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ANALYTICA
Environmental Laboratories

9/26/2012

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

Work Order #: B1209050
Date: 9/26/2012
Work ID: Sulphur Gulch
Date Received: 8/3/2012
Proj #: None

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
B1209050-01	Pit-N @ 3	B1209050-02	Pit-S @ 3
B1209050-03	Pit-E @ 3	B1209050-04	Pit-W @ 3
B1209050-05	Pit-Bot. @ 6		

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 Environmental Laboratories, Inc.

Work Order: B1209050

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

Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998.

SAMPLE RECEIPT:
Five (5) samples were received on 8/3/2012 10:23:00 AM at a temperature of 3°C at Analytica-Thornton. The sample was received in good condition and in order per chain of custody.

COMMENTS: The samples were held for analysis until 9/10/15. This project is associated with B1208016.

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: ASTM D2216 - Pmoist - Soil

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

HOLDING TIMES:
The following analyses were performed as soon as possible upon being requested.
HOLD TIMES MISSED:
Sample Pit-N @ 3,B1209050-01A
Sampled: 8/2/2012 9:10:00 AM, Prepped: 9/17/2012 2:50:00 PM
Regulatory hold time: 14 Days
Sample Pit-S @ 3,B1209050-02A
Sampled: 8/2/2012 9:21:00 AM, Prepped: 9/17/2012 2:50:00 PM
Regulatory hold time: 14 Days
Sample Pit-E @ 3,B1209050-03A
Sampled: 8/2/2012 9:24:00 AM, Prepped: 9/17/2012 2:50:00 PM
Regulatory hold time: 14 Days
Sample Pit-W @ 3,B1209050-04A
Sampled: 8/2/2012 9:30:00 AM, Prepped: 9/17/2012 2:50:00 PM
Regulatory hold time: 14 Days
Sample Pit-Bot. @ 6,B1209050-05A
Sampled: 8/2/2012 9:00:00 AM, Prepped
Regulatory hold time: 14 Days

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

Type	Client Sample	LabSample	Analyte	Recovery	LCL	UCL	Parent	Spike
MS	Pit-N @ 3	B1209050-01A	Diesel Range Organic	45.8	50	129	468	68.2

MSD Pit-N @ 3	B1209050-01A	Diesel Range Organic	198	50	129	468	68.1

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

HOLDING TIMES:

The following analyses were performed as soon as possible upon being requested.

HOLD TIMES MISSED:

Sample Pit-N @ 3,B1209050-01B
Sampled: 8/2/2012 9:10:00 AM, Prepped: 9/17/2012 2:53:00 PM
Sampled: 8/2/2012 9:10:00 AM, Analyzed: 9/24/2012 6:44:44 PM
Regulatory hold time: 14 Days

Sample Pit-S @ 3,B1209050-02B
Sampled: 8/2/2012 9:21:00 AM, Prepped: 9/17/2012 2:53:00 PM
Sampled: 8/2/2012 9:21:00 AM, Analyzed: 9/24/2012 7:33:43 PM
Regulatory hold time: 14 Days

Sample Pit-E @ 3,B1209050-03B
Sampled: 8/2/2012 9:24:00 AM, Prepped: 9/17/2012 2:53:00 PM
Sampled: 8/2/2012 9:24:00 AM, Analyzed: 9/22/2012 4:23:32 AM
Regulatory hold time: 14 Days

Sample Pit-W @ 3,B1209050-04B
Sampled: 8/2/2012 9:30:00 AM, Prepped: 9/17/2012 2:53:00 PM
Sampled: 8/2/2012 9:30:00 AM, Analyzed: 9/24/2012 10:01:12 PM
Regulatory hold time: 14 Days

Sample Pit-Bot. @ 6,B1209050-05B
Sampled: 8/2/2012 9:00:00 AM, Prepped: 9/17/2012 2:53:00 PM
Sampled: 8/2/2012 9:00:00 AM, Analyzed: 9/24/2012 10:50:25 PM
Regulatory hold time: 14 Days

SURROGATE RECOVERIES:

The samples shown below have the surrogate outside of control windows. The results were confirmed by reanalysis. The LCS and CCVs do not show this effect and this is considered likely to be due to sample matrix.

