Basis Analyst Initials: RM
Sample prep wt./vol: 0.63 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	0.069		mg/Kg	0.050	0.0068	1

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-01A Analysis Date:
Prep Date: Instrument:
Analytical Method ID: Chromium, Hexavalent (Colorimetric) - Cr(VI) File Name:
Prep Method ID: 3060A Dilution Factor:
Prep Batch Number: T130517029 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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See Subcontractor Report

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-01A Analysis Date:
Prep Date: Instrument:
Analytical Method ID: SW6020 - ICPMS - Low Level Metals - Sol File Name:
Prep Method ID: Dilution Factor:
Prep Batch Number: T130517028 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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See Subcontractor Report

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-01A Analysis Date:
Prep Date: Instrument:
Analytical Method ID: SW6010B - ICP - Total Metals sc File Name:
Prep Method ID: Dilution Factor:
Prep Batch Number: T130520002 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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See Subcontractor Report

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Calcium Chloride Pit

Matrix: Soil

Collection Date: 4/25/2013 10:12:00AM

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-01A

Prep Date:

Analytical Method ID: Sodium Absorption Ratio

Prep Method ID:

Prep Batch Number: T130517030

Report Basis: As Received

Sample prep wt./vol:

Analysis Date:

Instrument:

File Name:

Dilution Factor:

Percent Moisture

Analyst Initials:

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							

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1304160-01C

Prep Date: 4/30/2013

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

Prep Method ID: 5030B

Prep Batch Number: T130501004

Report Basis: Dry Weight Basis

Sample prep wt./vol: 5.00 g

Analysis Date: 4/30/2013 2:40:00PM

Instrument: GC_B

File Name: 13043008.D

Dilution Factor: 1

Percent Moisture 20

Analyst Initials: CK

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	1.3	0.41	1
Ethylbenzene	100-41-4	ND		ug/Kg	1.9	0.58	
Toluene	108-88-3	ND		ug/Kg	1.3	0.24	
Xylenes, Total	1330-20-7	ND		ug/Kg	3.8	1.0	

<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	33		ug/Kg	0.63	0.41	34	98.4	70	130	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1304160-01C

Prep Date: 4/30/2013

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

Prep Method ID: 5030B

Prep Batch Number: T130501003

Report Basis: Dry Weight Basis

Sample prep wt./vol: 5.00 g

Analysis Date: 4/30/2013 2:40:00PM

Instrument: GC_B

File Name: 13043008.D

Dilution Factor: 1

Percent Moisture 20

Analyst Initials: CK

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	250	33	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	30		ug/Kg	3.8	1.3	34	87.6	50	150	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Calcium Chloride Pit

Matrix: Soil Collection Date: 4/25/2013 10:12:00AM

Lab Sample Number: B1304160-01D Analysis Date: 5/20/2013 12:14:38PM
Prep Date: 5/20/2013 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: T130520008 Percent Moisture
Report Basis: As Received Analyst Initials: JKK
Sample prep wt./vol: 1.00 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>
Chromium, Trivalent	16065-83-1	10		mg/Kg	0.010	0.0020	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1304160-01D Analysis Date: 5/1/2013 3:00:00PM
Prep Date: 5/1/2013 Instrument: Probe
Analytical Method ID: Specific Conductance - Cond. File Name:
Prep Method ID: 9050A Dilution Factor: 1
Prep Batch Number: T130501011 Percent Moisture
Report Basis: As Received Analyst Initials: jc
Sample prep wt./vol: 10.00 g Prep Extract Vol: 100.00 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		830		umhos/cm	50	10.0	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1304160-01D Analysis Date: 5/1/2013 2:30:00PM
Prep Date: 5/1/2013 Instrument: Probe
Analytical Method ID: Corrosivity in Waste by pH - pH File Name:
Prep Method ID: 9045B Dilution Factor: 1
Prep Batch Number: T130501012 Percent Moisture
Report Basis: As Received Analyst Initials: jc
Sample prep wt./vol: 10.00 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		8.8		pH	0.100	0.100	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Separator Pit

Matrix: Soil

Collection Date: 4/25/2013 10:40:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1304160-02B	Analysis Date:	5/1/2013 10:49:30AM
Prep Date:	4/29/2013	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	13043009.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T130429011	Percent Moisture	24
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	29.98 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	6.6	1.9				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	1.3		mg/Kg	0.44	0.34	2.2	60.8	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1304160-02B	Analysis Date:	5/1/2013 7:02:00PM
Prep Date:	4/29/2013	Instrument:	MS2BNA
Analytical Method ID:	SW8270C - Semivolatile Organics by GC/MS - PAH	File Name:	13050112.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T130429010	Percent Moisture	24
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	29.97 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>
Acenaphthene	83-32-9	ND		ug/Kg	110	17				2
Anthracene	120-12-7	ND		ug/Kg	220	36				
Benzo(a)anthracene	56-55-3	ND		ug/Kg	220	38				
Benzo(a)pyrene	50-32-8	ND		ug/Kg	220	31				
Benzo(b)fluoranthene	205-99-2	ND		ug/Kg	220	31				
Benzo(k)fluoranthene	207-08-9	ND		ug/Kg	220	37				
Chrysene	218-01-9	ND		ug/Kg	220	48				
Dibenzo(a,h)anthracene	53-70-3	ND		ug/Kg	220	30				
Fluoranthene	206-44-0	ND		ug/Kg	220	40				
Fluorene	86-73-7	ND		ug/Kg	220	33				
Indeno(1,2,3-cd)pyrene	193-39-5	ND		ug/Kg	110	30				
Naphthalene	91-20-3	ND		ug/Kg	110	13				
Pyrene	129-00-0	ND		ug/Kg	220	72				

<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>
2-Fluorobiphenyl	321-60-8	1,900		ug/Kg	110	13	4,400	43.6	36	121	2
D14-Terphenyl	92-94-4D	2,600		ug/Kg	110	13	4,400	59.7	30	134	
D5-Nitrobenzene	98-95-3D	2,200		ug/Kg	110	16	4,400	49.2	30	122	

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Separator Pit

Matrix: Soil Collection Date: 4/25/2013 10:40:00AM

Lab Sample Number: B1304160-02D Analysis Date: 5/13/2013 1:13:00PM
Prep Date: 5/13/2013 Instrument: Hank-Hg
Analytical Method ID: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total H File Name: 051313S.CSV
Prep Method ID: 7471A Dilution Factor: 1
Prep Batch Number: T130513015 Percent Moisture: 24
Report Basis: Dry Weight Basis Analyst Initials: RM
Sample prep wt./vol: 0.59 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	0.056		mg/Kg	0.055	0.0076	1

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-02A Analysis Date:
Prep Date: Instrument:
Analytical Method ID: Chromium, Hexavalent (Colorimetric) - Cr(VI) File Name:
Prep Method ID: 3060A Dilution Factor:
Prep Batch Number: T130517029 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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See Subcontractor Report

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-02A Analysis Date:
Prep Date: Instrument:
Analytical Method ID: SW6020 - ICPMS - Low Level Metals - Sol File Name:
Prep Method ID: Dilution Factor:
Prep Batch Number: T130517028 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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See Subcontractor Report

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-02A Analysis Date:
Prep Date: Instrument:
Analytical Method ID: SW6010B - ICP - Total Metals sc File Name:
Prep Method ID: Dilution Factor:
Prep Batch Number: T130520002 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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See Subcontractor Report

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Separator Pit

Matrix: Soil

Collection Date: 4/25/2013 10:40:00AM

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-02A

Prep Date:

Analytical Method ID: Sodium Absorption Ratio

Prep Method ID:

Prep Batch Number: T130517030

Report Basis: As Received

Sample prep wt./vol:

Analysis Date:

Instrument:

File Name:

Dilution Factor:

Percent Moisture

Analyst Initials:

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							

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1304160-02C

Prep Date: 4/30/2013

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

Prep Method ID: 5030B

Prep Batch Number: T130501004

Report Basis: Dry Weight Basis

Sample prep wt./vol: 5.00 g

Analysis Date: 4/30/2013 4:51:00PM

Instrument: GC_B

File Name: 13043012.D

Dilution Factor: 1

Percent Moisture 24

Analyst Initials: CK

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	1.3	0.43	1
Ethylbenzene	100-41-4	ND		ug/Kg	2.0	0.60	
Toluene	108-88-3	ND		ug/Kg	1.3	0.26	
Xylenes, Total	1330-20-7	ND		ug/Kg	3.9	1.1	

<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	35		ug/Kg	0.66	0.43	35	97.7	70	130	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1304160-02C

Prep Date: 4/30/2013

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

Prep Method ID: 5030B

Prep Batch Number: T130501003

Report Basis: Dry Weight Basis

Sample prep wt./vol: 5.00 g

Analysis Date: 4/30/2013 4:51:00PM

Instrument: GC_B

File Name: 13043012.D

Dilution Factor: 1

Percent Moisture 24

Analyst Initials: CK

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	260	35	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	30		ug/Kg	3.9	1.3	35	84.3	50	150	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Separator Pit

