



**Nicholson GeoSolutions LLC**

3433 East Lake Drive  
Centennial, CO 80121

April 7, 2017

Mr. Derek Johnson  
Linn Energy, LLC  
235 Callahan Avenue  
Parachute, Colorado 81635

**Subject: I-11 (J-13) Landfarm Screening Soil Sample Results**

Dear Derek:

Nicholson GeoSolutions LLC collected a screening level soil sample from the landfarm on the I-11 well pad (the former J-13 spoils) in the Garden Gulch area, Garfield County, Colorado on March 22<sup>nd</sup>, 2017. The sample was composited from 16 subsamples collected at depths of about 12-18 inches across the surface of the landfarm. This sample was analyzed for Total Volatile Petroleum Hydrocarbons (TVPH – gasoline range), Total Extractable Petroleum Hydrocarbons (TEPH – diesel and motor oil range), PAHs, BTEX, SAR, pH, conductivity, and metals to evaluate compliance with the COGCC Table 910-1 standards and whether additional treatment is necessary. The laboratory report is attached.

Benzo(a)pyrene was reported at 0.0158 mg/kg, below the standard of 0.022 mg/kg and substantially lower than the value of 0.0602 mg/kg reported in November 2016. All other results were below the standards except for arsenic at 9.31 mg/kg.

Please contact me at 303-601-2023 if you have any questions regarding these results.

Nicholson GeoSolutions LLC

A handwritten signature in blue ink that reads "DK Nicholson".

David K. Nicholson, P.G.  
Principal Geologist

**APPENDIX A**  
**Laboratory Report**

## Linn Energy - Denver, CO

Sample Delivery Group: L898404  
Samples Received: 03/25/2017  
Project Number:  
Description: Garden Gulch Pit Reclamation  
  
Report To: Dave Nicholson  
1999 Broadway, Suite 3700  
Denver, CO 80202

Entire Report Reviewed By:



Mark W. Beasley  
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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## SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



I-11 L898404-01 Solid

Collected by  
DK NicholsonCollected date/time  
03/22/17 13:30Received date/time  
03/25/17 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Calculated Results	WG965498	1	04/01/17 13:55	04/03/17 02:05	ST
Calculated Results	WG964475	1	03/29/17 13:40	03/31/17 14:27	MA
Wet Chemistry by Method 3060A/7196A	WG965982	1	03/31/17 08:42	03/31/17 14:27	MA
Wet Chemistry by Method 350.1	WG965144	1	03/30/17 08:35	03/30/17 22:46	ASK
Wet Chemistry by Method 4500P E-2011	WG965018	1	03/29/17 12:01	03/29/17 14:17	MHM
Wet Chemistry by Method 9045D	WG963431	1	03/29/17 11:30	03/29/17 12:38	MA
Wet Chemistry by Method 9050AMod	WG965086	1	03/29/17 17:17	03/29/17 17:17	MAJ
Wet Chemistry by Method 9056A	WG966736	1	04/04/17 12:49	04/04/17 16:00	KCF
Wet Chemistry by Method USDA LOI	WG964653	1	03/28/17 18:10	03/29/17 18:24	MMF
Mercury by Method 7471A	WG964936	1	03/28/17 14:56	03/29/17 09:24	NJB
Metals (ICP) by Method 6010B	WG964475	1	03/29/17 13:40	03/31/17 09:32	CCE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG965755	1	03/30/17 10:12	03/31/17 02:15	ACM
Volatile Organic Compounds (GC) by Method 8015/8021	WG966293	1	03/30/17 10:59	04/01/17 18:57	JAH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG965755	1	03/30/17 10:12	03/31/17 02:15	ACM
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG965806	1	03/31/17 10:33	04/01/17 08:40	CLG

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley  
Technical Service Representative

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Calculated Results

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Sodium Adsorption Ratio	2.49		1	04/03/2017 02:05	WG965498

## Calculated Results

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Trivalent	32.3		2.00	1	03/31/2017 14:27	<a href="#">WG964475</a>

## Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium, Hexavalent	ND		2.00	1	03/31/2017 14:27	<a href="#">WG965982</a>

## Wet Chemistry by Method 350.1

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Ammonia Nitrogen	5.70	<a href="#">P1</a>	5.00	1	03/30/2017 22:46	<a href="#">WG965144</a>

