

## Analytical Report

### Report Summary

Client: Logos Operating, LLC

Chain Of Custody Number:

Samples Received: 10/19/2018 2:00:00PM

Job Number: 12035-0114

Work Order: P810105

Project Name/Location: Ignacio 33-8 2

Report Reviewed By:



Date: 11/1/18

Walter Hinchman, Laboratory Director



Date: 11/1/18

Tim Cain, Project Manager



Envirotech Inc. certifies the test results meet all requirements of TNi unless footnoted otherwise.  
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.  
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Envirotech, Inc, currently holds the appropriate and available Utah TNi certification NM009792018-1 for the data reported.

Logos Operating, LLC  
 PO Box 18  
 Flora Vista NM, 87415

 Project Name: Ignacio 33-8 2  
 Project Number: 12035-0114  
 Project Manager: Larissa Farrell

**Reported:**  
 11/01/18 15:02

### Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Ignacio 33-8 2 SS1	P810105-01A	Soil	10/19/18	10/19/18	Glass Jar, 4 oz.
	P810105-01B	Soil	10/19/18	10/19/18	Glass Jar, 4 oz.
	P810105-01C	Soil	10/19/18	10/19/18	Glass Jar, 4 oz.
Ignacio 33-8 2 BS1	P810105-02A	Soil	10/19/18	10/19/18	Glass Jar, 4 oz.
	P810105-02B	Soil	10/19/18	10/19/18	Glass Jar, 4 oz.
	P810105-02C	Soil	10/19/18	10/19/18	Glass Jar, 4 oz.

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 Project Name: Ignacio 33-8 2  
 Project Number: 12035-0114  
 Project Manager: Larissa Farrell

**Reported:**  
 11/01/18 15:02

**Ignacio 33-8 2 SS1  
 P810105-01 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

**Volatile Organics by EPA 8021**

Benzene	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		101 %		50-150	1843011	10/23/18	10/30/18	EPA 8021B	

**Nonhalogenated Organics by 8015**

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1843011	10/23/18	10/30/18	EPA 8015D	
Diesel Range Organics (C10-C28)	3340	25.0	mg/kg	1	1843014	10/24/18	10/25/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1843014	10/24/18	10/25/18	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		102 %		50-150	1843011	10/23/18	10/30/18	EPA 8015D	
<i>Surrogate: n-Nonane</i>		135 %		50-200	1843014	10/24/18	10/25/18	EPA 8015D	

**Total Metals by 6010**

Arsenic	4.60	0.500	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Barium	425	6.25	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Cadmium	0.348	0.250	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Chromium	12.0	0.500	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Copper	10.5	0.500	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Lead	10.1	0.250	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Mercury	ND	0.250	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Nickel	13.8	1.25	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Selenium	ND	1.25	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Silver	ND	0.250	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Zinc	55.4	2.50	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	

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 Project Manager: Larissa Farrell

**Reported:**  
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**Ignacio 33-8 2 SS1  
 P810105-01 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

**Cation/Anion 10:1 Leach Procedure**

Sodium Absorption Ratio	<b>2.60</b>		N/A	1	1844019	11/01/18	11/01/18	[CALC]	
Calcium	<b>2.63</b>	1.00	mg/L	1	1843022	10/25/18	10/30/18	EPA 6010C	
Magnesium	<b>0.37</b>	0.20	mg/L	1	1843022	10/25/18	10/30/18	EPA 6010C	
Sodium	<b>17.0</b>	2.00	mg/L	1	1843022	10/25/18	10/31/18	EPA 6010C	

**Boron-Hot Water Soluble by EPA 6010**

Boron	ND	2.00	mg/L	1	1844006	10/30/18	10/31/18	EPA 6010C	
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**Wet Chemistry**

pH @25°C	<b>8.46</b>		pH Units	1	1843020	10/25/18	10/25/18	EPA 9045D	
Specific Conductance (@ 25 C)	<b>314</b>	10.0	uS/cm	1	1843018	10/24/18	10/25/18	9050A/2510 B	

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 Project Manager: Larissa Farrell

**Reported:**  
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**Ignacio 33-8 2 BS1  
 P810105-02 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

**Volatile Organics by EPA 8021**

Benzene	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1843011	10/23/18	10/30/18	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		101 %		50-150	1843011	10/23/18	10/30/18	EPA 8021B	

**Nonhalogenated Organics by 8015**

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1843011	10/23/18	10/30/18	EPA 8015D	
Diesel Range Organics (C10-C28)	80.1	25.0	mg/kg	1	1843014	10/24/18	10/25/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1843014	10/24/18	10/25/18	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		101 %		50-150	1843011	10/23/18	10/30/18	EPA 8015D	
<i>Surrogate: n-Nonane</i>		136 %		50-200	1843014	10/24/18	10/25/18	EPA 8015D	