Matrix: Soil Collection Date: 4/25/2013 10:40:00AM

Lab Sample Number: B1304160-02D Analysis Date: 5/20/2013 12:14:38PM
Prep Date: 5/20/2013 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: T130520008 Percent Moisture
Report Basis: As Received Analyst Initials: JKK
Sample prep wt./vol: 1.00 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>
Chromium, Trivalent	16065-83-1	5.7		mg/Kg	0.010	0.0020	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1304160-02D Analysis Date: 5/1/2013 3:00:00PM
Prep Date: 5/1/2013 Instrument: Probe
Analytical Method ID: Specific Conductance - Cond. File Name:
Prep Method ID: 9050A Dilution Factor: 1
Prep Batch Number: T130501011 Percent Moisture
Report Basis: As Received Analyst Initials: jc
Sample prep wt./vol: 10.01 g Prep Extract Vol: 100.00 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		5,400		umhos/cm	50	10.0	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: B1304160-02D Analysis Date: 5/1/2013 2:30:00PM
Prep Date: 5/1/2013 Instrument: Probe
Analytical Method ID: Corrosivity in Waste by pH - pH File Name:
Prep Method ID: 9045B Dilution Factor: 1
Prep Batch Number: T130501012 Percent Moisture
Report Basis: As Received Analyst Initials: jc
Sample prep wt./vol: 10.00 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		9.6		pH	0.10	0.10	1

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Back Ground #1

Matrix: Soil

Collection Date: 4/25/2013 10:20:00AM

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-03A

Prep Date:

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

Prep Method ID:

Prep Batch Number: T130517028

Report Basis: As Received

Sample prep wt./vol:

Analysis Date:

Instrument:

File Name:

Dilution Factor:

Percent Moisture

Analyst Initials:

Prep Extract Vol: ml

Analyte

CASNo

Result

Flags **Units**

PQL **MDL**

run #:

See Subcontractor Report

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: Back Ground #2

Matrix: Soil

Collection Date: 4/25/2013 10:24:00AM

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-04A

Prep Date:

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

Prep Method ID:

Prep Batch Number: T130517028

Report Basis: As Received

Sample prep wt./vol:

Analysis Date:

Instrument:

File Name:

Dilution Factor:

Percent Moisture

Analyst Initials:

Prep Extract Vol: ml

Analyte

CASNo

Result

Flags **Units**

PQL **MDL**

run #:

See Subcontractor Report

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Client Sample Report

Client Sample Name: **Back Ground #3**

Matrix: Soil

Collection Date: 4/25/2013 10:32:00AM

The following test was conducted by: Energy Laboratories

Lab Sample Number: B1304160-05A

Prep Date:

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

Prep Method ID:

Prep Batch Number: T130517028

Report Basis: As Received

Sample prep wt./vol:

Analysis Date:

Instrument:

File Name:

Dilution Factor:

Percent Moisture

Analyst Initials:

Prep Extract Vol: ml

Analyte

CASNo

Result

Flags Units

PQL MDL

run #:

See Subcontractor Report

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Solid

Collection Date: 4/29/2013 11:05:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T130429011-MB

Prep Date: 4/29/2013

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

Prep Method ID: 3550B

Prep Batch Number: T130429011

Report Basis: As Received

Sample prep wt./vol: 30.04 g

Analysis Date: 4/30/2013 4:32:25PM

Instrument: GC_E

File Name: 13043005.D

Dilution Factor: 1

Percent Moisture: NA

Analyst Initials: kh

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	1.5		mg/Kg	0.33	0.26	1.7	89.9	50	150		1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T130429010-MB

Prep Date: 4/29/2013

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

Prep Method ID: 3550B

Prep Batch Number: T130429010

Report Basis: As Received

Sample prep wt./vol: 30.01 g

Analysis Date: 5/1/2013 1:26:00PM

Instrument: MS2BNA

File Name: 13050103.D

Dilution Factor: 1

Percent Moisture: NA

Analyst Initials: kh

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>
Acenaphthene	83-32-9	ND		ug/Kg	83	13						1
Anthracene	120-12-7	ND		ug/Kg	160	27						
Benzo(a)anthracene	56-55-3	ND		ug/Kg	160	29						
Benzo(a)pyrene	50-32-8	ND		ug/Kg	160	24						
Benzo(b)fluoranthene	205-99-2	ND		ug/Kg	160	24						
Benzo(k)fluoranthene	207-08-9	ND		ug/Kg	160	28						
Chrysene	218-01-9	ND		ug/Kg	160	37						
Dibenzo(a,h)anthracene	53-70-3	ND		ug/Kg	160	22						
Fluoranthene	206-44-0	ND		ug/Kg	160	30						
Fluorene	86-73-7	ND		ug/Kg	160	25						
Indeno(1,2,3-cd)pyrene	193-39-5	ND		ug/Kg	83	23						
Naphthalene	91-20-3	ND		ug/Kg	83	9.8						
Pyrene	129-00-0	ND		ug/Kg	160	54						
<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>	
2-Fluorobiphenyl	321-60-8	1,500		ug/Kg	83	9.9	3,300	45.1	36	121	1	
D14-Terphenyl	92-94-4D	2,700		ug/Kg	83	9.9	3,300	80.6	30	134		
D5-Nitrobenzene	98-95-3D	1,500		ug/Kg	83	12	3,300	45.0	30	122		

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Solid Collection Date: 5/13/2013 12:00:00AM

Lab Sample Number: T130513015-MB Analysis Date: 5/13/2013 1:01:00PM
Prep Date: 5/13/2013 Instrument: Hank-Hg
Analytical Method ID: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Total H File Name: 051313S.CSV
Prep Method ID: 7471A Dilution Factor: 1
Prep Batch Number: T130513015 Percent Moisture: NA
Report Basis: As Received Analyst Initials: RM
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>
Mercury	7439-97-6	ND		mg/Kg	0.050	0.0068	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T130501004-MB Analysis Date: 4/30/2013 12:13:00PM
Prep Date: 4/30/2013 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 13043004.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T130501004 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	28		ug/Kg	0.50	0.33	27	105	70	130	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T130501003-MB Analysis Date: 4/30/2013 12:13:00PM
Prep Date: 4/30/2013 Instrument: GC_B
Analytical Method ID: VOC by GC/FID via method 8015B - GRO File Name: 13043004.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T130501003 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>
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

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Report Section: Method Blank Report

Client Sample Name: MB

Matrix: Solid Collection Date: 5/1/2013 3:00:00PM

Lab Sample Number: T130501011-MB

Analysis Date: 5/1/2013 3:00:00PM

Prep Date: 5/1/2013

Instrument: Probe

Analytical Method ID: Specific Conductance - Cond.

File Name:

Prep Method ID: 9050A

Dilution Factor: 1

Prep Batch Number: T130501011

Percent Moisture: NA

Report Basis: As Received

Analyst Initials: jc

Sample prep wt./vol: 100.00 ml

Prep Extract Vol: 100.00 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): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Project Number:

Prep Batch: T130429011

QUALITY CONTROL REPORT

LCS REPORT

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

MB: T130429011-MB

Prep Date: 4/29/2013

MB Anal. Date: 4/30/2013 4:32:25PM

Units: mg/Kg

LCS Anal. Date: 4/30/2013 5:21:58PM

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>
Diesel Range Organics	ND	57.8	66.6	86.8	75 - 125		

MS/MSD REPORT

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

Parent: B1304160-02B

Prep Date: 4/29/2013

Samp. Anal. Date: 5/1/2013 10:49:30AM

Units: mg/Kg

MS Anal. Date: 5/1/2013 11:38:51AM MSD Anal. Date: 5/1/2013 12:28:14PM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>MSRes.</u>	<u>MSDRes</u>	<u>SPLev</u>	<u>SPDLv</u>	<u>Recov.</u>	<u>MSD Rec.</u>	<u>RPD</u>	<u>Recov Lim</u>	<u>RPDLim</u>	<u>Flag</u>
Diesel Range Organics	ND	82.2	75.8	87.6	87.4	93.9	86.7	8.1	50 - 129	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): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Project Number:

Prep Batch: T130429010

QUALITY CONTROL REPORT

LCS REPORT

Analysis: SW8270C - Semivolatile Organics by GC/MS - PAH

MB: T130429010-MB

Prep Date: 4/29/2013

MB Anal. Date: 5/1/2013 1:26:00PM

Units: ug/Kg

LCS Anal. Date: 5/1/2013 2:03:00PM

Matrix: Solid

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Naphthalene	ND	973	1,670	58.4	45 - 136		
Acenaphthene	ND	1,060	1,670	63.6	43 - 122		
Fluorene	ND	1,150	1,670	69.0	58 - 130		
Anthracene	ND	1,230	1,670	73.8	59 - 131		
Fluoranthene	ND	1,270	1,670	76.3	51 - 140		
Pyrene	ND	1,270	1,670	76.3	40 - 127		
Benzo(a)anthracene	ND	1,420	1,670	85.3	58 - 118		
Chrysene	ND	1,320	1,670	79.3	55 - 139		
Benzo(b)fluoranthene	ND	1,350	1,670	81.1	41 - 133		
Benzo(k)fluoranthene	ND	1,250	1,670	75.1	49 - 138		
Benzo(a)pyrene	ND	1,430	1,670	85.9	40 - 138		
Indeno(1,2,3-cd)pyrene	ND	1,390	1,670	83.5	48 - 125		
Dibenzo(a,h)anthracene	ND	1,390	1,670	83.5	50 - 129		