## Wet Chemistry by Method 4500P E-2011

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Phosphate, Ortho	3.58		0.250	1	03/29/2017 14:17	<a href="#">WG965018</a>

## Wet Chemistry by Method 9045D

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.25	<a href="#">T8</a>	1	03/29/2017 12:38	<a href="#">WG963431</a>

## Sample Narrative:

9045D L898404-01 WG963431: 8.25 at 19.9c

## Wet Chemistry by Method 9050AMod

Analyte	Result umhos/cm	Qualifier	Dilution	Analysis date / time	Batch
Specific Conductance	176		1	03/29/2017 17:17	<a href="#">WG965086</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Nitrate as (N)	7.37		1.00	1	04/04/2017 16:00	<a href="#">WG966736</a>

## Wet Chemistry by Method USDA LOI

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
TOC (Total Organic Carbon)	22500		10.0	1	03/29/2017 18:24	<a href="#">WG964653</a>

## Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.0227		0.0200	1	03/29/2017 09:24	<a href="#">WG964936</a>





Collected date/time: 03/22/17 13:30

L898404

## Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	9.31		2.00	1	03/31/2017 09:32	<a href="#">WG964475</a>
Barium	457		0.500	1	03/31/2017 09:32	<a href="#">WG964475</a>
Boron	ND		10.0	1	03/31/2017 09:32	<a href="#">WG964475</a>
Cadmium	ND		0.500	1	03/31/2017 09:32	<a href="#">WG964475</a>
Chromium	32.3		1.00	1	03/31/2017 09:32	<a href="#">WG964475</a>
Copper	26.2		2.00	1	03/31/2017 09:32	<a href="#">WG964475</a>
Lead	16.7		0.500	1	03/31/2017 09:32	<a href="#">WG964475</a>
Nickel	24.2		2.00	1	03/31/2017 09:32	<a href="#">WG964475</a>
Potassium	2170		100	1	03/31/2017 09:32	<a href="#">WG964475</a>
Selenium	ND		2.00	1	03/31/2017 09:32	<a href="#">WG964475</a>
Silver	ND		1.00	1	03/31/2017 09:32	<a href="#">WG964475</a>
Zinc	59.9		5.00	1	03/31/2017 09:32	<a href="#">WG964475</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

## Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00138		0.000500	1	04/01/2017 18:57	<a href="#">WG966293</a>
Toluene	ND		0.00500	1	04/01/2017 18:57	<a href="#">WG966293</a>
Ethylbenzene	0.000994	<u>B</u>	0.000500	1	04/01/2017 18:57	<a href="#">WG966293</a>
Total Xylene	0.00174	<u>B</u>	0.00150	1	04/01/2017 18:57	<a href="#">WG966293</a>
TPH (GC/FID) Low Fraction	ND		0.100	1	04/01/2017 18:57	<a href="#">WG966293</a>
(S) a,a,a-Trifluorotoluene(FID)	88.6		77.0-120		04/01/2017 18:57	<a href="#">WG966293</a>
(S) a,a,a-Trifluorotoluene(PID)	98.0		75.0-128		04/01/2017 18:57	<a href="#">WG966293</a>

## Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	13.1		4.00	1	03/31/2017 02:15	<a href="#">WG965755</a>
C28-C40 Oil Range	14.0		4.00	1	03/31/2017 02:15	<a href="#">WG965755</a>
(S) o-Terphenyl	76.0		18.0-148		03/31/2017 02:15	<a href="#">WG965755</a>

## Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Acenaphthene	ND		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Acenaphthylene	ND		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Benzo(a)anthracene	0.0119		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Benzo(a)pyrene	0.0158		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Benzo(b)fluoranthene	0.0312		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Benzo(g,h,i)perylene	0.0230		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Benzo(k)fluoranthene	0.00946		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Chrysene	0.0190		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Dibenz(a,h)anthracene	0.00695		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Fluoranthene	0.0235		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Fluorene	ND		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Indeno(1,2,3-cd)pyrene	0.0177		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Naphthalene	0.0469		0.0200	1	04/01/2017 08:40	<a href="#">WG965806</a>
Phenanthrene	0.0284		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
Pyrene	0.0200		0.00600	1	04/01/2017 08:40	<a href="#">WG965806</a>
1-Methylnaphthalene	0.0428		0.0200	1	04/01/2017 08:40	<a href="#">WG965806</a>
2-Methylnaphthalene	0.0739		0.0200	1	04/01/2017 08:40	<a href="#">WG965806</a>
2-Chloronaphthalene	ND		0.0200	1	04/01/2017 08:40	<a href="#">WG965806</a>
(S) p-Terphenyl-d14	90.9		23.0-120		04/01/2017 08:40	<a href="#">WG965806</a>
(S) Nitrobenzene-d5	83.9		14.0-149		04/01/2017 08:40	<a href="#">WG965806</a>





Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
(S) 2-Fluorobiphenyl	93.0		34.0-125		04/01/2017 08:40	<a href="#">WG965806</a>

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3207413-1 03/31/17 14:12

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.64	2.00

L898008-03 Original Sample (OS) • Duplicate (DUP)

(OS) L898008-03 03/31/17 14:14 • (DUP) R3207413-4 03/31/17 14:15

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	0	1	0		20

L898405-05 Original Sample (OS) • Duplicate (DUP)

(OS) L898405-05 03/31/17 14:30 • (DUP) R3207413-8 03/31/17 14:30

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	0.680	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207413-2 03/31/17 14:12 • (LCSD) R3207413-3 03/31/17 14:13

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Chromium,Hexavalent	56.9	57.4	57.6	101	101	80-120			0	20

L898008-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898008-04 03/31/17 14:16 • (MS) R3207413-5 03/31/17 14:16 • (MSD) R3207413-6 03/31/17 14:17

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chromium,Hexavalent	26.1	ND	23.3	22.5	89	86	1	75-125			3	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3207204-1 03/30/17 22:40				
	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Ammonia Nitrogen	U		1.57	5.00

L898404-01 Original Sample (OS) • Duplicate (DUP)

(OS) L898404-01 03/30/17 22:46 • (DUP) R3207204-4 03/30/17 22:47						
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Ammonia Nitrogen	5.70	4.61	1	21	P1	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207204-2 03/30/17 22:41 • (LCSD) R3207204-3 03/30/17 22:42										
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Ammonia Nitrogen	500	520	489	104	98	90-110			6	20

L898855-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898855-01 03/30/17 22:49 • (MS) R3207204-5 03/30/17 22:50 • (MSD) R3207204-6 03/30/17 22:53												
	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Ammonia Nitrogen	20400	ND	19900	19200	97	94	1	80-120			3	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3206721-1 03/29/17 13:49

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Phosphate,Ortho	U		0.0825	0.250

L898404-01 Original Sample (OS) • Duplicate (DUP)

(OS) L898404-01 03/29/17 14:17 • (DUP) R3206721-2 03/29/17 14:18

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Phosphate,Ortho	3.58	3.62	1	1		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3206721-5 03/29/17 14:30 • (LCSD) R3206721-6 03/29/17 14:31

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Phosphate,Ortho	5.00	5.12	5.08	102	102	85-115			1	20

L897570-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L897570-01 03/29/17 14:09 • (MS) R3206721-3 03/29/17 14:19 • (MSD) R3206721-4 03/29/17 14:19

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Phosphate,Ortho	5.00	5.24	7.43	7.64	44	48	1	80-120	J6	J6	3	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



L897593-01 Original Sample (OS) • Duplicate (DUP)

(OS) L897593-01 03/29/17 12:38 • (DUP) WG963431-3 03/29/17 12:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	10.1	10.1	1	0.297	T8	1

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

L898478-02 Original Sample (OS) • Duplicate (DUP)

(OS) L898478-02 03/29/17 12:38 • (DUP) WG963431-4 03/29/17 12:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.53	8.54	1	0.117	T8	1

7  
Gl

8  
Al

9  
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) WG963431-1 03/29/17 12:38 • (LCSD) WG963431-2 03/29/17 12:37

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	7.50	7.42	7.46	98.9	99.5	98.7-101			0.538	1

Method Blank (MB)

(MB) WG965086-4 03/29/17 17:17				
Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	umhos/cm		umhos/cm	umhos/cm
Specific Conductance	2.18			

L898404-01 Original Sample (OS) • Duplicate (DUP)