**Total Metals by 6010**

Arsenic	6.24	0.500	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Barium	214	6.25	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Cadmium	ND	0.250	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Chromium	12.9	0.500	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Copper	6.19	0.500	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Lead	5.81	0.250	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Mercury	ND	0.250	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Nickel	10.6	1.25	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Selenium	ND	1.25	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Silver	ND	0.250	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	
Zinc	38.1	2.50	mg/kg	1	1843007	10/23/18	10/25/18	EPA 6010C	

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**Ignacio 33-8 2 BS1  
 P810105-02 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

**Cation/Anion 10:1 Leach Procedure**

Sodium Absorption Ratio	<b>0.0300</b>		N/A	1	1844019	11/01/18	11/01/18	[CALC]	
Calcium	<b>17.0</b>	1.00	mg/L	1	1843022	10/25/18	10/30/18	EPA 6010C	
Magnesium	<b>1.08</b>	0.20	mg/L	1	1843022	10/25/18	10/30/18	EPA 6010C	
Sodium	ND	2.00	mg/L	1	1843022	10/25/18	10/31/18	EPA 6010C	

**Boron-Hot Water Soluble by EPA 6010**

Boron	ND	2.00	mg/L	1	1844006	10/30/18	10/31/18	EPA 6010C	
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**Wet Chemistry**

pH @25°C	<b>7.77</b>		pH Units	1	1843020	10/25/18	10/25/18	EPA 9045D	
Specific Conductance (@ 25 C)	<b>415</b>	10.0	uS/cm	1	1843018	10/24/18	10/25/18	9050A/2510 B	

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**Reported:**  
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### Volatile Organics by EPA 8021 - Quality Control

#### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1843011 - Purge and Trap EPA 5030A

##### Blank (1843011-BLK1)

Prepared: 10/23/18 1 Analyzed: 10/25/18 2

Benzene	ND	100	ug/kg							
Toluene	ND	100	"							
Ethylbenzene	ND	100	"							
p,m-Xylene	ND	200	"							
o-Xylene	ND	100	"							
Total Xylenes	ND	100	"							
Total BTEX	ND	100	"							
Surrogate: 4-Bromochlorobenzene-PID	8210		"	8000		103	50-150			

##### LCS (1843011-BS1)

Prepared: 10/23/18 1 Analyzed: 10/25/18 2

Benzene	5170	100	ug/kg	5000		103	70-130			
Toluene	5220	100	"	5000		104	70-130			
Ethylbenzene	5270	100	"	5000		105	70-130			
p,m-Xylene	10800	200	"	10000		108	70-130			
o-Xylene	5200	100	"	5000		104	70-130			
Total Xylenes	16000	100	"	15000		106	70-130			
Surrogate: 4-Bromochlorobenzene-PID	8200		"	8000		103	50-150			

##### Matrix Spike (1843011-MS1)

Source: P810102-01

Prepared: 10/23/18 1 Analyzed: 10/25/18 2

Benzene	5080	100	ug/kg	5000	ND	102	54.3-133			
Toluene	5120	100	"	5000	ND	102	61.4-130			
Ethylbenzene	5180	100	"	5000	ND	104	61.4-133			
p,m-Xylene	10600	200	"	10000	ND	106	63.3-131			
o-Xylene	5100	100	"	5000	ND	102	63.3-131			
Total Xylenes	15700	100	"	15000	ND	105	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	8220		"	8000		103	50-150			

##### Matrix Spike Dup (1843011-MSD1)

Source: P810102-01

Prepared: 10/23/18 1 Analyzed: 10/25/18 2

Benzene	5190	100	ug/kg	5000	ND	104	54.3-133	2.06	20	
Toluene	5220	100	"	5000	ND	104	61.4-130	1.82	20	
Ethylbenzene	5290	100	"	5000	ND	106	61.4-133	2.17	20	
p,m-Xylene	10800	200	"	10000	ND	108	63.3-131	2.19	20	
o-Xylene	5210	100	"	5000	ND	104	63.3-131	2.13	20	
Total Xylenes	16000	100	"	15000	ND	107	63.3-131	2.17	20	
Surrogate: 4-Bromochlorobenzene-PID	8200		"	8000		103	50-150			

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 Project Name: Ignacio 33-8 2  
 Project Number: 12035-0114  
 Project Manager: Larissa Farrell

**Reported:**  
 11/01/18 15:02

**Nonhalogenated Organics by 8015 - Quality Control**
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1843011 - Purge and Trap EPA 5030A**
**Blank (1843011-BLK1)**

Prepared: 10/23/18 1 Analyzed: 10/25/18 2

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.78		"	8.00		97.3	50-150			

**LCS (1843011-BS2)**

Prepared: 10/23/18 1 Analyzed: 10/25/18 2

Gasoline Range Organics (C6-C10)	51.9	20.0	mg/kg	50.0		104	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.96		"	8.00		99.5	50-150			

**Matrix Spike (1843011-MS2)**
**Source: P810102-01**

Prepared: 10/23/18 1 Analyzed: 10/25/18 2

Gasoline Range Organics (C6-C10)	50.6	20.0	mg/kg	50.0	ND	101	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.86		"	8.00		98.2	50-150			