MS/MSD REPORT

Analysis: SW8270C - Semivolatile Organics by GC/MS - PAH

Parent: B1304160-01B

Prep Date: 4/29/2013

Samp. Anal. Date: 5/1/2013 3:18:00PM

Units: ug/Kg

MS Anal. Date: 5/1/2013 8:15:00PM MSD Anal. Date: 5/1/2013 5:47:00PM

Matrix: Soil

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLv	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Naphthalene	ND	1,120	1,110	2,090	2,090	53.5	53.1	0.9	45 - 136	40	
Acenaphthene	ND	1,250	1,240	2,090	2,090	59.7	59.3	0.8	43 - 122	40	
Fluorene	ND	1,380	1,340	2,090	2,090	65.9	64.1	2.9	58 - 130	40	
Anthracene	ND	1,510	1,400	2,090	2,090	72.1	66.9	7.6	59 - 131	40	
Fluoranthene	ND	1,720	1,540	2,090	2,090	82.2	73.6	11.0	51 - 140	40	
Pyrene	ND	1,460	1,370	2,090	2,090	69.7	65.5	6.4	46 - 135	40	
Benzo(a)anthracene	ND	1,720	1,620	2,090	2,090	82.2	77.5	6.0	58 - 118	40	
Chrysene	ND	1,580	1,460	2,090	2,090	75.5	69.8	7.9	55 - 139	40	

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Project Number:

Prep Batch: T130429010

QUALITY CONTROL REPORT

MS/MSD REPORT

Analysis: SW8270C - Semivolatile Organics by GC/MS - PAH

Parent: B1304160-01B

Prep Date: 4/29/2013

Samp. Anal. Date: 5/1/2013 3:18:00PM

Units: ug/Kg

MS Anal. Date: 5/1/2013 8:15:00PM MSD Anal. Date: 5/1/2013 5:47:00PM

Matrix: Soil

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLv	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Benzo(b)fluoranthene	ND	1,600	1,410	2,090	2,090	76.4	67.4	12.6	41 - 133	40	
Benzo(k)fluoranthene	ND	1,370	1,410	2,090	2,090	65.4	67.4	2.9	49 - 138	40	
Benzo(a)pyrene	ND	1,750	1,650	2,090	2,090	83.6	78.9	5.9	40 - 138	40	
Indeno(1,2,3-cd)pyrene	ND	1,860	1,690	2,090	2,090	88.8	80.8	9.6	48 - 125	40	
Dibenzo(a,h)anthracene	ND	1,800	1,640	2,090	2,090	86.0	78.4	9.3	50 - 129	40	

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): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Project Number:

Prep Batch: T130513015

QUALITY CONTROL REPORT

LCS REPORT

Analysis: SW7471A - Mercury in Solid or Semisolid Waste by CVAA - Tot MB: T130513015-MB

Prep Date: 5/13/2013

MB Anal. Date: 5/13/2013 1:01:00PM

Units: mg/Kg

LCS Anal. Date: 5/13/2013 1:04:00PM

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>
Mercury	ND	2.60	2.50	104.0	70 - 130		

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): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Project Number:

Prep Batch: T130429012

QUALITY CONTROL REPORT

SAMPLE DUPLICATE REPORT

Analysis: ASTM D2216 - Pmoist

Base Sample: B1304160-02B

Prep Date: 4/29/2013

Samp. Anal. Date: 4/30/2013 11:55:35AM

Units: %

DUP Anal. Date: 4/30/2013 11:55:35AM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>DUPRes.</u>	<u>RPD</u>	<u>RPDLim</u>	<u>Flag</u>
Moisture	23.9	26.4	9.9	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): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Project Number:

Prep Batch: T130501003

QUALITY CONTROL REPORT

LCS REPORT

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

MB: T130501003-MB

Prep Date: 4/30/2013

MB Anal. Date: 4/30/2013 12:13:00PM

Units: ug/Kg

LCS Anal. Date: 4/30/2013 1:18:00PM

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>
Gasoline Range Organics	ND	489	500	97.8	60 - 118		

MS/MSD REPORT

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

Parent: B1304160-01C

Prep Date: 4/30/2013

Samp. Anal. Date: 4/30/2013 2:40:00PM

Units: ug/Kg

MS Anal. Date: 4/30/2013 3:13:00PM MSD Anal. Date: 4/30/2013 3:46:00PM Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>MSRes.</u>	<u>MSDRes</u>	<u>SPLev</u>	<u>SPDLv</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	514	464	627	627	81.9	74.0	10.2	50 - 138	20	

Prep Batch: T130501004

LCS REPORT

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

MB: T130501004-MB

Prep Date: 4/30/2013

MB Anal. Date: 4/30/2013 12:13:00PM

Units: ug/Kg

LCS Anal. Date: 4/30/2013 12:45:00PM

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	10.2	10.0	102.0	70 - 130		
Toluene	ND	10.2	10.0	102.0	70 - 130		
Ethylbenzene	ND	10.3	10.0	103.0	70 - 130		
Xylenes, Total	ND	30.8	30.0	102.7	70 - 130		

MS/MSD REPORT

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Project Number:

Prep Batch: T130501004

QUALITY CONTROL REPORT

MS/MSD REPORT

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

Parent: B1304160-02C

Prep Date: 4/30/2013

Samp. Anal. Date: 4/30/2013 4:51:00PM

Units: ug/Kg

MS Anal. Date: 4/30/2013 5:23:00PM MSD Anal. Date: 4/30/2013 5:56:00PM Matrix: Soil

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLv	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	13.3	13.3	13.1	13.1	101.2	101.2	0.0	70 - 130	20	
Toluene	ND	13.3	13.2	13.1	13.1	101.2	100.5	0.8	70 - 130	20	
Ethylbenzene	ND	13.1	12.9	13.1	13.1	99.7	98.2	1.5	70 - 130	20	
Xylenes, Total	ND	38.7	37.9	39.4	39.4	98.2	96.2	2.1	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): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Project Number:

Prep Batch: T130501012

QUALITY CONTROL REPORT

SAMPLE DUPLICATE REPORT

Analysis: Corrosivity in Waste by pH - pH

Base Sample: B1304160-01D

Prep Date: 5/1/2013

Samp. Anal. Date: 5/1/2013 2:30:00PM

Units: pH

DUP Anal. Date: 5/1/2013 2:30:00PM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>DUPRes.</u>	<u>RPD</u>	<u>RPDLim</u>	<u>Flag</u>
pH	8.77	8.79	0.2	35	

Prep Batch: T130501011

SAMPLE DUPLICATE REPORT

Analysis: Specific Conductance - Cond.

Base Sample: B1304160-01D

Prep Date: 5/1/2013

Samp. Anal. Date: 5/1/2013 3:00:00PM

Units: umhos/cm

DUP Anal. Date: 5/1/2013 3:00:00PM

Matrix: Soil

<u>Analyte Name</u>	<u>SampResult</u>	<u>DUPRes.</u>	<u>RPD</u>	<u>RPDLim</u>	<u>Flag</u>
Conductance	826	818	1.0	20	

LCS REPORT

Analysis: Specific Conductance - Cond.