(OS) L898404-01 03/29/17 17:17 • (DUP) WG965086-1 03/29/17 17:17						
Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	umhos/cm	umhos/cm		%		%
Specific Conductance	176	177	1	0.510		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) WG965086-2 03/29/17 17:17 • (LCSD) WG965086-3 03/29/17 17:17									
Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD
	umhos/cm	umhos/cm	umhos/cm	%	%	%			%
Specific Conductance	542	549	548	101	101	90.0-110			0.182

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3208258-1 04/04/17 14:14

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Nitrate	U		0.0116	1.00

L898761-22 Original Sample (OS) • Duplicate (DUP)

(OS) L898761-22 04/04/17 17:03 • (DUP) R3208258-4 04/04/17 17:24

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Nitrate	ND	0.684	1	0		15

L898761-28 Original Sample (OS) • Duplicate (DUP)

(OS) L898761-28 04/04/17 20:56 • (DUP) R3208258-7 04/04/17 21:17

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Nitrate	ND	0.521	1	0		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208258-2 04/04/17 14:35 • (LCSD) R3208258-3 04/04/17 14:56

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Nitrate	20.0	19.0	19.1	95	96	80-120			1	15

L898761-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898761-23 04/04/17 17:46 • (MS) R3208258-5 04/04/17 18:07 • (MSD) R3208258-6 04/04/17 18:28

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Nitrate	50.0	ND	47.4	50.4	94	100	1	80-120			6	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3206835-1 03/29/17 18:24

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
TOC (Total Organic Carbon)	U		3.33	10.0

L897570-03 Original Sample (OS) • Duplicate (DUP)

(OS) L897570-03 03/29/17 18:25 • (DUP) R3206835-4 03/29/17 18:25

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
TOC (Total Organic Carbon)	17500	19000	1	8.61		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3206835-2 03/29/17 18:26 • (LCSD) R3206835-3 03/29/17 18:26

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
TOC (Total Organic Carbon)	5590	8270	7730	148	138	50.0-150			6.74	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc





Method Blank (MB)

(MB) R3206740-1 03/29/17 08:41

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3206740-2 03/29/17 08:44 • (LCSD) R3206740-3 03/29/17 08:46

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Mercury	0.300	0.279	0.280	93	93	80-120			0	20

L898421-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898421-03 03/29/17 08:49 • (MS) R3206740-4 03/29/17 08:51 • (MSD) R3206740-5 03/29/17 08:54

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.315	U	0.296	0.318	94	101	1	75-125			7	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3207299-1 03/31/17 08:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Barium	0.281	J	0.17	0.500
Boron	U		1.26	10.0
Cadmium	U		0.07	0.500
Chromium	U		0.14	1.00
Copper	U		0.53	2.00
Lead	U		0.19	0.500
Nickel	U		0.49	2.00
Potassium	U		10.2	100
Selenium	U		0.74	2.00
Silver	U		0.28	1.00
Zinc	2	J	0.59	5.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207299-2 03/31/17 08:14 • (LCSD) R3207299-3 03/31/17 08:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	103	103	103	103	80-120			1	20
Barium	100	105	104	105	104	80-120			0	20
Boron	100	101	100	101	100	80-120			1	20
Cadmium	100	103	102	103	102	80-120			1	20
Chromium	100	104	103	104	103	80-120			0	20
Copper	100	103	103	103	103	80-120			0	20
Lead	100	102	102	102	102	80-120			1	20
Nickel	100	104	103	104	103	80-120			0	20
Potassium	1000	1020	1020	102	102	80-120			0	20
Selenium	100	102	101	102	101	80-120			1	20
Silver	20.0	19.1	19.1	95	95	80-120			0	20
Zinc	100	103	103	103	103	80-120			0	20

L898210-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898210-09 03/31/17 08:19 • (MS) R3207299-6 03/31/17 08:28 • (MSD) R3207299-7 03/31/17 08:30

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	131	8.37	125	133	90	95	1	75-125			6	20
Barium	131	87.3	211	206	95	91	1	75-125			2	20



L898210-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898210-09 03/31/17 08:19 • (MS) R3207299-6 03/31/17 08:28 • (MSD) R3207299-7 03/31/17 08:30

