ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

December 31, 2013

Report to:
Randy Miller
North Park Engineering & Consulting, Inc
P.O. Box 395
Walden, CO 80480

Bill to:
Randy Miller
North Park Engineering & Consulting, Inc
P.O. Box 395
Walden, CO 80480

Project ID:
ACZ Project ID: L15937

Randy Miller:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 11, 2013. This project has been assigned to ACZ's project number, L15937. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L15937. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 30, 2014. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
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Inorganic Analytical Results

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: BG-1

ACZ Sample ID: ***L15937-18***
Date Sampled: *12/10/13 10:20*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total (3050)	M6020 ICP-MS	510	10.3			mg/Kg	0.1	0.5	12/27/13 16:19	msh

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Solids, Percent	CLPSOW390, PART F, D-98	1	76.1		*	%	0.1	0.5	12/26/13 18:37	cdb

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								12/20/13 17:15	spl
Digestion - Hot Plate	M3050B ICP-MS								12/26/13 21:15	cdb
Sieve-2000 um (2.0mm)	ASA No.9, 15-4.2.2								12/26/13 11:00	cdb

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.
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Inorganic Analytical Results

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: BG-2

ACZ Sample ID: ***L15937-19***
Date Sampled: *12/10/13 10:30*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, total (3050)	M6020 ICP-MS	510	9.9			mg/Kg	0.1	0.5	12/27/13 16:29	msh

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Solids, Percent	CLPSOW390, PART F, D-98	1	72.8		*	%	0.1	0.5	12/26/13 23:45	cdb

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								12/20/13 17:25	spl
Digestion - Hot Plate	M3050B ICP-MS								12/27/13 2:43	cdb
Sieve-2000 um (2.0mm)	ASA No.9, 15-4.2.2								12/26/13 11:15	cdb

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

North Park Engineering & Consulting, Inc

ACZ Project ID: ***L15937***

Arsenic, total (3050) M6020 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356973													
WG356973ICV	ICV	12/27/13 15:45	MS131202-2	.05		.04986	mg/L	99.7	90	110			
WG356973ICB	ICB	12/27/13 15:48				U	mg/L		-0.0006	0.0006			
WG356922PBS	PBS	12/27/13 16:02				.19	mg/Kg		-0.3	0.3			
WG356922LCSS1	LCSS	12/27/13 16:05	PCN42470	161		162.7	mg/Kg		130	192			
WG356922LCSSD1	LCSSD	12/27/13 16:09	PCN42470	161		164	mg/Kg		130	192	0.8	20	
L15937-18MS	MS	12/27/13 16:22	MS131204-3	25.551	10.3	31.97	mg/Kg	84.8	75	125			
L15937-18MSD	MSD	12/27/13 16:26	MS131204-3	25.551	10.3	31.9	mg/Kg	84.5	75	125	0.22	20	

Solids, Percent CLPSOW390, PART F, D-98

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG356929													
WG356929PBS	PBS	12/26/13 13:30				U	%		99.9	100.1			
L16090-03DUP	DUP	12/27/13 10:00			97.6	97.51	%				0.1	20	

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

North Park Engineering & Consulting, Inc ACZ Project ID: ***L15937***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

ACZ Laboratories, Inc.
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Organic Analytical Results

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P3 13-14

ACZ Sample ID: ***L15937-01***
Date Sampled: *12/09/13 15:40*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:03
Analysis Date: 12/23/13 20:54

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	33.3		mg/Kg	3	20
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	80.9		33.3		%	70	130

** Please refer to Qualifier Reports for details.*

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P4 6-7

ACZ Sample ID: ***L15937-02***
Date Sampled: *12/10/13 9:00*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:06
Analysis Date: 12/23/13 22:13

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	33.3		mg/Kg	3	20
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	85.7		33.3		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P4 13-15

ACZ Sample ID: ***L15937-03***
Date Sampled: *12/10/13 8:50*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:07
Analysis Date: 12/23/13 22:39

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	33.3		mg/Kg	3	20
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	86.7		33.3		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P5 9-10

ACZ Sample ID: ***L15937-04***
Date Sampled: *12/10/13 10:00*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:08
Analysis Date: 12/23/13 23:05

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	80.2		100		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P6 4-5

ACZ Sample ID: ***L15937-05***
Date Sampled: *12/10/13 9:30*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:09
Analysis Date: 12/23/13 23:31

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	33.3		mg/Kg	3	20
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	88.8		33.3		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P6 14-15

ACZ Sample ID: ***L15937-06***
Date Sampled: *12/10/13 9:10*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:10
Analysis Date: 12/24/13 0:23

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	33.3		mg/Kg	3	20
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	89.1		33.3		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P8 3-4

ACZ Sample ID: ***L15937-07***
Date Sampled: *12/10/13 12:15*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:11
Analysis Date: 12/24/13 0:49

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	33.3		mg/Kg	3	20
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	87.6		33.3		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P8 13-14