**Matrix Spike Dup (1843011-MSD2)**
**Source: P810102-01**

Prepared: 10/23/18 1 Analyzed: 10/26/18 0

Gasoline Range Organics (C6-C10)	50.0	20.0	mg/kg	50.0	ND	100	70-130	1.08	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.96		"	8.00		99.6	50-150			

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 11/01/18 15:02

**Nonhalogenated Organics by 8015 - Quality Control**
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1843014 - DRO Extraction EPA 3570**
**Blank (1843014-BLK1)**

Prepared: 10/24/18 0 Analyzed: 10/24/18 2

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40+)	ND	50.0	"							
<i>Surrogate: n-Nonane</i>	<i>64.0</i>		<i>"</i>	<i>50.0</i>		<i>128</i>	<i>50-200</i>			

**LCS (1843014-BS1)**

Prepared: 10/24/18 0 Analyzed: 10/24/18 2

Diesel Range Organics (C10-C28)	454	25.0	mg/kg	500		90.8	38-132			
<i>Surrogate: n-Nonane</i>	<i>62.3</i>		<i>"</i>	<i>50.0</i>		<i>125</i>	<i>50-200</i>			

**Matrix Spike (1843014-MS1)**
**Source: P810028-01**

Prepared: 10/24/18 0 Analyzed: 10/25/18 0

Diesel Range Organics (C10-C28)	596	25.0	mg/kg	500	198	79.6	38-132			
<i>Surrogate: n-Nonane</i>	<i>63.5</i>		<i>"</i>	<i>50.0</i>		<i>127</i>	<i>50-200</i>			

**Matrix Spike Dup (1843014-MSD1)**
**Source: P810028-01**

Prepared: 10/24/18 0 Analyzed: 10/25/18 0

Diesel Range Organics (C10-C28)	575	25.0	mg/kg	500	198	75.5	38-132	3.47	20	
<i>Surrogate: n-Nonane</i>	<i>63.7</i>		<i>"</i>	<i>50.0</i>		<i>127</i>	<i>50-200</i>			

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**Reported:**  
 11/01/18 15:02

**Total Metals by 6010 - Quality Control**
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1843007 - Metals Solid Hotblock Digestion EPA 3050B/200.2**
**Blank (1843007-BLK1)**

Prepared: 10/23/18 0 Analyzed: 10/25/18 1

Arsenic	ND	0.500	mg/kg
Barium	ND	6.25	"
Cadmium	ND	0.250	"
Chromium	ND	0.500	"
Copper	ND	0.500	"
Lead	ND	0.250	"
Mercury	ND	0.250	"
Nickel	ND	1.25	"
Selenium	ND	1.25	"
Silver	ND	0.250	"
Zinc	ND	2.50	"

**LCS (1843007-BS1)**

Prepared: 10/23/18 0 Analyzed: 10/25/18 1

Arsenic	25.8	0.500	mg/kg	25.0	103	80-120
Barium	646	6.25	"	625	103	80-120
Cadmium	25.4	0.250	"	25.0	101	80-120
Chromium	25.9	0.500	"	25.0	104	80-120
Copper	26.3	0.500	"	25.0	105	80-120
Lead	26.2	0.250	"	25.0	105	80-120
Mercury	ND	0.250	"			80-120
Nickel	25.2	1.25	"	25.0	101	80-120
Selenium	25.9	1.25	"	25.0	104	80-120
Silver	2.60	0.250	"	2.50	104	80-120
Zinc	252	2.50	"	250	101	80-120

**Matrix Spike (1843007-MS1)**

Source: P810105-01

Prepared: 10/23/18 0 Analyzed: 10/25/18 1

Arsenic	25.1	0.500	mg/kg	25.0	4.60	82.1	75-125
Barium	910	6.25	"	625	425	77.6	75-125
Cadmium	20.2	0.250	"	25.0	0.348	79.5	75-125
Chromium	31.2	0.500	"	25.0	12.0	76.6	75-125
Copper	32.6	0.500	"	25.0	10.5	88.6	75-125
Lead	31.0	0.250	"	25.0	10.1	83.5	75-125
Mercury	ND	0.250	"		ND		75-125
Nickel	31.2	1.25	"	25.0	13.8	69.4	75-125
Selenium	19.8	1.25	"	25.0	ND	79.1	75-125
Silver	2.17	0.250	"	2.50	ND	86.7	75-125
Zinc	256	2.50	"	250	55.4	80.4	75-125

SPK1

**Matrix Spike Dup (1843007-MSD1)**

Source: P810105-01

Prepared: 10/23/18 0 Analyzed: 10/25/18 1

Arsenic	24.0	0.500	mg/kg	25.0	4.60	77.5	75-125	4.71	20
Barium	888	6.25	"	625	425	74.1	75-125	2.45	20
Cadmium	19.5	0.250	"	25.0	0.348	76.8	75-125	3.45	20