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	131	ND	114	124	85	92	1	75-125			8	20
Cadmium	131	ND	118	126	90	96	1	75-125			7	20
Chromium	131	29.2	147	152	91	94	1	75-125			3	20
Copper	131	20.8	145	150	95	99	1	75-125			4	20
Lead	131	25.2	160	162	103	105	1	75-125			1	20
Nickel	131	43.5	184	188	108	111	1	75-125			2	20
Potassium	1310	1740	3330	3230	121	114	1	75-125			3	20
Selenium	131	ND	112	123	86	94	1	75-125			9	20
Silver	26.1	ND	20.8	22.6	80	87	1	75-125			8	20
Zinc	131	66.9	183	185	89	90	1	75-125			1	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3207687-5 04/01/17 17:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	0.000579	U	0.000150	0.00500
Ethylbenzene	0.000209	U	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID) 94.8			77.0-120	
(S) a,a,a-Trifluorotoluene(PID) 104			75.0-128	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207687-1 04/01/17 15:59 • (LCSD) R3207687-2 04/01/17 16:21

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0503	0.0492	101	98.5	71.0-121			2.16	20
Toluene	0.0500	0.0499	0.0482	99.8	96.4	72.0-120			3.45	20
Ethylbenzene	0.0500	0.0499	0.0486	99.8	97.1	76.0-121			2.70	20
Total Xylene	0.150	0.153	0.148	102	98.7	75.0-124			3.32	20
(S) a,a,a-Trifluorotoluene(FID)				94.4	94.3	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				102	102	75.0-128				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207687-3 04/01/17 16:43 • (LCSD) R3207687-4 04/01/17 17:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.80	5.84	105	106	70.0-136			0.720	20
(S) a,a,a-Trifluorotoluene(FID)				105	105	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				112	112	75.0-128				

L898671-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898671-05 04/02/17 00:08 • (MS) R3207687-6 04/02/17 00:30 • (MSD) R3207687-7 04/02/17 00:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.665	0.612	55.4	51.0	24	10.0-146			8.36	29
Toluene	0.0500	ND	0.729	0.675	60.7	56.3	24	10.0-143			7.68	30
Ethylbenzene	0.0500	ND	0.871	0.807	72.6	67.2	24	10.0-147			7.63	31
Total Xylene	0.150	ND	2.69	2.50	74.7	69.6	24	10.0-149		J6	7.09	30
(S) a,a,a-Trifluorotoluene(FID)					94.3	94.0		77.0-120				



L898671-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898671-05 04/02/17 00:08 • (MS) R3207687-6 04/02/17 00:30 • (MSD) R3207687-7 04/02/17 00:52

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) a,a,a-Trifluorotoluene(PID)					102	102		75.0-128				

L898671-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898671-05 04/02/17 00:08 • (MS) R3207687-8 04/02/17 01:15 • (MSD) R3207687-9 04/02/17 01:37

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	41.7	43.2	31.6	32.7	24	10.0-147			3.35	30
(S) a,a,a-Trifluorotoluene(FID)					94.4	94.2		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					104	104		75.0-128				

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3207285-1 03/30/17 19:17

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	121			18.0-148

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207285-2 03/30/17 19:34 • (LCSD) R3207285-3 03/30/17 19:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	60.5	60.1	101	100	50.0-150			0.700	20
(S) o-Terphenyl				121	119	18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3207826-3 04/01/17 02:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) p-Terphenyl-d14	105			23.0-120
(S) Nitrobenzene-d5	87.6			14.0-149
(S) 2-Fluorobiphenyl	104			34.0-125