The method blank shown below has the surrogate outside of control windows. The result was confirmed by reanalysis and no further correvting action was taken.

Sample	LabID	Surrogate	Recovery	LCL	UCL	
Pit-E @ 3	B1209050-03B	Squalane	823	50	150	Complete
Pit-W @ 3	B1209050-04B	Squalane	40.	50	150	Complete
MB	T120917004-MB	Squalane	44.	60	120	Complete

METHOD BLANK OUTLIERS:

The target was detected above the PQL in the method blank, as shown below. Any detections of this target in associated samples are flagged with a B to indicate that they are due to laboratory background, unless the sample result is 5X or more the method blank level.

MB Batch	Analyte	Result	PQL	MDL
T120917004	Residual Range Organ	6.02	5.67423	2.33645

MS/MSD and DUP OUTLIERS:

As shown below, the MS and MSD were outside the acceptance limits. This target had a sample concentration greater than four times the spike amount. In this case it is inappropriate to calculate recovery and the result should be used as a replicate.

Type	Client Sample	LabSample	Analyte	Recovery	LCL	UCL	Parent	Spike
MS	Pit-S @ 3	B1209050-02B	Residual Range Organ	-415	50	150	1230	67.7
MSD	Pit-S @ 3	B1209050-02B	Residual Range Organ	-338	50	150	1230	67.6

MSD Pit-S @ 3	B1209050-02B	Residual Range Organ	-338	50	150	1230	67.6

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

Report Section: Client Sample Report

Client Sample Name: **Pit-N @ 3**

Matrix: Soil

Collection Date: 8/2/2012 9:10:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-01B	Analysis Date:	9/24/2012 6:44:44PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	VOC by GC/FID via method 8015B - RRO	File Name:	12092407.D
Prep Method ID:	3550	Dilution Factor:	10
Prep Batch Number:	T120917004	Percent Moisture	2.07
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	30.02 g	Prep Extract Vol:	2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**2,900**		mg/Kg	120	48	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
Squalane	111-01-3	**ND**		mg/Kg	6.8	2.2	1.7	**100**	50	150	2 DIL

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-01A	Analysis Date:	9/19/2012 2:10:24PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	12091907.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T120917003	Percent Moisture	2.07
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	29.95 g	Prep Extract Vol:	2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**470**		mg/Kg	10	2.9	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**1.5**		mg/Kg	0.68	0.54	1.7	**86.6**	50	150	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

Report Section: **Client Sample Report**

Client Sample Name: **Pit-S @ 3**

Matrix: Soil

Collection Date: 8/2/2012 9:21:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-02B	Analysis Date:	9/24/2012 7:33:43PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	VOC by GC/FID via method 8015B - RRO	File Name:	12092408.D
Prep Method ID:	3550	Dilution Factor:	10
Prep Batch Number:	T120917004	Percent Moisture	1.38
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	29.98 g	Prep Extract Vol:	2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**1,200**		mg/Kg	110	47	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
Squalane	111-01-3	**ND**		mg/Kg	6.8	2.2	1.7	**81.6**	50	150	2 DIL

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-02A	Analysis Date:	9/19/2012 7:02:59PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	12091913.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T120917003	Percent Moisture	1.38
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	29.97 g	Prep Extract Vol:	2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**280**		mg/Kg	10	2.9	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**1.7**		mg/Kg	0.68	0.53	1.7	**103**	50	150	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

Report Section: **Client Sample Report**

Client Sample Name: **Pit-E @ 3**

Matrix: Soil

Collection Date: 8/2/2012 9:24:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-03B	Analysis Date:	9/22/2012 4:23:32AM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	VOC by GC/FID via method 8015B - RRO	File Name:	12092123.D
Prep Method ID:	3550	Dilution Factor:	10
Prep Batch Number:	T120917004	Percent Moisture	2.40
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	30.00 g	Prep Extract Vol:	3.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**9,900**		mg/Kg	170	72	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:	
Squalane	111-01-3	**14**		mg/Kg	10	3.3	1.7	**824**	50	150	2	HIGH