MB: T130501011-MB

Prep Date: 5/1/2013

MB Anal. Date: 5/1/2013 3:00:00PM

Units: umhos/cm

LCS Anal. Date: 5/1/2013 3:00:00PM

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>
Conductance	ND	156	150	104.2	80 - 120		

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

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): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

SURROGATE RECOVERY SUMMARY REPORT

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

Lab Sample #:	B1304160-01B	Dilution:	1		
Analysis Date:	5/1/2013 9:53:41AM	Client Sample:	<u>Calcium Chloride Pit</u>		
Batch Number:	T130429011	Data File:	13043008.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	43	50	150	LOW	Rrun
Lab Sample #:	B1304160-02B	Dilution:	1		
Analysis Date:	5/1/2013 10:49:30AM	Client Sample:	<u>Separator Pit</u>		
Batch Number:	T130429011	Data File:	13043009.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	61	50	150		Complete
Lab Sample #:	B1304160-01B	Dilution:	1		
Analysis Date:	5/1/2013 1:17:42PM	Client Sample:	<u>Calcium Chloride Pit</u>		
Batch Number:	T130429011	Data File:	13043012.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	54	50	150		Complete
Lab Sample #:	T130429011-MB	Dilution:	1		
Analysis Date:	4/30/2013 4:32:25PM	Client Sample:	<u>MB</u>		
Batch Number:	T130429011	Data File:	13043005.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	90	60	120		Complete
Lab Sample #:	T130429011-LCS	Dilution:	1		
Analysis Date:	4/30/2013 5:21:58PM	Client Sample:	<u>LCS</u>		
Batch Number:	T130429011	Data File:	13043006.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	86	60	120		Complete
Lab Sample #:	B1304160-02B-MS	Dilution:	1		
Analysis Date:	5/1/2013 11:38:51AM	Client Sample:	<u>MS</u>		
Batch Number:	T130429011	Data File:	13043010.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	82	50	150		Complete
Lab Sample #:	B1304160-02B-MSD	Dilution:	1		
Analysis Date:	5/1/2013 12:28:14PM	Client Sample:	<u>MSD</u>		
Batch Number:	T130429011	Data File:	13043011.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
o-Terphenyl	87	50	150		Complete

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

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

Lab Sample #: B1304160-01C Dilution: 1
Analysis Date: 4/30/2013 2:40:00PM Client Sample: Calcium Chloride Pit
Batch Number: T130501004 Data File: 13043008.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 #: B1304160-02C Dilution: 1
Analysis Date: 4/30/2013 4:51:00PM Client Sample: Separator Pit
Batch Number: T130501004 Data File: 13043012.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 #: T130501004-MB Dilution: 1
Analysis Date: 4/30/2013 12:13:00PM Client Sample: MB
Batch Number: T130501004 Data File: 13043004.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	105	70	130		Complete

Lab Sample #: T130501004-LCS Dilution: 1
Analysis Date: 4/30/2013 12:45:00PM Client Sample: LCS
Batch Number: T130501004 Data File: 13043005.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	105	70	130		Complete

Lab Sample #: B1304160-02C-MS Dilution: 1
Analysis Date: 4/30/2013 5:23:00PM Client Sample: MS
Batch Number: T130501004 Data File: 13043013.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	91	70	130		Complete

Lab Sample #: B1304160-02C-MSD Dilution: 1
Analysis Date: 4/30/2013 5:56:00PM Client Sample: MSD
Batch Number: T130501004 Data File: 13043014.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	100	70	130		Complete

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

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

Lab Sample #: B1304160-01C Dilution: 1
Analysis Date: 4/30/2013 2:40:00PM Client Sample: Calcium Chloride Pit
Batch Number: T130501003 Data File: 13043008.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	88	50	150		Complete

Lab Sample #: B1304160-02C Dilution: 1
Analysis Date: 4/30/2013 4:51:00PM Client Sample: Separator Pit
Batch Number: T130501003 Data File: 13043012.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	84	50	150		Complete

Lab Sample #: T130501003-MB Dilution: 1
Analysis Date: 4/30/2013 12:13:00PM Client Sample: MB
Batch Number: T130501003 Data File: 13043004.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 #: T130501003-LCS Dilution: 1
Analysis Date: 4/30/2013 1:18:00PM Client Sample: LCS
Batch Number: T130501003 Data File: 13043006.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	100	63	130		Complete

Lab Sample #: B1304160-01C-MS Dilution: 1
Analysis Date: 4/30/2013 3:13:00PM Client Sample: MS
Batch Number: T130501003 Data File: 13043009.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	50	150		Complete

Lab Sample #: B1304160-01C-MSD Dilution: 1
Analysis Date: 4/30/2013 3:46:00PM Client Sample: MSD
Batch Number: T130501003 Data File: 13043010.D

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

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Test Method: SW8270C - Semivolatile Organics by GC/MS - PAH

Lab Sample #: B1304160-01B Dilution: 10
Analysis Date: 5/1/2013 2:40:00PM Client Sample: Calcium Chloride Pit
Batch Number: T130429010 Data File: 13050105.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	42	36	121		Rrun
D14-Terphenyl	66	30	134		Rrun
D5-Nitrobenzene	40	30	122		Rrun

Lab Sample #: B1304160-01B Dilution: 1
Analysis Date: 5/1/2013 3:18:00PM Client Sample: Calcium Chloride Pit
Batch Number: T130429010 Data File: 13050106.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	40	36	121		Complete
D14-Terphenyl	64	30	134		Complete
D5-Nitrobenzene	41	30	122		Complete

Lab Sample #: B1304160-02B Dilution: 10
Analysis Date: 5/1/2013 6:25:00PM Client Sample: Separator Pit
Batch Number: T130429010 Data File: 13050111.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	56	36	121		Rrun
D14-Terphenyl	71	30	134		Rrun
D5-Nitrobenzene	57	30	122		Rrun

Lab Sample #: B1304160-02B Dilution: 1
Analysis Date: 5/1/2013 7:02:00PM Client Sample: Separator Pit
Batch Number: T130429010 Data File: 13050112.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	44	36	121		Complete
D14-Terphenyl	60	30	134		Complete
D5-Nitrobenzene	49	30	122		Complete

Lab Sample #: T130429010-MB Dilution: 1
Analysis Date: 5/1/2013 1:26:00PM Client Sample: MB
Batch Number: T130429010 Data File: 13050103.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	45	36	121		Complete
D14-Terphenyl	81	30	134		Complete
D5-Nitrobenzene	45	30	122		Complete

Lab Sample #: T130429010-LCS Dilution: 1
Analysis Date: 5/1/2013 2:03:00PM Client Sample: LCS
Batch Number: T130429010 Data File: 13050104.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	54	36	121		Complete
D14-Terphenyl	82	30	134		Complete
D5-Nitrobenzene	54	30	122		Complete

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

Test Method: SW8270C - Semivolatile Organics by GC/MS - PAH

Lab Sample #: B1304160-01B-MS Dilution: 10
Analysis Date: 5/1/2013 3:55:00PM Client Sample: MS
Batch Number: T130429010 Data File: 13050107.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	56	36	121		Rrun
D14-Terphenyl	76	30	134		Rrun
D5-Nitrobenzene	55	30	122		Rrun

Lab Sample #: B1304160-01B-MS Dilution: 1
Analysis Date: 5/1/2013 4:32:00PM Client Sample: MS
Batch Number: T130429010 Data File: 13050108.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	46	36	121		Rrun
D14-Terphenyl	67	30	134		Rrun
D5-Nitrobenzene	48	30	122		Rrun

Lab Sample #: B1304160-01B-MS Dilution: 1
Analysis Date: 5/1/2013 8:15:00PM Client Sample: MS
Batch Number: T130429010 Data File: 13050114.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	46	36	121		Complete
D14-Terphenyl	70	30	134		Complete
D5-Nitrobenzene	47	30	122		Complete

Lab Sample #: B1304160-01B-MSD Dilution: 10
Analysis Date: 5/1/2013 5:10:00PM Client Sample: MSD
Batch Number: T130429010 Data File: 13050109.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	54	36	121		Rrun
D14-Terphenyl	77	30	134		Rrun
D5-Nitrobenzene	53	30	122		Rrun

Lab Sample #: B1304160-01B-MSD Dilution: 1
Analysis Date: 5/1/2013 5:47:00PM Client Sample: MSD
Batch Number: T130429010 Data File: 13050110.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
2-Fluorobiphenyl	46	36	121		Complete
D14-Terphenyl	65	30	134		Complete
D5-Nitrobenzene	48	30	122		Complete

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 148,443 Lab Project Number: B1304160

Prep Date: 4/29/2013

Lab Method Blank Id: T130429010-MB

Prep Batch ID: T130429010

Method: SW8270C - Semivolatile Organics by GC/MS - PAH

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>
T130429010-LCS	LCS	13050104.D	5/1/2013 2:03:00PM
B1304160-01B	Calcium Chloride Pit	13050106.D	5/1/2013 3:18:00PM
B1304160-01B-MSD	MSD	13050110.D	5/1/2013 5:47:00PM
B1304160-02B	Separator Pit	13050112.D	5/1/2013 7:02:00PM
B1304160-01B-MS	MS	13050114.D	5/1/2013 8:15:00PM

Prep Date: 4/29/2013

Lab Method Blank Id: T130429011-MB

Prep Batch ID: T130429011

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>
T130429011-LCS	LCS	13043006.D	4/30/2013 5:21:58PM
B1304160-02B	Separator Pit	13043009.D	5/1/2013 10:49:30AM
B1304160-02B-MS	MS	13043010.D	5/1/2013 11:38:51AM
B1304160-02B-MSD	MSD	13043011.D	5/1/2013 12:28:14PM
B1304160-01B	Calcium Chloride Pit	13043012.D	5/1/2013 1:17:42PM

Prep Date: 4/29/2013

Lab Method Blank Id: T130429012-MB

Prep Batch ID: T130429012

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>
B1304160-01B	Calcium Chloride Pit		4/30/2013 11:55:35AM
B1304160-02B	Separator Pit		4/30/2013 11:55:35AM
B1304160-02B-DUP	DUP		4/30/2013 11:55:35AM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 148,443 Lab Project Number: B1304160