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207826-1 04/01/17 01:42 • (LCSD) R3207826-2 04/01/17 02:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0800	0.0821	0.0797	103	99.6	50.0-125			2.96	20
Acenaphthene	0.0800	0.0778	0.0742	97.2	92.7	52.0-120			4.73	20
Acenaphthylene	0.0800	0.0783	0.0750	97.8	93.7	51.0-120			4.27	20
Benzo(a)anthracene	0.0800	0.0762	0.0734	95.2	91.8	46.0-121			3.70	20
Benzo(a)pyrene	0.0800	0.0791	0.0747	98.9	93.3	42.0-121			5.77	20
Benzo(b)fluoranthene	0.0800	0.0763	0.0758	95.4	94.7	42.0-123			0.680	20
Benzo(g,h,i)perylene	0.0800	0.0839	0.0775	105	96.9	43.0-128			7.94	20
Benzo(k)fluoranthene	0.0800	0.0842	0.0788	105	98.5	45.0-128			6.62	20
Chrysene	0.0800	0.0783	0.0754	97.8	94.3	48.0-127			3.67	20
Dibenz(a,h)anthracene	0.0800	0.0854	0.0805	107	101	43.0-132			5.88	20
Fluoranthene	0.0800	0.0838	0.0797	105	99.6	49.0-129			5.06	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207826-1 04/01/17 01:42 • (LCSD) R3207826-2 04/01/17 02:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Fluorene	0.0800	0.0813	0.0736	102	92.0	50.0-120			9.89	20
Indeno(1,2,3-cd)pyrene	0.0800	0.0858	0.0801	107	100	44.0-131			6.85	20
Naphthalene	0.0800	0.0727	0.0692	90.9	86.5	50.0-120			4.91	20
Phenanthrene	0.0800	0.0765	0.0726	95.6	90.7	48.0-120			5.30	20
Pyrene	0.0800	0.0811	0.0755	101	94.4	48.0-135			7.18	20
1-Methylnaphthalene	0.0800	0.0763	0.0750	95.4	93.8	52.0-122			1.72	20
2-Methylnaphthalene	0.0800	0.0741	0.0715	92.6	89.4	52.0-120			3.53	20
2-Chloronaphthalene	0.0800	0.0778	0.0741	97.2	92.6	50.0-120			4.88	20
(S) p-Terphenyl-d14				99.3	92.5	23.0-120				
(S) Nitrobenzene-d5				89.9	88.7	14.0-149				
(S) 2-Fluorobiphenyl				100	96.2	34.0-125				

L899154-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899154-01 04/01/17 06:07 • (MS) R3207826-4 04/01/17 06:29 • (MSD) R3207826-5 04/01/17 06:51

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.107	U	0.0793	0.0701	74.3	65.7	1	20.0-136			12.3	24
Acenaphthene	0.107	U	0.0836	0.0779	78.3	73.0	1	29.0-124			7.02	20
Acenaphthylene	0.107	U	0.0908	0.0845	85.1	79.1	1	35.0-120			7.22	20
Benzo(a)anthracene	0.107	U	0.0618	0.0517	57.9	48.5	1	13.0-132			17.7	27
Benzo(a)pyrene	0.107	U	0.0647	0.0551	60.6	51.6	1	14.0-138			16.1	27
Benzo(b)fluoranthene	0.107	0.00111	0.0574	0.0495	52.7	45.3	1	10.0-129			14.7	31
Benzo(g,h,i)perylene	0.107	U	0.0602	0.0500	56.4	46.8	1	10.0-133			18.6	30
Benzo(k)fluoranthene	0.107	U	0.0685	0.0578	64.1	54.2	1	15.0-131			16.9	27
Chrysene	0.107	U	0.0654	0.0561	61.3	52.5	1	15.0-137			15.4	25
Dibenz(a,h)anthracene	0.107	U	0.0642	0.0535	60.1	50.1	1	15.0-132			18.3	27
Fluoranthene	0.107	U	0.0717	0.0608	67.2	56.9	1	13.0-139			16.5	28
Fluorene	0.107	U	0.0811	0.0718	76.0	67.2	1	27.0-122			12.3	22
Indeno(1,2,3-cd)pyrene	0.107	U	0.0629	0.0527	58.9	49.4	1	11.0-133			17.6	29
Naphthalene	0.107	U	0.0854	0.0844	80.0	79.0	1	18.0-136			1.16	21
Phenanthrene	0.107	0.000943	0.0720	0.0646	66.5	59.6	1	15.0-133			10.9	25
Pyrene	0.107	U	0.0697	0.0598	65.2	56.0	1	11.0-146			15.2	29
1-Methylnaphthalene	0.107	U	0.0896	0.0855	83.9	80.1	1	24.0-137			4.74	22
2-Methylnaphthalene	0.107	U	0.0853	0.0805	79.8	75.4	1	23.0-136			5.74	22
2-Chloronaphthalene	0.107	U	0.0858	0.0820	80.4	76.8	1	36.0-120			4.59	20
(S) p-Terphenyl-d14					77.8	77.1		23.0-120				
(S) Nitrobenzene-d5					83.0	81.0		14.0-149				
(S) 2-Fluorobiphenyl					89.1	90.5		34.0-125				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc





## Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
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B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina <sup>1</sup>	DW21704
Florida	E87487	North Carolina <sup>2</sup>	41
Georgia	NELAP	North Dakota	R-140
Georgia <sup>1</sup>	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky <sup>1</sup>	90010	South Dakota	n/a
Kentucky <sup>2</sup>	16	Tennessee <sup>14</sup>	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA-Crypto	IN00003		

## Our Locations

A map of the United States showing the locations of 25 study sites. The sites are marked with pins: 24 purple pins and 1 orange pin. The orange pin is located in Tennessee (TN). The purple pins are located in Washington (WA), Oregon (OR), Idaho (ID), Nevada (NV), California (CA), Utah (UT), Colorado (CO), Arizona (AZ), New Mexico (NM), Texas (TX), Oklahoma (OK), Missouri (MO), Arkansas (AR), Louisiana (LA), Mississippi (MS), Alabama (AL), Georgia (GA), South Carolina (SC), North Carolina (NC), Virginia (VA), West Virginia (WV), Ohio (OH), Michigan (MI), Indiana (IN), Illinois (IL), Kentucky (KY), Tennessee (TN), Pennsylvania (PA), New York (NY), and Maine (ME). The states are labeled with their abbreviations.

IRK # 6827 1101 9443

Company Name/Address:

**Berry Petroleum Company -  
Denver, CO**1999 Broadway, Suite 3700  
Denver, CO 80202Billing Information: Tom Hagelin  
Linn Energy  
235 Callahan  
Accounts Payable  
1999 Broadway, Suite 3700  
Denver, CO 80202  
Parachute, CO

Analysis/Container/Preservative

Chain of Custody  
Page 1 of 112065 Lebanon Road  
Mt. Juliet, TN 37122Phone: (800) 767-5859  
Phone: (615) 758-5858  
Fax: (615) 758-5859

Report to: Dave Nicholson

Email to: dknicholson@gmail.com

Project Description: Garden Gulch Pit Reclamation

City/State  
Collected

Phone: (303) 999-1400 303-601- Client Project #:

ESC Key:  
BERPETCO0306155

FAX: (303) 999-1401 2023

Collected by: (print)

Site/Facility ID#:

P.O.#:

Collected by (signature):

**Rush?** (Lab MUST Be Notified)

☐ Same Day.....200%  
☐ Next Day.....100%  
☐ Two Day.....50%  
☐ Three Day.....25%

Date Results Needed:

Email? ☐ No ☒ YesFAX? ☒ No ☐ YesNo.  
of  
Cntrs

Immediately

Packed on Ice N ☒ Y

CoCode BERPETDCC (lab use only)

Template/Prelogin

Shipped Via:

Remarks/Contaminant

Sample # (lab only)

Sample ID

Comp/Grab

Matrix\*

Depth

Date

Time

I-11

SS

3/22

1330

8

X

X

X

X

X

X

X

X

X

L898404-01

Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: As, Ba, B, Cd, Cr, Cu, Pb, Hg, Ni, K, Se, Ag, Zn + Cr<sup>VI</sup>

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Samples returned via: ☐ UPS☐ FedEx ☐ Courier ☐

Condition: (lab use only)

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: 2.12

Bottles Received:

CoC Seals Intact ☐ Y ☒ N ☐ NA

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)



Date: 3-25-17

Time: 9:00

pH Checked:

NCF:

## ESC LAB SCIENCES Cooler Receipt Form

Client: <b>BERPETCO</b>		SDG# <b>L898404</b>		
Cooler Received/Opened On: <b>3/25/17</b>		Temperature: <b>2.1</b>		
Received By: Timiesha Scott				
Signature:  				
Receipt Check List		NP	Yes	No
COC Seal Present / Intact?		✓		
COC Signed / Accurate?			✓	
Bottles arrive intact?			✓	
Correct bottles used?			✓	
Sufficient volume sent?			✓	
If Applicable				
VOA Zero headspace?				
Preservation Correct / Checked?				