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-03A	Analysis Date:	9/20/2012 10:40:44AM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	12091916.D
Prep Method ID:	3550B	Dilution Factor:	10
Prep Batch Number:	T120917003	Percent Moisture	2.40
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	30.02 g	Prep Extract Vol:	2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**3,500**		mg/Kg	100	29	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:	
o-Terphenyl	84-15-1	**ND**		mg/Kg	6.8	5.4	1.7	**82.8**	50	150	2	DIL

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

Report Section: Client Sample Report

Client Sample Name: **Pit-W @ 3**

Matrix: Soil

Collection Date: 8/2/2012 9:30:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-04B	Analysis Date:	9/24/2012 10:01:12PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	VOC by GC/FID via method 8015B - RRO	File Name:	12092411.D
Prep Method ID:	3550	Dilution Factor:	10
Prep Batch Number:	T120917004	Percent Moisture	1.61
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	30.04 g	Prep Extract Vol:	2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**740**		mg/Kg	120	47	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:	
Squalane	111-01-3	**ND**		mg/Kg	6.8	2.2	1.7	**40.8**	50	150	2	DIL

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-04A	Analysis Date:	9/20/2012 1:55:41PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	12091920.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T120917003	Percent Moisture	1.61
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	30.00 g	Prep Extract Vol:	2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**210**		mg/Kg	10	2.9	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**1.5**		mg/Kg	0.68	0.53	1.7	**89.8**	50	150	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

Report Section: Client Sample Report

Client Sample Name: **Pit-Bot. @ 6**

Matrix: Soil

Collection Date: 8/2/2012 9:00:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-05B	Analysis Date:	9/24/2012 10:50:25PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	VOC by GC/FID via method 8015B - RRO	File Name:	12092412.D
Prep Method ID:	3550	Dilution Factor:	10
Prep Batch Number:	T120917004	Percent Moisture	2.59
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	30.00 g	Prep Extract Vol:	2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**2,900**		mg/Kg	120	48	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
Squalane	111-01-3	**ND**		mg/Kg	6.8	2.2	1.7	**143**	50	150	2 DIL

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	B1209050-05A	Analysis Date:	9/20/2012 2:44:26PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	12091921.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T120917003	Percent Moisture	2.59
Report Basis:	Dry Weight Basis	Analyst Initials:	kh
Sample prep wt./vol:	29.97 g	Prep Extract Vol:	2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**330**		mg/Kg	10	2.9	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**1.4**		mg/Kg	0.69	0.54	1.7	**80.3**	50	150	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Solid

Collection Date: 9/17/2012 2:53:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	T120917004-MB	Analysis Date:	9/21/2012 8:14:09PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	VOC by GC/FID via method 8015B - RRO	File Name:	12092113.D
Prep Method ID:	3550	Dilution Factor:	1
Prep Batch Number:	T120917004	Percent Moisture	NA
Report Basis:	As Received	Analyst Initials:	kh
Sample prep wt./vol:	29.96 g	Prep Extract Vol:	1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**6.0**		mg/Kg	5.7	2.3	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:	
Squalane	111-01-3	**0.74**		mg/Kg	0.33	0.11	1.7	**44.4**	50	150	1	LOW

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	T120917003-MB	Analysis Date:	9/19/2012 12:32:43PM
Prep Date:	9/17/2012	Instrument:	GC_E
Analytical Method ID:	SVOC by GC/FID via method 8015B - DRO	File Name:	12091905.D
Prep Method ID:	3550B	Dilution Factor:	1
Prep Batch Number:	T120917003	Percent Moisture	NA
Report Basis:	As Received	Analyst Initials:	kh
Sample prep wt./vol:	29.96 g	Prep Extract Vol:	1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**ND**		mg/Kg	5.0	1.4	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**1.2**		mg/Kg	0.33	0.26	1.7	**73.5**	50	150	1