SPK1

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**Reported:**  
 11/01/18 15:02

**Total Metals by 6010 - Quality Control**
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1843007 - Metals Solid Hotblock Digestion EPA 3050B/200.2**
**Matrix Spike Dup (1843007-MSD1)**
**Source: P810105-01**

Prepared: 10/23/18 0 Analyzed: 10/25/18 1

Chromium	32.5	0.500	"	25.0	12.0	82.0	75-125	4.24	20	
Copper	31.4	0.500	"	25.0	10.5	83.9	75-125	3.67	20	
Lead	28.8	0.250	"	25.0	10.1	74.8	75-125	7.28	20	SPK1
Mercury	ND	0.250	"		ND		75-125		20	
Nickel	31.6	1.25	"	25.0	13.8	70.9	75-125	1.20	20	SPK1
Selenium	19.4	1.25	"	25.0	ND	77.5	75-125	2.07	20	
Silver	2.07	0.250	"	2.50	ND	82.6	75-125	4.84	20	
Zinc	251	2.50	"	250	55.4	78.4	75-125	1.97	20	

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Logos Operating, LLC  
 PO Box 18  
 Flora Vista NM, 87415

 Project Name: Ignacio 33-8 2  
 Project Number: 12035-0114  
 Project Manager: Larissa Farrell

**Reported:**  
 11/01/18 15:02

**Cation/Anion 10:1 Leach Procedure - Quality Control**
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 1843022 - Metals Water Hotblock Digestion EPA 3010A/200.2**
**Blank (1843022-BLK1)**

Prepared: 10/25/18 1 Analyzed: 10/30/18 1

Calcium	ND	1.00	mg/L
Magnesium	ND	0.20	"
Sodium	ND	2.00	"

**LCS (1843022-BS1)**

Prepared: 10/25/18 1 Analyzed: 10/30/18 1

Calcium	45.8	1.00	mg/L	50.0	91.6	80-120
Magnesium	43.2	0.20	"	50.0	86.4	80-120
Sodium	48.2	2.00	"	50.0	96.3	80-120

**Matrix Spike (1843022-MS1)**

Source: P810101-01

Prepared: 10/25/18 1 Analyzed: 10/30/18 1

Calcium	117	1.00	mg/L	50.0	66.9	99.7	75-125
Magnesium	51.9	0.20	"	50.0	7.42	88.9	75-125
Sodium	99.3	2.00	"	50.0	43.3	112	75-125

**Matrix Spike Dup (1843022-MSD1)**

Source: P810101-01

Prepared: 10/25/18 1 Analyzed: 10/30/18 1

Calcium	116	1.00	mg/L	50.0	66.9	97.5	75-125	0.947	20
Magnesium	53.8	0.20	"	50.0	7.42	92.8	75-125	3.71	20
Sodium	98.3	2.00	"	50.0	43.3	110	75-125	0.962	20

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Logos Operating, LLC  
 PO Box 18  
 Flora Vista NM, 87415

 Project Name: Ignacio 33-8 2  
 Project Number: 12035-0114  
 Project Manager: Larissa Farrell

**Reported:**  
 11/01/18 15:02

**Boron-Hot Water Soluble by EPA 6010 - Quality Control**
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 1844006 - Boron HW Soluble Digestion**
**Blank (1844006-BLK1)**

Prepared: 10/30/18 0 Analyzed: 10/31/18 0

Boron	ND	2.00	mg/L
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**LCS (1844006-BS1)**

Prepared: 10/30/18 0 Analyzed: 10/31/18 0

Boron	3.83		mg/L	4.00	95.9	80-120
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**Matrix Spike (1844006-MS1)**
**Source: P810105-01**

Prepared: 10/30/18 0 Analyzed: 10/31/18 0

Boron	3.49		mg/L	4.00	0.0952	84.9	75-125
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**Matrix Spike Dup (1844006-MSD1)**
**Source: P810105-01**

Prepared: 10/30/18 0 Analyzed: 10/31/18 0

Boron	3.48		mg/L	4.00	0.0952	84.6	75-125	0.430	20
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Logos Operating, LLC  
 PO Box 18  
 Flora Vista NM, 87415

 Project Name: Ignacio 33-8 2  
 Project Number: 12035-0114  
 Project Manager: Larissa Farrell

**Reported:**  
 11/01/18 15:02

**Wet Chemistry - Quality Control**
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 1843018 - Wet Chemistry Preparation**
**Blank (1843018-BLK1)**

Prepared: 10/24/18 1 Analyzed: 10/25/18 1

Specific Conductance (@ 25 C) ND 10.0 uS/cm

**LCS (1843018-BS1)**

Prepared: 10/24/18 1 Analyzed: 10/25/18 1

Specific Conductance (@ 25 C) 1440 10.0 uS/cm 1410 102 98-102

**Duplicate (1843018-DUP1)**
**Source: P810105-01**

Prepared: 10/24/18 1 Analyzed: 10/25/18 1

Specific Conductance (@ 25 C) 324 10.0 uS/cm 314 3.13 20

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Logos Operating, LLC  
 PO Box 18  
 Flora Vista NM, 87415