Prep Date: 4/30/2013

Lab Method Blank Id: T130501003-MB

Prep Batch ID: T130501003

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>
T130501003-LCS	LCS	13043006.D	4/30/2013 1:18:00PM
B1304160-01C	Calcium Chloride Pit	13043008.D	4/30/2013 2:40:00PM
B1304160-01C-MS	MS	13043009.D	4/30/2013 3:13:00PM
B1304160-01C-MSD	MSD	13043010.D	4/30/2013 3:46:00PM
B1304160-02C	Separator Pit	13043012.D	4/30/2013 4:51:00PM

Prep Date: 4/30/2013

Lab Method Blank Id: T130501004-MB

Prep Batch ID: T130501004

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>
T130501004-LCS	LCS	13043005.D	4/30/2013 12:45:00PM
B1304160-01C	Calcium Chloride Pit	13043008.D	4/30/2013 2:40:00PM
B1304160-02C	Separator Pit	13043012.D	4/30/2013 4:51:00PM
B1304160-02C-MS	MS	13043013.D	4/30/2013 5:23:00PM
B1304160-02C-MSD	MSD	13043014.D	4/30/2013 5:56:00PM

Prep Date: 5/1/2013

Lab Method Blank Id: T130501011-MB

Prep Batch ID: T130501011

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>
B1304160-01D	Calcium Chloride Pit		5/1/2013 3:00:00PM
B1304160-02D	Separator Pit		5/1/2013 3:00:00PM
T130501011-LCS	LCS		5/1/2013 3:00:00PM
B1304160-01D-DUP	DUP		5/1/2013 3:00:00PM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 148,443 **Lab Project Number:** B1304160

Prep Date: 5/13/2013

Lab Method Blank Id: T130513015-MB

Prep Batch ID: T130513015

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>
B1304160-01D	Calcium Chloride Pit	051313S.CSV	5/13/2013 1:11:00PM
B1304160-02D	Separator Pit	051313S.CSV	5/13/2013 1:13:00PM
B1305018-02B	Batch QC	051313S.CSV	5/13/2013 1:15:00PM
T130513015-LCS	LCS	051313S.CSV	5/13/2013 1:04:00PM
B1305018-02B-DUP	DUP	051313S.CSV	5/13/2013 1:16:00PM
B1305018-02B-MS	MS	051313S.CSV	5/13/2013 1:18:00PM
B1305018-02B-MSD	MSD	051313S.CSV	5/13/2013 1:25:00PM

Detailed Analytical Report

Analytica Group, LLC - Thornton

Workorder (SDG): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

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): B1304160

Project: Roan Creek Fed 25-3

Client: Maralex Resources, Inc.

Client Project Number: None

REPORTING CONVENTIONS FOR THIS REPORT

B1304160

<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 (Solid) - Total Metals sc	Dry Weight Basis	2	Report to PQL
6020 (Solid) - Low Level Metals - Sol	Dry Weight Basis	2	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) - PAH	Dry Weight Basis	2	Report to MDL, J qual below PQL
9045B/9045B (Solid) - pH	As Received	2	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

ANALYTICAL SUMMARY REPORT

May 17, 2013

Analytica Group Inc
12189 Pennsylvania St
Thornton, CO 80241

Workorder No.: B13042071

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 5 samples for Analytica Group Inc on 4/29/2013 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B13042071-001	Calcium Chloride Pit, B1304160-01A	04/25/13 10:12	04/29/13	Soil	Metals by ICP/ICPMS, Total or Soluble Cations, Saturated Paste Chromium, Hexavalent Water Extraction for Hex Chromium Digestion, Total Metals Saturated Paste Extraction Sodium Adsorption Ratio
B13042071-002	Separator Pit, B1304160-02A	04/25/13 10:40	04/29/13	Soil	Same As Above
B13042071-003	Back Ground #1, B1304160-03A	04/25/13 10:20	04/29/13	Soil	Metals by ICP/ICPMS, Total or Soluble Digestion, Total Metals
B13042071-004	Back Ground #2, B1304160-04A	04/25/13 10:24	04/29/13	Soil	Same As Above
B13042071-005	Back Ground #3, B1304160-05A	04/25/13 10:32	04/29/13	Soil	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

DATES REPORT

Lab Order: B13042071
Client: Analytica Group Inc
Project: Not Indicated

Report Date: 05/17/13

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date Method Batch	Analysis Date
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Cations, Saturated Paste		05/14/2013 SW6010B [71262]	5/15/2013
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Cations, Saturated Paste		05/14/2013 SW6010B [71262]	5/14/2013
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Chromium, Hexavalent		04/30/2013	4/30/2013
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6010B [71012]	5/13/2013
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/8/2013
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/9/2013
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/13/2013
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/13/2013
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Sodium Adsorption Ratio		NA	5/15/2013
B13042071-001A	Calcium Chloride Pit, B1304160-01A	4/25/2013 10:12:00 AM	Soil	Supervisor Review		NA	5/15/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Cations, Saturated Paste		05/14/2013 SW6010B [71262]	5/14/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Chromium, Hexavalent		04/30/2013	4/30/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/8/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/9/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/13/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/13/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/15/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6010B [71012]	5/13/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Sodium Adsorption Ratio		NA	5/15/2013
B13042071-002A	Separator Pit, B1304160-02A	4/25/2013 10:40:00 AM	Soil	Sodium Adsorption Ratio		NA	5/15/2013
B13042071-003A	Back Ground #1, B1304160-03A	4/25/2013 10:20:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/8/2013



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DATES REPORT

Lab Order: B13042071
Client: Analytica Group Inc
Project: Not Indicated

Report Date: 05/17/13

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date Method Batch	Analysis Date
B13042071-004A	Back Ground #2, B1304160-04A	4/25/2013 10:24:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/8/2013
B13042071-005A	Back Ground #3, B1304160-05A	4/25/2013 10:32:00 AM	Soil	Metals by ICP/ICPMS, Total or Soluble		05/07/2013 SW6020 [71012]	5/8/2013

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Analytica Group Inc
Project: Not Indicated
Lab ID: B13042071-001
Client Sample ID Calcium Chloride Pit, B1304160-01A

Report Date: 05/17/13
Collection Date: 04/25/13 10:12
DateReceived: 04/29/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
Calcium, sat. paste	1.79	meq/L		0.05		SW6010B	05/15/13 13:38 / r/h
Magnesium, sat. paste	0.19	meq/L		0.08		SW6010B	05/15/13 13:38 / r/h
Sodium, sat. paste	2.40	meq/L		0.04		SW6010B	05/15/13 13:38 / r/h
Sodium Adsorption Ratio (SAR)	2.41	unitless		0.01		Calculation	05/15/13 15:03 / srm
METALS, WATER EXTRACTABLE							
Chromium, Hexavalent - Soluble	ND	mg/kg		5		SW7196A	04/30/13 17:00 / mas
METALS, TOTAL - EPA SW846							
Arsenic	0.9	mg/kg		0.2		SW6020	05/13/13 15:40 / mas
Barium	442	mg/kg		0.05		SW6020	05/13/13 15:40 / mas
Boron	13.6	mg/kg	D	0.5		SW6010B	05/13/13 15:49 / r/h
Cadmium	0.26	mg/kg		0.05		SW6020	05/13/13 15:40 / mas
Chromium	10.4	mg/kg	D	0.3		SW6010B	05/13/13 15:49 / r/h
Copper	8.9	mg/kg		0.5		SW6020	05/13/13 15:40 / mas
Lead	12	mg/kg	D	1		SW6010B	05/13/13 15:49 / r/h
Nickel	7.39	mg/kg		0.05		SW6020	05/13/13 15:40 / mas
Selenium	ND	mg/kg		0.2		SW6020	05/13/13 15:40 / mas
Silver	ND	mg/kg		0.05		SW6020	05/13/13 15:40 / mas
Zinc	44	mg/kg		1		SW6020	05/13/13 15:40 / mas

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Analytica Group Inc
Project: Not Indicated
Lab ID: B13042071-002
Client Sample ID Separator Pit, B1304160-02A