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): B1209050

Project: Sulphur Gulch

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T120917003**

LCS REPORT

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

MB: T120917003-MB

Prep Date: 9/17/2012

MB Anal. Date: 9/19/2012 12:32:43PM

Units: mg/Kg

LCS Anal. Date: 9/19/2012 1:21:30PM

Matrix: Solid

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Diesel Range Organics	ND	57.6	66.7	86.3	75 - 125		

MS/MSD REPORT

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

Parent: B1209050-01A

Prep Date: 9/17/2012

Samp. Anal. Date: 9/19/2012 2:10:24PM

Units: mg/Kg

MS Anal. Date: 9/19/2012 3:48:10PM MSD Anal. Date: 9/19/2012 5:25:36PM

Matrix: Soil

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Diesel Range Organics	468	500	604	68.2	68.1	46.9	199.6	18.8	50 - 129	20 *NOTE 2*	*NOTE 2*

Prep Batch: **T120917004**

LCS REPORT

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

MB: T120917004-MB

Prep Date: 9/17/2012

MB Anal. Date: 9/21/2012 8:14:09PM

Units: mg/Kg

LCS Anal. Date: 9/21/2012 9:52:18PM

Matrix: Solid

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Residual Range Organics	6.02	45.4	66.8	68.0	60 - 120		

MS/MSD REPORT

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

Parent: B1209050-02B

Prep Date: 9/17/2012

Samp. Anal. Date: 9/24/2012 7:33:43PM

Units: mg/Kg

MS Anal. Date: 9/24/2012 8:22:53PM MSD Anal. Date: 9/24/2012 9:12:01PM

Matrix: Soil

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Residual Range Organics	1,230	951	1,000	67.7	67.6	-412.2	-340.4	5.0	50 - 150	40 *NOTE 2*	*NOTE 2*

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 signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

SURROGATE RECOVERY SUMMARY REPORT

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

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

Lab Sample #: B1209050-01A | Dilution: 1
Analysis Date: 9/19/2012 2:10:24PM | Client Sample: **Pit-N @ 3**
Batch Number: T120917003 | Data File: 12091907.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
o-Terphenyl	87	50	150			Complete

Lab Sample #: B1209050-02A | Dilution: 1
Analysis Date: 9/19/2012 7:02:59PM | Client Sample: **Pit-S @ 3**
Batch Number: T120917003 | Data File: 12091913.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
o-Terphenyl	103	50	150			Complete

Lab Sample #: B1209050-03A | Dilution: 1
Analysis Date: 9/20/2012 9:52:09AM | Client Sample: **Pit-E @ 3**
Batch Number: T120917003 | Data File: 12091915.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
o-Terphenyl	583	50	150	HIGH		Rrun

Lab Sample #: B1209050-03A | Dilution: 10
Analysis Date: 9/20/2012 10:40:44AM | Client Sample: **Pit-E @ 3**
Batch Number: T120917003 | Data File: 12091916.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
o-Terphenyl	83	50	150		DILUTED OUT	Complete

Lab Sample #: B1209050-04A | Dilution: 1
Analysis Date: 9/20/2012 1:55:41PM | Client Sample: **Pit-W @ 3**
Batch Number: T120917003 | Data File: 12091920.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
o-Terphenyl	90	50	150			Complete

Lab Sample #: B1209050-05A | Dilution: 1
Analysis Date: 9/20/2012 2:44:26PM | Client Sample: **Pit-Bot. @ 6**
Batch Number: T120917003 | Data File: 12091921.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
o-Terphenyl	80	50	150			Complete

Lab Sample #: T120917003-MB | Dilution: 1
Analysis Date: 9/19/2012 12:32:43PM | Client Sample: **MB**
Batch Number: T120917003 | Data File: 12091905.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
o-Terphenyl	74	60	120			Complete

Lab Sample #: T120917003-LCS | Dilution: 1
Analysis Date: 9/19/2012 1:21:30PM | Client Sample: **LCS**
Batch Number: T120917003 | Data File: 12091906.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
o-Terphenyl	83	60	120			Complete