ACZ Sample ID: ***L15937-08***
Date Sampled: *12/10/13 12:30*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:12
Analysis Date: 12/24/13 1:15

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	88.9		100		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P9 2-3

ACZ Sample ID: ***L15937-09***
Date Sampled: *12/10/13 12:10*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:13
Analysis Date: 12/24/13 1:41

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	83.1		100		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P9 12-13

ACZ Sample ID: ***L15937-10***
Date Sampled: *12/10/13 12:15*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:14
Analysis Date: 12/24/13 2:07

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	87.2		100		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P10 13-14

ACZ Sample ID: ***L15937-11***
Date Sampled: *12/10/13 11:50*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:15
Analysis Date: 12/24/13 2:33

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	82.8		100		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P11 2-3

ACZ Sample ID: ***L15937-12***
Date Sampled: *12/10/13 13:00*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:16
Analysis Date: 12/24/13 2:59

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	86.9		100		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P11 13-14

ACZ Sample ID: ***L15937-13***
Date Sampled: *12/10/13 13:10*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:17
Analysis Date: 12/24/13 3:25

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	87.9		100		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P12 4-5

ACZ Sample ID: ***L15937-14***
Date Sampled: *12/10/13 14:30*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:18
Analysis Date: 12/24/13 3:52

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	33.3		mg/Kg	3	20
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	88.5		33.3		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P13 13-14

ACZ Sample ID: ***L15937-15***
Date Sampled: *12/10/13 11:15*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:19
Analysis Date: 12/24/13 4:18

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	84.3		100		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P14 2-3

ACZ Sample ID: ***L15937-16***
Date Sampled: *12/10/13 14:15*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:21
Analysis Date: 12/24/13 5:10

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	85.6		100		%	70	130

North Park Engineering & Consulting, Inc
Project ID:
Sample ID: P14 13-14

ACZ Sample ID: ***L15937-17***
Date Sampled: *12/10/13 14:20*
Date Received: *12/11/13*
Sample Matrix: *Soil*

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**
Extract Method: **M3540**

Workgroup: WG356964
Analyst: jad
Extract Date: 12/19/13 19:22
Analysis Date: 12/24/13 5:36

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	100		mg/Kg	10	50
Surrogate Recoveries	**CAS**	**% Recovery**		**Dilution**	**XQ**	**Units**	**LCL**	**UCL**
OTP	84-15-1	88.7		100		%	70	130

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
LCL	Lower Control Limit
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
UCL	Upper Control Limit
Sample	Value of the Sample of interest

QC Sample Types

SURR	Surrogate	*LFM*	Laboratory Fortified Matrix
INTS	Internal Standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
LCSS	Laboratory Control Sample - Soil	*MS/MSD*	Matrix Spike/Matrix Spike Duplicate
LCSW	Laboratory Control Sample - Water	*PBS*	Prep Blank - Soil
LFB	Laboratory Fortified Blank	*PBW*	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
O	Analyte concentration is estimated due to result exceeding calibration range.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
J	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
(3)	EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
(4)	EPA SW-846. Test Methods for Evaluating Solid Waste.
(5)	Standard Methods for the Examination of Water and Wastewater.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Excluding Oil & Grease, solid & biological matrices for organic analyses are reported on a wet weight basis.
(3)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(4)	If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

North Park Engineering & Consulting, Inc

ACZ Project ID: ***L15937***

Diesel Range Organics (C10-C28)

M8015D GC/FID

WG356964

MS **Sample ID: L15937-01MS** **PCN/SCN: TPH131106-1-30** **Analyzed: 12/23/13 21:20**

Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
TPH C10 TO C28	83.3	U	74.5	mg/Kg	89.4	70	130			
OTP (surr)				%	88.5	70	130			

MSD **Sample ID: L15937-01MSD** **PCN/SCN: TPH131106-1-30** **Analyzed: 12/23/13 21:46**

Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
TPH C10 TO C28	83.3	U	73.2	mg/Kg	87.8	70	130	1.76	20	
OTP (surr)				%	88.2	70	130			

LCSS **Sample ID: WG356719LCSS** **PCN/SCN: TPH131106-1-30** **Analyzed: 12/23/13 20:03**

Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
TPH C10 TO C28	83.3		71.9	mg/Kg	86.3	70	130			
OTP (surr)				%	83.3	70	130			

LCSSD **Sample ID: WG356719LCSSD** **PCN/SCN: TPH131106-1-30** **Analyzed: 12/23/13 20:28**

Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
TPH C10 TO C28	83.3		72.3	mg/Kg	86.7	70	130	0.6	20	
OTP (surr)				%	83.5	70	130			

PBS **Sample ID: WG356719PBS** **Analyzed: 12/23/13 19:37**

Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
TPH C10 TO C28			U	mg/Kg		-20	20			
OTP (surr)				%	73.6	70	130			
TPH C10 TO C28			U	mg/Kg		-20	20			
OTP (surr)				%	80.2	70	130			

Organic Extended Qualifier Report

North Park Engineering & Consulting, Inc ACZ Project ID: ***L15937***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L15937-04	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.
L15937-08	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.
L15937-09	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.
L15937-10	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.
L15937-11	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.
L15937-12	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.
L15937-13	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.
L15937-15	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.
L15937-16	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.
L15937-17	WG356719	*All Compounds*	M3540	D1	Sample required dilution due to matrix.