Report Date: 05/17/13
Collection Date: 04/25/13 10:40
DateReceived: 04/29/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
Calcium, sat. paste	0.44	meq/L		0.05		SW6010B	05/14/13 18:36 / rlh
Magnesium, sat. paste	0.12	meq/L		0.08		SW6010B	05/14/13 18:36 / rlh
Sodium, sat. paste	56.5	meq/L	D	0.2		SW6010B	05/14/13 18:36 / rlh
Sodium Adsorption Ratio (SAR)	107	unitless		0.01		Calculation	05/15/13 15:03 / srm
METALS, WATER EXTRACTABLE							
Chromium, Hexavalent - Soluble	ND	mg/kg		5		SW7196A	04/30/13 17:00 / mas
METALS, TOTAL - EPA SW846							
Arsenic	0.8	mg/kg		0.2		SW6020	05/15/13 12:38 / jjw
Barium	1200	mg/kg		0.05		SW6010B	05/13/13 15:53 / rlh
Boron	9.7	mg/kg	D	0.5		SW6010B	05/13/13 15:53 / rlh
Cadmium	0.29	mg/kg		0.05		SW6020	05/13/13 15:42 / mas
Chromium	5.7	mg/kg	D	0.3		SW6010B	05/13/13 15:53 / rlh
Copper	8.4	mg/kg		0.5		SW6010B	05/13/13 15:53 / rlh
Lead	14	mg/kg	D	1		SW6010B	05/13/13 15:53 / rlh
Nickel	5.6	mg/kg	D	0.3		SW6010B	05/13/13 15:53 / rlh
Selenium	ND	mg/kg		0.2		SW6020	05/15/13 12:38 / jjw
Silver	0.06	mg/kg		0.05		SW6020	05/13/13 15:42 / mas
Zinc	42	mg/kg		1		SW6010B	05/13/13 15:53 / rlh

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Analytica Group Inc
Project: Not Indicated
Lab ID: B13042071-003
Client Sample ID Back Ground #1, B1304160-03A

Report Date: 05/17/13
Collection Date: 04/25/13 10:20
DateReceived: 04/29/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL - EPA SW846							
Arsenic	1.4	mg/kg		0.2		SW6020	05/08/13 04:42 / mas

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Analytica Group Inc
Project: Not Indicated
Lab ID: B13042071-004
Client Sample ID Back Ground #2, B1304160-04A

Report Date: 05/17/13
Collection Date: 04/25/13 10:24
DateReceived: 04/29/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL - EPA SW846							
Arsenic	1.2	mg/kg		0.2		SW6020	05/08/13 04:44 / mas

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Analytica Group Inc
Project: Not Indicated
Lab ID: B13042071-005
Client Sample ID Back Ground #3, B1304160-05A

Report Date: 05/17/13
Collection Date: 04/25/13 10:32
DateReceived: 04/29/13
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL - EPA SW846							
Arsenic	1.1	mg/kg		0.2		SW6020	05/08/13 04:47 / mas

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: Calculation										Batch: R204655
Sample ID: B13042071-001A DUP										
Sample Duplicate							Run: MISC-SOIL_130515A			05/15/13 15:03
Sodium Adsorption Ratio (SAR)		2.26	unitless	0.010				6.4		30
Sample ID: LCS-1305151503										
Laboratory Control Sample							Run: MISC-SOIL_130515A			05/15/13 15:03
Sodium Adsorption Ratio (SAR)		4.95	unitless	0.010	80	50	150			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B								Analytical Run: ICP201-B_130514A		
Sample ID: QCS	3	Initial Calibration Verification Standard							05/14/13 13:02	
Calcium		48.4	mg/L	1.0	97	90	110			
Magnesium		48.7	mg/L	1.0	97	90	110			
Sodium		48.5	mg/L	1.0	97	90	110			
Sample ID: ICSA	3	Interference Check Sample A							05/14/13 13:15	
Calcium		527	mg/L	1.0	105	80	120			
Magnesium		553	mg/L	1.0	111	80	120			
Sodium		0.0805	mg/L	1.0						
Sample ID: ICSAB	3	Interference Check Sample AB							05/14/13 13:18	
Calcium		518	mg/L	1.0	104	80	120			
Magnesium		545	mg/L	1.0	109	80	120			
Sodium		22.3	mg/L	1.0	112	80	120			
Method: SW6010B								Batch: 71262		
Sample ID: LCS-71262	3	Laboratory Control Sample				Run: ICP201-B_130514A			05/14/13 18:26	
Calcium, sat. paste		43.2	meq/L	0.095	82	50	150			
Magnesium, sat. paste		26.9	meq/L	0.082	80	50	150			
Sodium, sat. paste		29.3	meq/L	0.19	70	50	150			
Sample ID: B13042071-002AMS2	3	Sample Matrix Spike				Run: ICP201-B_130514A			05/14/13 18:40	
Calcium, sat. paste		24.7	meq/L	0.050	97	50	150			
Magnesium, sat. paste		40.4	meq/L	0.082	98	50	150			
Sodium, sat. paste		77.7	meq/L	0.20	97	50	150			
Method: SW6010B								Analytical Run: ICP201-B_130515A		
Sample ID: QCS	3	Initial Calibration Verification Standard							05/15/13 12:55	
Calcium		50.6	mg/L	1.0	101	90	110			
Magnesium		50.9	mg/L	1.0	102	90	110			
Sodium		50.1	mg/L	1.0	100	90	110			
Sample ID: ICSA	3	Interference Check Sample A							05/15/13 13:08	
Calcium		536	mg/L	1.0	107	80	120			
Magnesium		566	mg/L	1.0	113	80	120			
Sodium		0.0771	mg/L	1.0						
Sample ID: ICSAB	3	Interference Check Sample AB							05/15/13 13:11	
Calcium		529	mg/L	1.0	106	80	120			
Magnesium		562	mg/L	1.0	112	80	120			
Sodium		21.0	mg/L	1.0	105	80	120			
Method: SW6010B								Batch: 71262		
Sample ID: B13042071-001A DUP	3	Sample Duplicate				Run: ICP201-B_130515A			05/15/13 13:41	
Calcium, sat. paste		1.78	meq/L	0.050				0.6	30	
Magnesium, sat. paste		0.186	meq/L	0.082				0.7	30	
Sodium, sat. paste		2.24	meq/L	0.044				6.9	30	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B										Batch: 71012
Sample ID: MB-71012	7	Method Blank				Run: ICP203-B_130508A				05/08/13 02:04
Barium		0.0545	mg/kg	0.050						
Boron		ND	mg/kg	0.50						
Chromium		0.232	mg/kg	0.30						
Copper		ND	mg/kg	0.50						
Lead		ND	mg/kg	1.0						
Nickel		ND	mg/kg	0.050						
Zinc		0.178	mg/kg	1.0						
Sample ID: LFB-71012	7	Laboratory Fortified Blank				Run: ICP203-B_130508A				05/08/13 02:08
Barium		47.7	mg/kg	1.0	95	80	120			
Boron		46.1	mg/kg	1.0	92	80	120			
Chromium		45.7	mg/kg	1.0	91	80	120			
Copper		45.3	mg/kg	1.0	91	80	120			
Lead		45.0	mg/kg	1.0	90	80	120			
Nickel		44.3	mg/kg	1.0	89	80	120			
Zinc		44.9	mg/kg	1.0	89	80	120			
Sample ID: SRM-71012	7	Standard Reference Material				Run: ICP203-B_130508A				05/08/13 02:50
Barium		566	mg/kg	1.0	103	90	126			
Boron		78.5	mg/kg	1.0	75	52	91			
Chromium		63.7	mg/kg	1.0	91	79	119			
Copper		253	mg/kg	1.0	103	88	125			
Lead		170	mg/kg	1.0	114	95	137			
Nickel		49.9	mg/kg	1.0	100	88	126			
Zinc		191	mg/kg	1.0	116	95	142			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B										Batch: 71012
Sample ID: B13042165-001ADIL	7	Serial Dilution				Run: ICP203-B_130508B				05/09/13 02:04
Barium		871	mg/kg	1.0		0	0	1.7	10	
Boron		12.4	mg/kg	2.8		0	0		10	N
Chromium		60.8	mg/kg	1.4		0	0	3.5	10	
Copper		86.3	mg/kg	2.5		0	0	1.4	10	
Lead		47.4	mg/kg	7.5		0	0		10	N
Nickel		317	mg/kg	1.4		0	0	8.2	10	
Zinc		516	mg/kg	1.0		0	0	7.0	10	
Sample ID: B13042165-001APDS	7	Post Digestion/Distillation Spike				Run: ICP203-B_130508B				05/09/13 02:08
Barium		942	mg/kg	1.0		75	125			A
Boron		108	mg/kg	1.0	92	75	125			
Chromium		135	mg/kg	1.0	87	75	125			
Copper		164	mg/kg	1.0	90	75	125			
Lead		133	mg/kg	1.5	83	75	125			
Nickel		362	mg/kg	1.0	80	75	125			
Zinc		555	mg/kg	1.0		75	125			A
Sample ID: B13042165-001AMS3	7	Sample Matrix Spike				Run: ICP203-B_130508B				05/09/13 02:19
Barium		1030	mg/kg	1.0		75	125			A
Boron		129	mg/kg	1.0	105	75	125			
Chromium		160	mg/kg	1.0	103	75	125			
Copper		196	mg/kg	1.0	114	75	125			
Lead		151	mg/kg	1.7	93	75	125			
Nickel		379	mg/kg	1.0	89	75	125			
Zinc		617	mg/kg	1.0		75	125			A
Sample ID: B13042165-001AMSD3	7	Sample Matrix Spike Duplicate				Run: ICP203-B_130508B				05/09/13 02:23
Barium		1010	mg/kg	1.0		75	125	2.6	20	A
Boron		112	mg/kg	1.0	93	75	125	14	20	
Chromium		146	mg/kg	1.0	95	75	125	9.0	20	
Copper		182	mg/kg	1.0	105	75	125	7.7	20	
Lead		143	mg/kg	1.6	90	75	125	5.4	20	
Nickel		344	mg/kg	1.0	56	75	125	9.8	20	S
Zinc		582	mg/kg	1.0		75	125	5.8	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B								Analytical Run: ICP203-B_130513A		
Sample ID: QCS	7	Initial Calibration Verification Standard							05/13/13 14:32	
Barium		0.938	mg/L	0.10	94	90	110			
Boron		0.965	mg/L	0.10	97	90	110			
Chromium		0.933	mg/L	0.050	93	90	110			
Copper		0.926	mg/L	0.010	93	90	110			
Lead		0.962	mg/L	0.050	96	90	110			
Nickel		0.929	mg/L	0.050	93	90	110			
Zinc		0.973	mg/L	0.010	97	90	110			
Sample ID: ICSA	7	Interference Check Sample A							05/13/13 14:47	
Barium		0.000270	mg/L	0.10						
Boron		0.0379	mg/L	0.10						
Chromium		0.00463	mg/L	0.050						
Copper		0.00202	mg/L	0.010						
Lead		-0.00409	mg/L	0.050						
Nickel		-0.00660	mg/L	0.050						
Zinc		0.00607	mg/L	0.010						
Sample ID: ICSAB	7	Interference Check Sample AB							05/13/13 14:51	
Barium		0.451	mg/L	0.10	90	80	120			
Boron		1.00	mg/L	0.10	100	80	120			
Chromium		0.440	mg/L	0.050	88	80	120			
Copper		0.465	mg/L	0.010	93	80	120			
Lead		0.894	mg/L	0.050	89	80	120			
Nickel		0.847	mg/L	0.050	85	80	120			
Zinc		0.942	mg/L	0.010	94	80	120			
Method: SW6010B									Batch: 71012	
Sample ID: MB-71012	7	Method Blank							Run: ICP203-B_130513A	
Barium		0.05	mg/kg	0.01					05/13/13 15:45	
Boron		ND	mg/kg	0.3						
Chromium		0.3	mg/kg	0.2						
Copper		ND	mg/kg	0.3						
Lead		ND	mg/kg	0.9						
Nickel		ND	mg/kg	0.2						
Zinc		0.2	mg/kg	0.1						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Analytical Run: ICPMS202-B_130507A
Sample ID: ICSA	Interference Check Sample A									05/07/13 11:25
Arsenic		0.000440	mg/L	0.0010						
Sample ID: ICSAB	Interference Check Sample AB									05/07/13 11:29
Arsenic		0.0101	mg/L	0.0010	101	70	130			
Sample ID: QCS	Initial Calibration Verification Standard									05/07/13 12:37
Arsenic		0.0477	mg/L	0.0010	95	90	110			
Method: SW6020										Batch: 71012
Sample ID: MB-71012	Method Blank									Run: ICPMS202-B_130507A
Arsenic		ND	mg/kg	0.08						05/08/13 04:11
Sample ID: B13042165-001ADIL	Serial Dilution									Run: ICPMS202-B_130507A
Arsenic		40.2	mg/kg	1.0		0	0	19		05/08/13 05:23 10 R
Sample ID: LFB-71012	Laboratory Fortified Blank									Run: ICPMS202-B_130507A
Arsenic		55.0	mg/kg	1.0	110	80	120			05/08/13 05:26
Sample ID: SRM-71012	Standard Reference Material									Run: ICPMS202-B_130507A
Arsenic		299	mg/kg	1.0	87	71	106			05/08/13 05:31
Sample ID: B13042165-001AMS3	Sample Matrix Spike									Run: ICPMS202-B_130507A
Arsenic		116	mg/kg	1.0	85	75	125			05/08/13 05:37
Sample ID: B13042165-001AMSD3	Sample Matrix Spike Duplicate									Run: ICPMS202-B_130507A
Arsenic		105	mg/kg	1.0	78	75	125	10		05/08/13 05:50 20