Lab Sample #: B1209050-01A-MS | Dilution: 1
Analysis Date: 9/19/2012 3:48:10PM | Client Sample: **MS**
Batch Number: T120917003 | Data File: 12091909.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

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

Lab Sample #: B1209050-01A-MS
Analysis Date: 9/19/2012 3:48:10PM
Batch Number: T120917003
Dilution: 1
Client Sample: **MS**
Data File: 12091909.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	86	50	150		Complete

Lab Sample #: B1209050-01A-MSD
Analysis Date: 9/19/2012 5:25:36PM
Batch Number: T120917003
Dilution: 1
Client Sample: **MSD**
Data File: 12091911.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	95	50	150		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

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

Lab Sample #: B1209050-01B | Dilution: 1
Analysis Date: 9/22/2012 12:19:09AM | Client Sample: **Pit-N @ 3**
Batch Number: T120917004 | Data File: 12092118.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	81	50	150			Rrun

Lab Sample #: B1209050-02B | Dilution: 1
Analysis Date: 9/22/2012 1:08:06AM | Client Sample: **Pit-S @ 3**
Batch Number: T120917004 | Data File: 12092119.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	87	50	150			Rrun

Lab Sample #: B1209050-03B | Dilution: 1
Analysis Date: 9/22/2012 3:34:43AM | Client Sample: **Pit-E @ 3**
Batch Number: T120917004 | Data File: 12092122.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	288	50	150	HIGH		Rrun

Lab Sample #: B1209050-03B | Dilution: 10
Analysis Date: 9/22/2012 4:23:32AM | Client Sample: **Pit-E @ 3**
Batch Number: T120917004 | Data File: 12092123.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	824	50	150	HIGH		Complete

Lab Sample #: B1209050-04B | Dilution: 1
Analysis Date: 9/22/2012 5:12:15AM | Client Sample: **Pit-W @ 3**
Batch Number: T120917004 | Data File: 12092124.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	82	50	150			Rrun

Lab Sample #: B1209050-05B | Dilution: 1
Analysis Date: 9/22/2012 6:00:53AM | Client Sample: **Pit-Bot. @ 6**
Batch Number: T120917004 | Data File: 12092125.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	102	50	150			Rrun

Lab Sample #: B1209050-01B | Dilution: 10
Analysis Date: 9/24/2012 6:44:44PM | Client Sample: **Pit-N @ 3**
Batch Number: T120917004 | Data File: 12092407.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	100	50	150		DILUTED OUT	Complete

Lab Sample #: B1209050-02B | Dilution: 10
Analysis Date: 9/24/2012 7:33:43PM | Client Sample: **Pit-S @ 3**
Batch Number: T120917004 | Data File: 12092408.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	82	50	150		DILUTED OUT	Complete

Lab Sample #: B1209050-04B | Dilution: 10
Analysis Date: 9/24/2012 10:01:12PM | Client Sample: **Pit-W @ 3**
Batch Number: T120917004 | Data File: 12092411.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

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

Lab Sample #: B1209050-04B | Dilution: 10
Analysis Date: 9/24/2012 10:01:12PM | Client Sample: **Pit-W @ 3**
Batch Number: T120917004 | Data File: 12092411.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	41	50	150	LOW	DILUTED OUT	Complete

Lab Sample #: B1209050-05B | Dilution: 10
Analysis Date: 9/24/2012 10:50:25PM | Client Sample: **Pit-Bot. @ 6**
Batch Number: T120917004 | Data File: 12092412.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	143	50	150		UNDER QUANT LIMIT	Complete

Lab Sample #: T120917004-MB | Dilution: 1
Analysis Date: 9/21/2012 8:14:09PM | Client Sample: **MB**
Batch Number: T120917004 | Data File: 12092113.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	44	60	120	LOW		Complete

Lab Sample #: T120917004-MB | Dilution: 1
Analysis Date: 9/24/2012 5:07:17PM | Client Sample: **MB**
Batch Number: T120917004 | Data File: 12092405.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	8.54	60	120	LOW	UNDER QUANT LIMIT	Rrun