 Project Name: Ignacio 33-8 2  
 Project Number: 12035-0114  
 Project Manager: Larissa Farrell

**Reported:**  
 11/01/18 15:02

**Wet Chemistry - Quality Control**
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch 1843020 - Wet Chemistry Preparation**
**LCS (1843020-BS1)**

Prepared: 10/25/18 0 Analyzed: 10/25/18 1

pH	8.01		pH Units	8.00	100	98.75-101.25
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**Duplicate (1843020-DUP1)**
**Source: P810101-01**

Prepared: 10/25/18 0 Analyzed: 10/25/18 1

pH	7.00		pH Units	6.99	0.143	20
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Logos Operating, LLC  
 PO Box 18  
 Flora Vista NM, 87415

Project Name: Ignacio 33-8 2  
 Project Number: 12035-0114  
 Project Manager: Larissa Farrell

**Reported:**  
 11/01/18 15:02

### Notes and Definitions

SPK1 The spike recovery is outside of quality control limits.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

\*\* Methods marked with \*\* are non-accredited methods.

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# ANALYTICAL REPORT

October 30, 2018

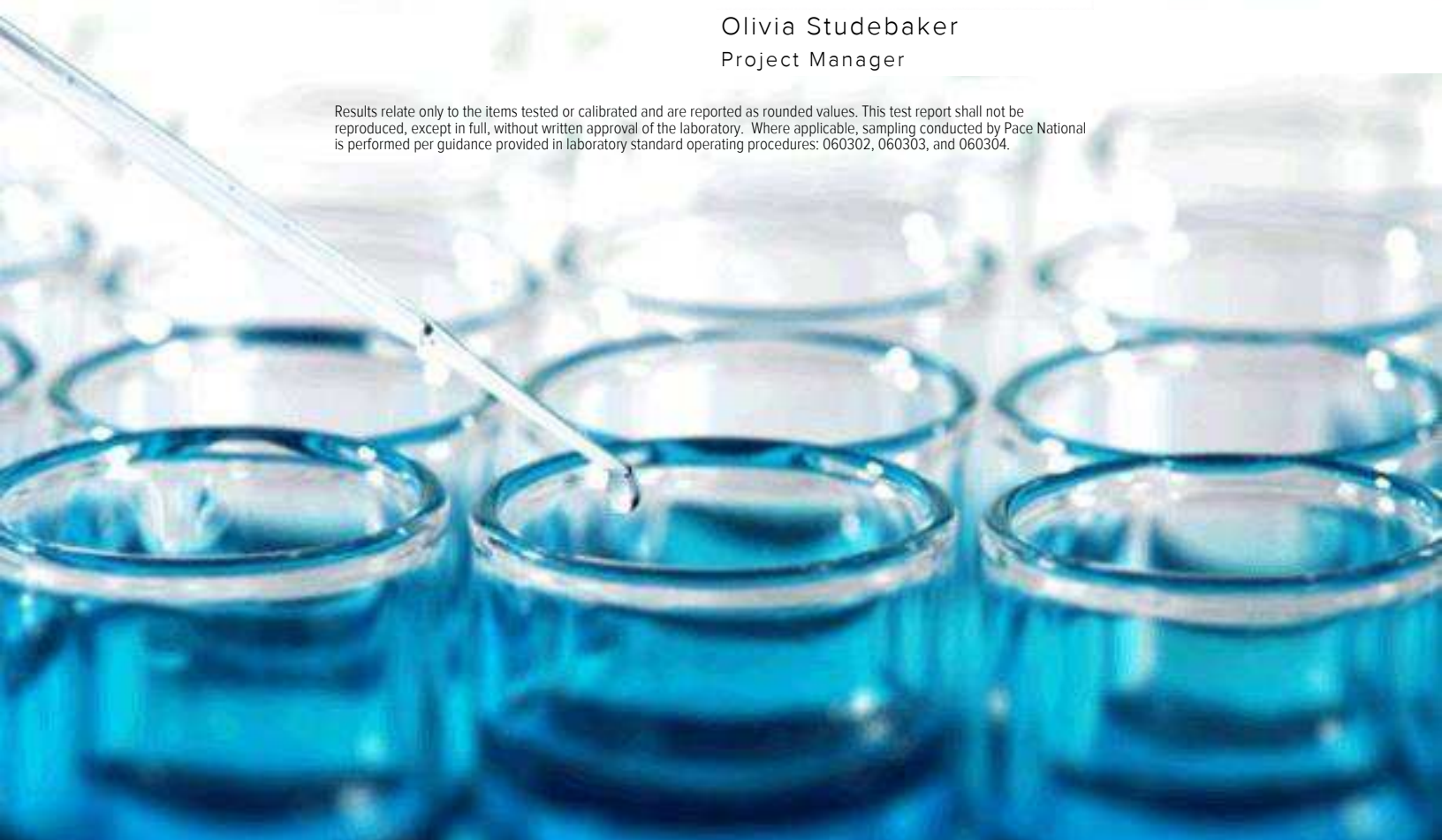
## EnviroTech- NM

Sample Delivery Group: L1037284  
Samples Received: 10/23/2018  
Project Number: 12035-0114  
Description: Ignacio 33-82  
Site: P810105  
Report To: Tim Cain, Irene Yazzie  
5796 US. Highway 64  
Farmington, NM 87401

Entire Report Reviewed By:

Olivia Studebaker  
Project Manager

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 Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





Cp: Cover Page	1	<sup>1</sup> Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	<sup>2</sup> Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	<sup>3</sup> Ss
IGNACIO 33-82 SS1 L1037284-01	5	
IGNACIO 33-82 BS1 L1037284-02	6	<sup>4</sup> Cn
Qc: Quality Control Summary	7	<sup>5</sup> Sr
Wet Chemistry by Method 3060A/7196A	7	
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	8	<sup>6</sup> Qc
Gl: Glossary of Terms	10	<sup>7</sup> Gl
Al: Accreditations & Locations	11	
Sc: Sample Chain of Custody	12	<sup>8</sup> Al
		<sup>9</sup> Sc



## IGNACIO 33-82 SS1 L1037284-01 Solid

Collected by  
C. NicholsCollected date/time  
10/19/18 11:12Received date/time  
10/23/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 3060A/7196A	WG1185837	1	10/25/18 09:15	10/25/18 17:01	MLW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1186724	1	10/26/18 16:42	10/27/18 12:02	DMG

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss

## IGNACIO 33-82 BS1 L1037284-02 Solid

Collected by  
C. NicholsCollected date/time  
10/19/18 11:12Received date/time  
10/23/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 3060A/7196A	WG1185837	1	10/25/18 09:15	10/25/18 17:01	MLW
Semi Volatile Organic Compounds (GC/MS) by Method 8270C-SIM	WG1186724	1	10/26/18 16:42	10/27/18 12:23	DMG

<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, unless qualified or notated within the report. Where applicable, 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.

Olivia Studebaker  
Project Manager

<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

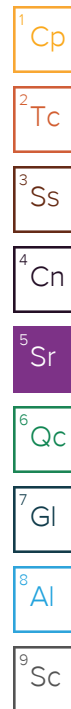


Wet Chemistry by Method 3060A/7196A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND		2.00	1	10/25/2018 17:01	<a href="#">WG1185837</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	10/27/2018 12:02	<a href="#">WG1186724</a>
Acenaphthene	0.121		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Acenaphthylene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Benzo(a)anthracene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Benzo(a)pyrene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Benzo(b)fluoranthene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Benzo(g,h,i)perylene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Benzo(k)fluoranthene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Chrysene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Dibenz(a,h)anthracene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Fluoranthene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Fluorene	0.107		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Naphthalene	0.0253		0.0200	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Phenanthrene	0.358		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
Pyrene	0.0397		0.00600	1	10/27/2018 12:02	<a href="#">WG1186724</a>
1-Methylnaphthalene	0.757		0.0200	1	10/27/2018 12:02	<a href="#">WG1186724</a>
2-Methylnaphthalene	0.802		0.0200	1	10/27/2018 12:02	<a href="#">WG1186724</a>
2-Chloronaphthalene	ND		0.0200	1	10/27/2018 12:02	<a href="#">WG1186724</a>
(S) p-Terphenyl-d14	107		23.0-120		10/27/2018 12:02	<a href="#">WG1186724</a>
(S) Nitrobenzene-d5	117		14.0-149		10/27/2018 12:02	<a href="#">WG1186724</a>
(S) 2-Fluorobiphenyl	93.0		34.0-125		10/27/2018 12:02	<a href="#">WG1186724</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	10/25/2018 17:01	<a href="#">WG1185837</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	10/27/2018 12:23	<a href="#">WG1186724</a>
Acenaphthene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Acenaphthylene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Benzo(a)anthracene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Benzo(a)pyrene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Benzo(b)fluoranthene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Benzo(g,h,i)perylene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Benzo(k)fluoranthene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Chrysene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Dibenz(a,h)anthracene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Fluoranthene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Fluorene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Indeno(1,2,3-cd)pyrene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Naphthalene	ND		0.0200	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Phenanthrene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
Pyrene	ND		0.00600	1	10/27/2018 12:23	<a href="#">WG1186724</a>
1-Methylnaphthalene	ND		0.0200	1	10/27/2018 12:23	<a href="#">WG1186724</a>
2-Methylnaphthalene	ND		0.0200	1	10/27/2018 12:23	<a href="#">WG1186724</a>
2-Chloronaphthalene	ND		0.0200	1	10/27/2018 12:23	<a href="#">WG1186724</a>
(S) p-Terphenyl-d14	84.9		23.0-120		10/27/2018 12:23	<a href="#">WG1186724</a>
(S) Nitrobenzene-d5	79.3		14.0-149		10/27/2018 12:23	<a href="#">WG1186724</a>
(S) 2-Fluorobiphenyl	71.1		34.0-125		10/27/2018 12:23	<a href="#">WG1186724</a>

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



Method Blank (MB)

(MB) R3354010-1 10/25/18 16:58

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chromium,Hexavalent	U		0.640	2.00

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1036581-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1036581-02 10/25/18 16:59 • (DUP) R3354010-3 10/25/18 16:59

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	U	0.000	1	0.000		20

L1037563-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1037563-04 10/25/18 17:22 • (DUP) R3354010-8 10/25/18 17:22

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chromium,Hexavalent	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3354010-2 10/25/18 16:58

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chromium,Hexavalent	24.0	23.8	99.0	80.0-120	

L1037563-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037563-01 10/25/18 17:19 • (MS) R3354010-4 10/25/18 17:20 • (MSD) R3354010-5 10/25/18 17:20

	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	%	%		%			%	%
Chromium,Hexavalent	20.0	ND	17.4	17.5	87.2	87.4	1	75.0-125			0.229	20

L1037563-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1037563-01 10/25/18 17:19 • (MS) R3354010-6 10/25/18 17:20

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/kg	mg/kg	mg/kg	%		%	
Chromium,Hexavalent	804	ND	803	99.9	50	75.0-125	



Method Blank (MB)

(MB) R3354451-3 10/27/18 08:32

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) Nitrobenzene-d5	82.5			14.0-149
(S) 2-Fluorobiphenyl	86.3			34.0-125
(S) p-Terphenyl-d14	87.9			23.0-120

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

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

(LCS) R3354451-1 10/27/18 07:50 • (LCSD) R3354451-2 10/27/18 08:11

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	0.0651	0.0671	81.4	83.9	50.0-126			3.03	20
Acenaphthene	0.0800	0.0664	0.0703	83.0	87.9	50.0-120			5.71	20
Acenaphthylene	0.0800	0.0658	0.0700	82.3	87.5	50.0-120			6.19	20
Benzo(a)anthracene	0.0800	0.0635	0.0662	79.4	82.8	45.0-120			4.16	20
Benzo(a)pyrene	0.0800	0.0579	0.0603	72.4	75.4	42.0-120			4.06	20
Benzo(b)fluoranthene	0.0800	0.0614	0.0611	76.8	76.4	42.0-121			0.490	20
Benzo(g,h,i)perylene	0.0800	0.0631	0.0635	78.9	79.4	45.0-125			0.632	20
Benzo(k)fluoranthene	0.0800	0.0635	0.0716	79.4	89.5	49.0-125			12.0	20
Chrysene	0.0800	0.0653	0.0707	81.6	88.4	49.0-122			7.94	20
Dibenz(a,h)anthracene	0.0800	0.0715	0.0737	89.4	92.1	47.0-125			3.03	20
Fluoranthene	0.0800	0.0657	0.0718	82.1	89.8	49.0-129			8.87	20

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

L1037284-01,02

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

(LCS) R3354451-1 10/27/18 07:50 • (LCSD) R3354451-2 10/27/18 08:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Fluorene	0.0800	0.0645	0.0680	80.6	85.0	49.0-120			5.28	20
Indeno(1,2,3-cd)pyrene	0.0800	0.0669	0.0690	83.6	86.3	46.0-125			3.09	20
Naphthalene	0.0800	0.0643	0.0662	80.4	82.8	50.0-120			2.91	20
Phenanthrene	0.0800	0.0650	0.0696	81.3	87.0	47.0-120			6.84	20
Pyrene	0.0800	0.0579	0.0610	72.4	76.3	43.0-123			5.21	20
1-Methylnaphthalene	0.0800	0.0711	0.0767	88.9	95.9	51.0-121			7.58	20
2-Methylnaphthalene	0.0800	0.0636	0.0687	79.5	85.9	50.0-120			7.71	20
2-Chloronaphthalene	0.0800	0.0644	0.0691	80.5	86.4	50.0-120			7.04	20
(S) Nitrobenzene-d5				63.2	74.5	14.0-149				
(S) 2-Fluorobiphenyl				80.9	80.3	34.0-125				
(S) p-Terphenyl-d14				80.5	85.4	23.0-120				

L1037288-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1037288-02 10/27/18 13:05 • (MS) R3354451-4 10/27/18 13:26 • (MSD) R3354451-5 10/27/18 13:47

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 %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Anthracene	0.0825	ND	0.0725	0.0668	87.9	81.4	1	10.0-145			8.16	30
Acenaphthene	0.0825	ND	0.0729	0.0681	88.4	82.9	1	14.0-127			6.87	27
Acenaphthylene	0.0825	ND	0.0730	0.0681	88.5	82.9	1	21.0-124			7.01	25
Benzo(a)anthracene	0.0825	ND	0.0746	0.0692	90.4	84.4	1	10.0-139			7.46	30
Benzo(a)pyrene	0.0825	ND	0.0708	0.0674	85.8	82.2	1	10.0-141			4.87	31
Benzo(b)fluoranthene	0.0825	ND	0.0667	0.0621	80.9	75.6	1	10.0-140			7.19	36
Benzo(g,h,i)perylene	0.0825	ND	0.0648	0.0604	78.6	73.6	1	10.0-140			7.06	33
Benzo(k)fluoranthene	0.0825	ND	0.0670	0.0674	81.2	82.2	1	10.0-137			0.626	31
Chrysene	0.0825	ND	0.0713	0.0633	86.5	77.2	1	10.0-145			11.9	30
Dibenz(a,h)anthracene	0.0825	ND	0.0668	0.0677	81.0	82.6	1	10.0-132			1.41	31
Fluoranthene	0.0825	ND	0.0792	0.0719	96.0	87.6	1	10.0-153			9.75	33
Fluorene	0.0825	ND	0.0692	0.0642	83.9	78.2	1	11.0-130			7.57	29
Indeno(1,2,3-cd)pyrene	0.0825	ND	0.0644	0.0642	78.1	78.2	1	10.0-137			0.327	32
Naphthalene	0.0825	ND	0.0711	0.0664	86.2	80.9	1	10.0-135			6.89	27
Phenanthrene	0.0825	ND	0.0713	0.0641	86.5	78.1	1	10.0-144			10.7	31
Pyrene	0.0825	ND	0.0740	0.0665	89.7	81.0	1	10.0-148			10.6	35
1-Methylnaphthalene	0.0825	ND	0.0792	0.0741	96.0	90.3	1	10.0-142			6.73	28
2-Methylnaphthalene	0.0825	ND	0.0711	0.0676	86.2	82.4	1	10.0-137			5.00	28
2-Chloronaphthalene	0.0825	ND	0.0742	0.0693	89.9	84.5	1	29.0-120			6.74	24
(S) Nitrobenzene-d5					93.6	89.9		14.0-149				
(S) 2-Fluorobiphenyl					86.0	81.3		34.0-125				
(S) p-Terphenyl-d14					100	90.0		23.0-120				



## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

## Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(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.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

## Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1 6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1 4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



[illegible]

L1037284

Envirotech, Inc.  
Subcontract Sample Receipt Checklist (ScSRC)

Phone: (505) 632-0615 Fax: (505) 632-1865

**Instructions:** Please document any potential abnormal/nonconformities with the submitted samples. It is requested the subcontract lab scan this document and the COC and email/fax these two documents upon sample receipt. It is also requested the subcontract laboratory call Envirotech immediately with any abnormal/nonconformances that may impact the general quality of the requested sample analysis.

Envirotech WO ID: P810105 Date shipped: 10-22-18  
Envirotech SCO Initials: W Shipping Carrier: FedEx  
Subcontract Lab Name: Pace Analytical State of origin: CO UT / AZ / Other: UT  
Envirotech email: tracie@envirotech-inc.com

Comments/Resolution

Does the receiving laboratory hold the appropriate RCRA/CWA/SDWA state certification?

Note: There are no RCRA/CWA state certification programs for the states of NM / CO

Does the laboratory hold the certification for the requested method(s) of analysis?

Yes ☐ No ☐ NA ☐

Yes ☐ No ☐ NA ☐

Chain of Custody (COC) Information

Does the sample ID match the COC?

Does the number of samples per sampling site location match the COC?

Was the COC complete, i.e., signatures, dates/times, requested analyses?

Were samples received within the method specified holding time

or is there sufficient holding time left to conduct analysis as standard TAT?

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Sample Turn Around Time (TAT) Information

Did the COC indicate standard TAT, or expedited TAT?

Standard 6-day TAT ☐ 24-hr rush ☐ 48-hr rush ☐ 72-hr rush ☐ other rush ☐

Yes ☐ No ☐

Sample Cooler Information

Was the sample cooler received in good condition?

Was the sample(s) received in tact, i.e., not broken?

Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°-22°C

If no visible ice, record the temperature. Actual sample temperature.

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Temperature: \_\_\_\_\_

Sample Container Information

Is the appropriate volume/weight or number of sample containers collected:

Yes ☐ No ☐

Sample Preservation Information

Does the COC or field labels indicate the samples were correctly preserved?

Yes ☐ No ☐ NA ☐

Multiphase Sample Matrix Information

Does the sample have more than one phase, i.e., multiphase?

If so, does the COC specify which phase(s) is to be analyzed?

Yes ☐ No ☐

Yes ☐ No ☐

Subcontract Laboratory Notes

RAO SCREENING

Subcontract Laboratory Information

Subcontract Lab WO ID: \_\_\_\_\_

Phone No: \_\_\_\_\_

Email address: \_\_\_\_\_

Signature of subcontract laboratory sample custodian

Date Received: \_\_\_\_\_

5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Morcado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879

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laboratory@envirotech-inc.com