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020								Analytical Run: ICPMS202-B_130512A		
Sample ID: QCS								05/10/13 14:51		
8 Initial Calibration Verification Standard										
Arsenic		0.0526	mg/L	0.0010	105	90	110			
Barium		0.0521	mg/L	0.0010	104	90	110			
Cadmium		0.0266	mg/L	0.0010	106	90	110			
Copper		0.0536	mg/L	0.0010	107	90	110			
Nickel		0.0532	mg/L	0.0010	106	90	110			
Selenium		0.0518	mg/L	0.0010	104	90	110			
Silver		0.0264	mg/L	0.0010	106	90	110			
Zinc		0.0531	mg/L	0.0010	106	90	110			
Sample ID: ICSA								05/10/13 15:03		
8 Interference Check Sample A										
Arsenic		0.000110	mg/L	0.0010						
Barium		0.000180	mg/L	0.0010						
Cadmium		0.000370	mg/L	0.0010						
Copper		0.00246	mg/L	0.0010						
Nickel		0.00211	mg/L	0.0010						
Selenium		0.000320	mg/L	0.0010						
Silver		5.00E-05	mg/L	0.0010						
Zinc		0.00300	mg/L	0.0010						
Sample ID: ICSAB								05/10/13 15:09		
8 Interference Check Sample AB										
Arsenic		0.0106	mg/L	0.0010	106	70	130			
Barium		0.000120	mg/L	0.0010		0	0			
Cadmium		0.0102	mg/L	0.0010	102	70	130			
Copper		0.0215	mg/L	0.0010	107	70	130			
Nickel		0.0232	mg/L	0.0010	116	70	130			
Selenium		0.00974	mg/L	0.0010	97	70	130			
Silver		0.0201	mg/L	0.0010	101	70	130			
Zinc		0.0125	mg/L	0.0010	125	70	130			
Method: SW6020								Batch: 71012		
Sample ID: MB-71012								Run: ICPMS202-B_130512A		
8 Method Blank								05/13/13 04:44		
Arsenic		ND	mg/kg	0.08						
Barium		0.07	mg/kg	0.02						
Cadmium		ND	mg/kg	0.008						
Copper		0.09	mg/kg	0.05						
Nickel		0.06	mg/kg	0.01						
Selenium		ND	mg/kg	0.06						
Silver		ND	mg/kg	0.03						
Zinc		0.2	mg/kg	0.2						
Sample ID: LFB-71012								Run: ICPMS202-B_130512A		
8 Laboratory Fortified Blank								05/13/13 05:37		
Arsenic		51.6	mg/kg	1.0	103	80	120			
Barium		53.0	mg/kg	1.0	106	80	120			
Cadmium		26.1	mg/kg	1.0	105	80	120			
Copper		53.8	mg/kg	1.0	107	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 71012
Sample ID: LFB-71012	8	Laboratory Fortified Blank				Run: ICPMS202-B_130512A				05/13/13 05:37
Nickel		53.6	mg/kg	1.0	107	80	120			
Selenium		50.4	mg/kg	1.0	101	80	120			
Silver		26.4	mg/kg	1.0	106	80	120			
Zinc		53.0	mg/kg	1.2	105	80	120			
Sample ID: SRM-71012	8	Standard Reference Material				Run: ICPMS202-B_130512A				05/13/13 05:43
Arsenic		307	mg/kg	1.0	89	71	106			
Barium		638	mg/kg	1.0	116	90	126			
Cadmium		142	mg/kg	1.0	125	87	126			
Copper		281	mg/kg	1.0	114	88	125			
Nickel		59.1	mg/kg	1.0	118	88	126			
Selenium		185	mg/kg	1.0	107	82	127			
Silver		74.1	mg/kg	1.0	133	83	139			
Zinc		215	mg/kg	2.3	130	95	142			
Sample ID: B13042165-001ADIL	8	Serial Dilution				Run: ICPMS202-B_130512A				05/13/13 15:48
Arsenic		37.8	mg/kg	1.8		0	0	4.8	10	
Barium		826	mg/kg	1.0		0	0	14	10	R
Cadmium		0.468	mg/kg	1.0		0	0		10	N
Copper		93.6	mg/kg	1.0		0	0	0.1	10	
Nickel		331	mg/kg	1.0		0	0	2.4	10	
Selenium		12.3	mg/kg	1.3		0	0		10	N
Silver		ND	mg/kg	1.0		0	0		10	
Zinc		518	mg/kg	4.9		0	0	1.7	10	
Sample ID: LFB-71012	8	Laboratory Fortified Blank				Run: ICPMS202-B_130512A				05/13/13 15:51
Arsenic		48.6	mg/kg	1.0	97	80	120			
Barium		48.9	mg/kg	1.0	98	80	120			
Cadmium		24.5	mg/kg	1.0	98	80	120			
Copper		52.2	mg/kg	1.0	104	80	120			
Nickel		52.4	mg/kg	1.0	105	80	120			
Selenium		50.5	mg/kg	1.0	101	80	120			
Silver		25.1	mg/kg	1.0	101	80	120			
Zinc		51.2	mg/kg	1.2	102	80	120			
Sample ID: SRM-71012	8	Standard Reference Material				Run: ICPMS202-B_130512A				05/13/13 15:53
Arsenic		283	mg/kg	1.0	82	71	106			
Barium		586	mg/kg	1.0	107	90	126			
Cadmium		129	mg/kg	1.0	113	87	126			
Copper		268	mg/kg	1.0	109	88	125			
Nickel		58.0	mg/kg	1.0	116	88	126			
Selenium		179	mg/kg	1.0	104	82	127			
Silver		68.3	mg/kg	1.0	122	83	139			
Zinc		202	mg/kg	2.3	122	95	142			