Soil Analysis

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Solids, Percent	CLPSOW390, PART F, D-98

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

North Park Engineering & Consulting, Inc

ACZ Project ID: L15937
Date Received: 12/11/2013 07:43
Received By: mtb
Date Printed: 12/12/2013

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?			X
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody complete and accurate?	X		
7) Were any changes made to the Chain of Custody prior to ACZ receiving the samples?	X		

A change was made in the sample ID section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody match for Sample ID, Date, and Time?		X	

L15937-15 Container B1415465 (SJ INORG): The ID on the sample label is P13 13-14, and on the COC the ID is P13 14-15. The sample ID was entered per the COC.

L15937-15 Container B1415466 (SJ ORG): The ID on the sample label is P13 13-14, and on the COC the ID is P13 14-15. The sample ID was entered per the COC.

L15937-15 Container B1415467 (SJ ORG VOA): The ID on the sample label is P13 13-14, and on the COC the ID is P13 14-15. The sample ID was entered per the COC.

11) For preserved bottle types, was the pH checked and within limits?			X
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?		X	
18) Were all samples received within hold time?	X		

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

North Park Engineering & Consulting, Inc

ACZ Project ID: L15937
Date Received: 12/11/2013 07:43
Received By: mtb
Date Printed: 12/12/2013

Cooler Id	Temp (°C)	Rad (µR/Hr)	Custody Seal Intact?
2686	0.7	12	N/A
3440	0.5	12	N/A
3931	0.3	12	N/A

Was ice present in the shipment container(s)?

No - Wet or gel ice was not present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc. L15937

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Randy Miller	Address: PO Box 395
Company: North Park Engineering	Walden CO
E-mail: Randy@npeng.com	Telephone: 970 218 4974

Copy of Report to:

Name: Same	E-mail: Same
Company:	Telephone:

Invoice to:

Name: Same	Address: Same
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☐

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Will Sampler's site Information State: Colo Zip code 80403 Time Zone MT

Check box if observe Daylight Savings Time ☐

PROJECT INFORMATION

Quote #: 910-1

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	GRO	DRO	Inorganics					
P1 6-7	12/9 1500	SOL	3								
P1 13-14	1510		3								
P1 17-18	1530		3								
P2 7.5-9	1345		3								
P2 17-18	1445		3								
P3 13-14	1540		3								
P4 6-7	12/10/13 0900		3								
P4 13-15	0850		3								
P5 9-10	1000		3								
P6 4-5	0930		3								

Rush

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

COC 1/3 Rush Samples P1 & P2 per Quote

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	12/11/13 0730	[signature] 12/11/13	0730

L15937 Chain of Custody

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc. L15937

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Randy Miller	Address: PO Box 395
Company: North Park Engineering	Walden CO
E-mail: Randy@NPEng.com	Telephone: 970 218 4974

Copy of Report to:

Name: Same	E-mail: Same
Company:	Telephone:

Invoice to:

Name: Same	Address: Same
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☐

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Will **Sampler's site Information** **State:** Colo **Zip code** 80403 **Time Zone**

Check box if observe Daylight Savings Time ☐

PROJECT INFORMATION

Quote #: 910-1

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED *(attach list or use quote number)*

	SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	GRO	DRO	Inorganics					
	P6 14-15	12/10/13 0910	SOIL	3								
*	P7 1-2	1400										
*	P7 9-10	1410										
	P8 3-4	1215										
	P8 13-14	1230										
	P9 2-3	1210										
	P9 12-13	1215										
	P10 13-14	1150										
	P11 2-3	1300										
	P11 13-14	1310										

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

COC 2/3

* Rush Sample P7 per Quote

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
	12/11/13 0730	12/11/13	0730

FRMAD050.12.12.12 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc. L15937

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Randy Miller	Address: PO Box 395
Company: North Park Engineering	Walden CO
E-mail: Randy@NPENG.com	Telephone: 970 218 4974

Copy of Report to:

Name: Same	E-mail: Same
Company:	Telephone:

Invoice to:

Name: Same	Address: Same
Company:	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ☐ NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes ☐ No ☐

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Mrill **Sampler's site Information** **State:** Co/o **Zip code** 8073 **Time Zone** MT

Check box if observe Daylight Savings Time ☐

PROJECT INFORMATION

Quote #:

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	GRO	DRO	Inorganics	Arsenic				
P12 4-5	12/10/2013 1430	SOIL		X	X	X					
P13 14-15	1115			X	X	X					
P14 2-3	1415			X	X	X					
P14 13-14	1420			X	X	X					
BG-1	1020						X				
BG-2	1030						X				

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

COC 3/3

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	12/11/13 0730	ACZ 12/11/13	0730