Lab Sample #: T120917004-LCS | Dilution: 1
Analysis Date: 9/21/2012 9:52:18PM | Client Sample: **LCS**
Batch Number: T120917004 | Data File: 12092115.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	102	60	120			Complete

Lab Sample #: B1209050-02B-MS | Dilution: 1
Analysis Date: 9/22/2012 1:56:59AM | Client Sample: **MS**
Batch Number: T120917004 | Data File: 12092120.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	79	50	150			Rrun

Lab Sample #: B1209050-02B-MS | Dilution: 10
Analysis Date: 9/24/2012 8:22:53PM | Client Sample: **MS**
Batch Number: T120917004 | Data File: 12092409.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	67	50	150		DILUTED OUT	Complete

Lab Sample #: B1209050-02B-MSD | Dilution: 1
Analysis Date: 9/22/2012 2:45:54AM | Client Sample: **MSD**
Batch Number: T120917004 | Data File: 12092121.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	88	50	150			Rrun

Lab Sample #: B1209050-02B-MSD | Dilution: 10
Analysis Date: 9/24/2012 9:12:01PM | Client Sample: **MSD**
Batch Number: T120917004 | Data File: 12092410.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

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

Lab Sample #:	B1209050-02B-MSD	Dilution:	10
Analysis Date:	9/24/2012 9:12:01PM	Client Sample:	**MSD**
Batch Number:	T120917004	Data File:	12092410.D

AnalyteName	SSRecov	LCL	UCL	SSFlag		Result Status
Squalane	72	50	150		DILUTED OUT	Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **141,874** **Lab Project Number:** **B1209050**

Prep Date: 9/17/2012

Lab Method Blank Id: T120917003-MB
Prep Batch ID: T120917003
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:

SampleNum	ClientSampleName	DataFile	AnalysisDate
T120917003-LCS	LCS	12091906.D	9/19/2012 1:21:30PM
B1209050-01A	Pit-N @ 3	12091907.D	9/19/2012 2:10:24PM
B1209050-01A-MS	MS	12091909.D	9/19/2012 3:48:10PM
B1209050-01A-MSD	MSD	12091911.D	9/19/2012 5:25:36PM
B1209050-02A	Pit-S @ 3	12091913.D	9/19/2012 7:02:59PM
B1209050-03A	Pit-E @ 3	12091916.D	9/20/2012 10:40:44AM
B1209050-04A	Pit-W @ 3	12091920.D	9/20/2012 1:55:41PM
B1209050-05A	Pit-Bot. @ 6	12091921.D	9/20/2012 2:44:26PM

Prep Date: 9/17/2012

Lab Method Blank Id: T120917004-MB
Prep Batch ID: T120917004
Method: VOC by GC/FID via method 8015B - RRO

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
T120917004-LCS	LCS	12092115.D	9/21/2012 9:52:18PM
B1209050-03B	Pit-E @ 3	12092123.D	9/22/2012 4:23:32AM
B1209050-01B	Pit-N @ 3	12092407.D	9/24/2012 6:44:44PM
B1209050-02B	Pit-S @ 3	12092408.D	9/24/2012 7:33:43PM
B1209050-02B-MS	MS	12092409.D	9/24/2012 8:22:53PM
B1209050-02B-MSD	MSD	12092410.D	9/24/2012 9:12:01PM
B1209050-04B	Pit-W @ 3	12092411.D	9/24/2012 10:01:12PM
B1209050-05B	Pit-Bot. @ 6	12092412.D	9/24/2012 10:50:25PM

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): B1209050

Project: **Sulphur Gulch**

Client: **Maralex Resources, Inc.**

Client Project Number: **None**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **141,874** **Lab Project Number:** **B1209050**

Prep Date: 9/14/2012

Lab Method Blank Id: T120917005-MB

Prep Batch ID: T120917005

Method: ASTM D2216 - Pmoist

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
B1209045-01A	Batch QC		9/17/2012 11:15:18AM
B1209050-01A	Pit-N @ 3		9/17/2012 11:15:18AM
B1209050-02A	Pit-S @ 3		9/17/2012 11:15:18AM
B1209050-03A	Pit-E @ 3		9/17/2012 11:15:18AM
B1209050-04A	Pit-W @ 3		9/17/2012 11:15:18AM
B1209050-05A	Pit-Bot. @ 6		9/17/2012 11:15:18AM
B1209045-01A-DUP	DUP		9/17/2012 11:15:18AM

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

REPORTING CONVENTIONS FOR THIS REPORT

B1209050

TestPkgName	Basis	# Sig Figs	Reporting Limit
8015/3550 (Solid) - RRO	Dry Weight Basis	2	Report to PQL
8015B/3550B (Solid) - DRO	Dry Weight Basis	2	Report to PQL
ASTMD2216/ASTMD2216 (Solid) - Pmoist	As Received	3	Report to MDL, J qual below PQL

*Shipped In Two Coolers

Analytica Chain of Custody Form

ANALYTICA GROUP ®

5438 Shaune Drive, Juneau, AK 99801, (907) 780-6668, (907) 780-6670 fax
5761 Silverado Way, # N, Anchorage, AK 99518, (907) 258-2155, (907) 258-6634 fax
3330 Industrial Ave., Fairbanks, AK 99701, (907) 456-3116, (907) 456-3125 fax
12189 Pennsylvania St., Thornton, CO 80241, (303) 469-8868, (303) 469-5254 fax

Page 1 of 1

Chain of Custody No: 77894

Client Name & Address: Environmental Services, Inc

Report to: Heydenberk
Phone No: 970 948 9978
Fax No:
E-mail: esi.craig@sopris.net

Public Water System (PWS) ID#:
Project Name: Maralex Resources, Inc Sulfur Gulch 9-98-10 #1

Turnaround Time for Results (TAT): X Standard ___ Expedited (< 10 days, prior authorization required) (please specify due date below; add'l charges may apply)
Requested Due Date for Results:

Section To be Completed by Analytica: Quote ID: ; LGN: B1209050
Account #: ; Cash ; Credit Card

Invoice to Name & Address: Maralex Resources, Jim Graves
P.O. or Contract No:

Special Instructions/Comments: CSP-Comp. = CO6CC Table 910-Solids
All BTEX 8260 LL Arsenic = Low Level

Kit Prep/Shipping Charge: $

Requested Analysis/Method (@ 9/11/12)

Client Sample Identification / Location	Date Sampled	Time Sampled	Matrix (S-DW-WW-Other)	No. of Containers	GRO Lot # / Pres.	DRO Lot # / Pres.	BTEX Lot # / Pres.	LL Arsenic Lot # / Pres.	Table 910 Lot # / Pres.	Lot # / Pres.	Lot # / Pres.	Lot # / Pres.	Lot # / Pres.	Field Preserved	Field Filtered	MS/MSD ?
Pit-N @ 3'	8/2	9:20		2		X	X									
Pit-S @ 3'		9:21		2		X	X									
Pit-E @ 3	Hold - may do DRO only	9:24		2		X	X									
Pit-W @ 3		9:30		2		X	X									
Pit-Bot. @ 6		9:00		2		X	X									
Ars-B.6. #1		9:41		1				X	X NO							
Ars-B6. #2		9:49		1				X	X NO							
Ars-B6. #3		9:58		1				X	X NO							
CSP-Comp run 1st → dot any concern (by jgh)		10:10		4				X	X							

Relinquished by:	Date	Time	Received by:	Date	Time
Heydenberk	8/2/12	15:00	Marma Schwell	8/3/12	10:23
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Name of Sampler: (printed) Heydenberk

Section To Be Completed by Analytica

	THO	ANC	JNU	FBKS
Condition of Custody Seal?:	Intact			
Initialed By:	DCH			
Temp/Loc:	5.7, 3.0			
Thermo ID#:				
Shipped Via:	F			

Version 2.0

Hold Pit samples per Cl Heydenberk CS 8-3-12