Qualifiers:

RL - Analyte reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 71012
Sample ID: B13042165-001APDS1 8 Post Digestion/Distillation Spike										
						Run: ICPMS202-B_130512A		05/13/13 15:56		
Arsenic		57.2	mg/kg	1.0	84	75	125			
Barium		892	mg/kg	1.0		75	125			A
Cadmium		22.9	mg/kg	1.0	105	75	125			
Copper		111	mg/kg	1.0		75	125			A
Nickel		334	mg/kg	1.0		75	125			A
Selenium		32.3	mg/kg	1.0	95	75	125			
Silver		9.17	mg/kg	1.0	108	75	125			
Zinc		496	mg/kg	1.0		75	125			A
Sample ID: B13042165-001AMS3 8 Sample Matrix Spike										
						Run: ICPMS202-B_130512A		05/13/13 15:59		
Arsenic		152	mg/kg	1.0	116	75	125			
Barium		1240	mg/kg	1.0		75	125			A
Cadmium		59.5	mg/kg	1.0	121	75	125			
Copper		240	mg/kg	1.0	150	75	125			S
Nickel		478	mg/kg	1.0	159	75	125			S
Selenium		121	mg/kg	1.0	113	75	125			
Silver		53.7	mg/kg	1.0	110	75	125			
Zinc		714	mg/kg	1.1		75	125			A
Sample ID: B13042165-001AMSD3 8 Sample Matrix Spike Duplicate										
						Run: ICPMS202-B_130512A		05/13/13 16:02		
Arsenic		132	mg/kg	1.0	101	75	125	14	20	
Barium		1190	mg/kg	1.0		75	125	3.7	20	A
Cadmium		53.8	mg/kg	1.0	116	75	125	9.9	20	
Copper		212	mg/kg	1.0	127	75	125	12	20	S
Nickel		411	mg/kg	1.0	90	75	125	15	20	
Selenium		109	mg/kg	1.0	105	75	125	11	20	
Silver		49.1	mg/kg	1.0	107	75	125	8.9	20	
Zinc		637	mg/kg	1.1		75	125	11	20	A

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

S - Spike recovery outside of advisory limits.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020								Analytical Run: ICPMS202-B_130515B		
Sample ID: QCS	2	Initial Calibration Verification Standard								05/15/13 10:10
Arsenic		0.0515	mg/L	0.0010	103	90	110			
Selenium		0.0504	mg/L	0.0010	101	90	110			
Sample ID: ICSA	2	Interference Check Sample A								05/15/13 10:17
Arsenic		0.000420	mg/L	0.0010						
Selenium		0.000690	mg/L	0.0010						
Sample ID: ICSAB	2	Interference Check Sample AB								05/15/13 10:32
Arsenic		0.0108	mg/L	0.0010	108	70	130			
Selenium		0.00971	mg/L	0.0010	97	70	130			
Method: SW6020								Batch: 71012		
Sample ID: MB-71012	8	Method Blank								05/15/13 11:10
Arsenic		ND	mg/kg	0.04						
Barium		0.06	mg/kg	0.008						
Cadmium		ND	mg/kg	0.004						
Copper		0.1	mg/kg	0.02						
Nickel		0.06	mg/kg	0.005						
Selenium		ND	mg/kg	0.03						
Silver		0.02	mg/kg	0.01						
Zinc		0.1	mg/kg	0.1						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Analytica Group Inc

Report Date: 05/17/13

Project: Not Indicated

Work Order: B13042071

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW7196A										Batch: R203823
Sample ID: MB-R203823		Method Blank					Run: SPEC_130430B			04/30/13 17:00
Chromium, Hexavalent		ND	mg/L	0.002						
Sample ID: LCS-R203823		Laboratory Control Sample					Run: SPEC_130430B			04/30/13 17:00
Chromium, Hexavalent		0.0946	mg/L	0.010	95	90	110			
Sample ID: MB-R203823		Method Blank					Run: SPEC_130430B			04/30/13 17:00
Chromium, Hexavalent - Soluble		ND	mg/kg	0.1						
Sample ID: B13042071-001AMS		Sample Matrix Spike					Run: SPEC_130430B			04/30/13 17:00
Chromium, Hexavalent - Soluble		0.721	mg/kg	5.0	95	70	130			
Sample ID: B13042071-001AMSD		Sample Matrix Spike Duplicate					Run: SPEC_130430B			04/30/13 17:00
Chromium, Hexavalent - Soluble		0.713	mg/kg	5.0	94	70	130			20

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Workorder Receipt Checklist

Analytica Group Inc

B13042071

Login completed by: Randa Nees

Date Received: 4/29/2013

Reviewed by: BL2000\jlippard

Received by: jl

Reviewed Date: 4/29/2013

Carrier FedEx NDA
name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	18.6°C No Ice		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

Contact and Corrective Action Comments:

None

ANALYTICA SUBCONTRACTOR CHAIN OF CUSTODY

COC Number: 148443-2

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

Standard
TAT

Po# T14668

Testing Laboratory:

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

Client Identifier:

Calcium Chloride Pit

Analytica ID	Test Method	Method Description	Sample Da	Matrix	Comments
B1304160-01A	6020	Low Level Arsenic	4/25/2013	10:12 Soil	B13042071-001
B1304160-01A	7196_A	Hexachrome	4/25/2013	10:12 Soil	L

Client Identifier:

Separator Pit

Analytica ID	Test Method	Method Description	Sample Da	Matrix	Comments
B1304160-02A	6020	Low Level Arsenic	4/25/2013	10:40 Soil	002
B1304160-02A	7196_A	Hexachrome	4/25/2013	10:40 Soil	L

Client Identifier:

Back Ground #1

Analytica ID	Test Method	Method Description	Sample Da	Matrix	Comments
B1304160-03A	6020	Low Level Arsenic	4/25/2013	10:20 Soil	003

Client Identifier:

Back Ground #2

Analytica ID	Test Method	Method Description	Sample Da	Matrix	Comments
B1304160-04A	6020	Low Level Arsenic	4/25/2013	10:24 Soil	004

Client Identifier:

Back Ground #3

Analytica ID	Test Method	Method Description	Sample Da	Matrix	Comments
B1304160-05A	6020	Low Level Arsenic	4/25/2013	10:32 Soil	005

Analytica Relinquished by:	Date/Time:	Received by:	Date/Time:
AB	4/26/13 16:00		
Relinquished by:	Date/Time:	Received by:	Date/Time:
		Jill Blipow	4/29/13 14:20

Fed Ex Express
Seal on cooler
18.6°C no ice

Analytica Chain of Custody Form

12189 Pennsylvania St.
Thornton, CO 80241
(303) 469-8868

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

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

5438 Shaunee Drive
Juneau, AK 99801
(907) 780-6668

(907) 780-6670 fax

(907) 456-3125 Fax

(907) 258-6634 fax

(303) 469-5254 fax

Page 1 of 1

Chain of Custody No: 82826

Client Name & Address:

Environmentel Services
129 Buck Point Rd
Campbell, CA
Report to: Heydenberg
Phone No: 920 918-8978

Report to: Heydenberg
Phone No: 9760 918 - 8478

Fax No: _____
E-mail: esi.craig@sypris.

Special Instructions/Comments:

Special Instructions/Comments: Table 910-1 w/ Low-level Arsenic

Public Water System (PWS) ID#:

Project Name: Marale's Resumes
road creek rd 25-3

Turnaround Time for Results (TAT)

Standard _____ **Expedited** (< 10 days, prior authorization required)
(please specify due date below;
add'l charges may apply)

Invoice to Name & Address:

Maralex Research
Attn: Jim Graves

P.O. or Contract No:

Requested Analysis/Method

[illegible]

Section To Be Completed by Analytical

Section To Be Completed by Analytical				FBKS			
Relinquished by:	Date	Time	Received by:	Date	Time	Condition of Custody Seal?:	THO
DCD	10/25/13	15:44	ASZ	4/26/13	10:18		None
Relinquished by:	Date	Time	Received by:	Date	Time	Initiated By:	JNU
							ANC
Relinquished by:	Date	Time	Received by:	Date	Time	Temp/Loc:	3.5
						Thermo ID#:	F
Name of Sampler: (printed)	Heydenberk						Shipped Via: