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13 March 2014

Joe MacLaren  
Colorado Oil and Gas Conservation Commission  
PO Box 2651  
Durango, CO 81302  
RE: Table 910

Enclosed are the results of analyses for samples received by the laboratory on 02/25/14 14:30.  
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The script is cursive and fluid, with the first name 'Debbie' and last name 'Zufelt' clearly legible.

Debbie Zufelt  
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (\*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water



Colorado Oil and Gas Conservation Commission  
PO Box 2651  
Durango CO, 81302

Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

**Reported:**  
03/13/14 14:10

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
South End Hydrovac Pit	1402178-01	Solid	02/25/14 13:00	02/25/14 14:30
Middle Hydrovac Pit	1402178-02	Solid	02/25/14 13:15	02/25/14 14:30
North End Hydrovac Pit	1402178-03	Solid	02/25/14 13:30	02/25/14 14:30

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Debbie Zufelt, Reports Manager

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Colorado Oil and Gas Conservation Commission  
PO Box 2651  
Durango CO, 81302

Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

**South End Hydrovac Pit****1402178-01 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**General Chemistry**

% Dry Solids	81.0			%	1	02/28/14	EPA160.3		LLG
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**Saturated Paste Extraction**

Calcium	67.0	1.00	0.004	mg/kg dry	1	03/11/14	EPA200.7		JGS
Conductivity	480			umhos/cm	1	03/11/14	ASA#9 10-3.3		JAW
Magnesium	8.16	1.00	0.019	mg/kg dry	1	03/11/14	EPA200.7		JGS
pH	7.74			pH Units	1	03/11/14	ASA#9 12-2.6		JAW
SAR	0.99			[blank]	1	03/11/14	Calculation		JGS
Sodium	32.4	1.00	0.004	mg/kg dry	1	03/11/14	EPA200.7		JGS

**Total Metals by ICP**

Barium	419	1.00	0.384	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Cadmium	<5.00	5.00	0.198	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Chromium	6.92	5.00	0.545	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Copper	13.9	2.00	0.223	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Lead	10.8	10.0	2.40	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Nickel	9.99	5.00	1.77	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Selenium	<20.0	20.0	4.04	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Silver	<5.00	5.00	0.149	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Zinc	87.0	5.00	0.254	mg/kg dry	100	03/11/14	EPA6010 B		JGS

**Total Metals by ICPMS**

Arsenic	3.12	0.500	0.138	mg/kg dry	1000	03/04/14	6020 A		JGS
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**Total Mercury by CVAA**

Mercury	<0.125	0.125	0.0128	mg/kg dry	505	02/26/14	EPA7471		JGS
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Debbie Zufelt, Reports Manager

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Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

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**South End Hydrovac Pit****1402178-01 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Hot Water Extractable**

<b>Boron</b>	<1.50	1.50	0.163	mg/kg dry	5	03/11/14	EPA200.7		JGS
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Subcontracted -- **Cardinal Laboratories**

**Petroleum Hydrocarbons by GC FID**

<b>GRO C6-C10</b>	<10.0	10.0	1.04	mg/kg	1	03/01/14	8015B		ms
<b>DRO &gt;C10-C28</b>	<10.0	10.0	8.93	mg/kg	1	03/01/14	8015B		ms
<b>EXT DRO &gt;C28-C35</b>	<10.0	10.0	8.93	mg/kg	1	03/01/14	8015B		ms

Surrogate: 1-Chlorooctane	70.6 %	65.2-140	03/01/14	8015B	ms
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Surrogate: 1-Chlorooctadecane	79.3 %	63.6-154	03/01/14	8015B	ms
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**Volatile Organic Compounds by EPA Method 8260B**

<b>Benzene*</b>	<0.050	0.050	0.013	mg/kg	50	03/03/14	8260B		MS
<b>Toluene*</b>	<0.050	0.050	0.015	mg/kg	50	03/03/14	8260B		MS
<b>Ethylbenzene*</b>	<0.050	0.050	0.014	mg/kg	50	03/03/14	8260B		MS
<b>Total Xylenes*</b>	<0.150	0.150	0.042	mg/kg	50	03/03/14	8260B		MS
<b>Total BTEX</b>	<0.300	0.300	0.034	mg/kg	50	03/03/14	8260B		MS

Surrogate: Dibromofluoromethane	97.3 %	61.3-142	03/03/14	8260B	MS
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Surrogate: Toluene-d8	101 %	71.3-129	03/03/14	8260B	MS
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Surrogate: 4-Bromofluorobenzene	104 %	65.7-141	03/03/14	8260B	MS
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Debbie Zufelt, Reports Manager

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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

**South End Hydrovac Pit****1402178-01 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories**Semivolatile Organic Compounds by GCMS**

Naphthalene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
2-Methylnaphthalene	<0.040	0.040		mg/kg	40	03/12/14	8270C		MS
1-Methylnaphthalene	<0.040	0.040		mg/kg	40	03/12/14	8270C		MS
Acenaphthylene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Acenaphthene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Fluorene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Phenanthrene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Anthracene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Carbazole	<0.040	0.040	0.004	mg/kg	40	03/12/14	8270C		MS
Fluoranthene	<b>0.111</b>	0.040	0.003	mg/kg	40	03/12/14	8270C		MS
Pyrene	<b>0.106</b>	0.040	0.003	mg/kg	40	03/12/14	8270C		MS
Benzo[a]anthracene	<b>0.043</b>	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Chrysene	<b>0.058</b>	0.040	0.005	mg/kg	40	03/12/14	8270C		MS
Benzo[b]fluoranthene	<b>0.043</b>	0.040	0.003	mg/kg	40	03/12/14	8270C		MS
Benzo[k]fluoranthene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Benzo[a]pyrene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Indeno[1,2,3-cd]pyrene	<0.040	0.040	0.001	mg/kg	40	03/12/14	8270C		MS
Dibenz[a,h]anthracene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Benzo[g,h,i]perylene	<0.040	0.040	0.001	mg/kg	40	03/12/14	8270C		MS

Surrogate: Nitrobenzene-d5	28.8 %	16.1-91.8			03/12/14	8270C		MS
Surrogate: 2-Fluorobiphenyl	30.8 %	27.2-92.9			03/12/14	8270C		MS
Surrogate: Terphenyl-d14	86.6 %	21.3-96.1			03/12/14	8270C		MS

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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

**Middle Hydrovac Pit****1402178-02 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**General Chemistry**

% Dry Solids	75.8			%	1	02/28/14	EPA160.3		LLG
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**Saturated Paste Extraction**

Calcium	70.2	1.00	0.004	mg/kg dry	1	03/11/14	EPA200.7		JGS
Conductivity	570			umhos/cm	1	03/11/14	ASA#9 10-3.3		JAW
Magnesium	16.5	1.00	0.019	mg/kg dry	1	03/11/14	EPA200.7		JGS
pH	7.91			pH Units	1	03/11/14	ASA#9 12-2.6		JAW
SAR	1.18			[blank]	1	03/11/14	Calculation		JGS
Sodium	42.2	1.00	0.004	mg/kg dry	1	03/11/14	EPA200.7		JGS

**Total Metals by ICP**

Barium	377	1.00	0.384	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Cadmium	<5.00	5.00	0.198	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Chromium	11.4	5.00	0.545	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Copper	16.5	2.00	0.223	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Lead	14.6	10.0	2.40	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Nickel	12.0	5.00	1.77	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Selenium	<20.0	20.0	4.04	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Silver	<5.00	5.00	0.149	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Zinc	64.1	5.00	0.254	mg/kg dry	100	03/11/14	EPA6010 B		JGS

**Total Metals by ICPMS**

Arsenic	3.38	0.500	0.138	mg/kg dry	1000	03/04/14	6020 A		JGS
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**Total Mercury by CVAA**

Mercury	<0.129	0.129	0.0133	mg/kg dry	490	02/26/14	EPA7471		JGS
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PO Box 2651  
Durango CO, 81302

Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

**Middle Hydrovac Pit****1402178-02 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Hot Water Extractable**

Boron	<1.50	1.50	0.163	mg/kg dry	5	03/11/14	EPA200.7		JGS
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Subcontracted -- Cardinal Laboratories

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10	<10.0	10.0	1.04	mg/kg	1	03/03/14	8015B		ms
DRO >C10-C28	<10.0	10.0	8.93	mg/kg	1	03/03/14	8015B		ms
EXT DRO >C28-C35	<10.0	10.0	8.93	mg/kg	1	03/03/14	8015B		ms

Surrogate: 1-Chlorooctane	94.9 %	65.2-140	03/03/14	8015B	ms
Surrogate: 1-Chlorooctadecane	96.5 %	63.6-154	03/03/14	8015B	ms

**Volatile Organic Compounds by EPA Method 8260B**

Benzene*	<0.050	0.050	0.013	mg/kg	50	03/03/14	8260B		MS
Toluene*	<0.050	0.050	0.015	mg/kg	50	03/03/14	8260B		MS
Ethylbenzene*	<0.050	0.050	0.014	mg/kg	50	03/03/14	8260B		MS
Total Xylenes*	<0.150	0.150	0.042	mg/kg	50	03/03/14	8260B		MS
Total BTEX	<0.300	0.300	0.034	mg/kg	50	03/03/14	8260B		MS

Surrogate: Dibromofluoromethane	98.7 %	61.3-142	03/03/14	8260B	MS
Surrogate: Toluene-d8	103 %	71.3-129	03/03/14	8260B	MS
Surrogate: 4-Bromofluorobenzene	104 %	65.7-141	03/03/14	8260B	MS

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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

**Middle Hydrovac Pit****1402178-02 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- **Cardinal Laboratories**

**Semivolatile Organic Compounds by GCMS**

Naphthalene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
2-Methylnaphthalene	<0.040	0.040		mg/kg	40	03/12/14	8270C		MS
1-Methylnaphthalene	<0.040	0.040		mg/kg	40	03/12/14	8270C		MS
Acenaphthylene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Acenaphthene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Fluorene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Phenanthrene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Anthracene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Carbazole	<0.040	0.040	0.004	mg/kg	40	03/12/14	8270C		MS
Fluoranthene	<0.040	0.040	0.003	mg/kg	40	03/12/14	8270C		MS
Pyrene	<0.040	0.040	0.003	mg/kg	40	03/12/14	8270C		MS
Benzo[a]anthracene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Chrysene	<0.040	0.040	0.005	mg/kg	40	03/12/14	8270C		MS
Benzo[b]fluoranthene	<0.040	0.040	0.003	mg/kg	40	03/12/14	8270C		MS
Benzo[k]fluoranthene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Benzo[a]pyrene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Indeno[1,2,3-cd]pyrene	<0.040	0.040	0.001	mg/kg	40	03/12/14	8270C		MS
Dibenz[a,h]anthracene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Benzo[g,h,i]perylene	<0.040	0.040	0.001	mg/kg	40	03/12/14	8270C		MS
Surrogate: Nitrobenzene-d5			27.4 %	16.1-91.8		03/12/14	8270C		MS
Surrogate: 2-Fluorobiphenyl			34.9 %	27.2-92.9		03/12/14	8270C		MS
Surrogate: Terphenyl-d14			94.1 %	21.3-96.1		03/12/14	8270C		MS

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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

**North End Hydrovac Pit****1402178-03 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**General Chemistry**

% Dry Solids	72.4			%	1	02/28/14	EPA160.3		LLG
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**Saturated Paste Extraction**

Calcium	60.6	1.00	0.004	mg/kg dry	1	03/11/14	EPA200.7		JGS
Conductivity	480			umhos/cm	1	03/11/14	ASA#9 10-3.3		JAW
Magnesium	12.5	1.00	0.019	mg/kg dry	1	03/11/14	EPA200.7		JGS
pH	8.02			pH Units	1	03/11/14	ASA#9 12-2.6		JAW
SAR	1.15			[blank]	1	03/11/14	Calculation		JGS
Sodium	37.5	1.00	0.004	mg/kg dry	1	03/11/14	EPA200.7		JGS

**Total Metals by ICP**

Barium	305	1.00	0.384	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Cadmium	<5.00	5.00	0.198	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Chromium	12.5	5.00	0.545	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Copper	22.8	2.00	0.223	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Lead	27.8	10.0	2.40	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Nickel	14.5	5.00	1.77	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Selenium	<20.0	20.0	4.04	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Silver	<5.00	5.00	0.149	mg/kg dry	100	03/11/14	EPA6010 B		JGS
Zinc	180	5.00	0.254	mg/kg dry	100	03/11/14	EPA6010 B		JGS

**Total Metals by ICPMS**

Arsenic	3.04	0.500	0.138	mg/kg dry	1000	03/04/14	6020 A		JGS
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**Total Mercury by CVAA**

Mercury	<0.142	0.142	0.0146	mg/kg dry	515	02/26/14	EPA7471		JGS
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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

**North End Hydrovac Pit****1402178-03 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Hot Water Extractable**

Boron	<1.50	1.50	0.163	mg/kg dry	5	03/11/14	EPA200.7		JGS
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Subcontracted -- Cardinal Laboratories

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10	<10.0	10.0	1.04	mg/kg	1	03/03/14	8015B		ms
DRO >C10-C28	<10.0	10.0	8.93	mg/kg	1	03/03/14	8015B		ms
EXT DRO >C28-C35	<10.0	10.0	8.93	mg/kg	1	03/03/14	8015B		ms

Surrogate: 1-Chlorooctane			107 %	65.2-140		03/03/14	8015B		ms
Surrogate: 1-Chlorooctadecane			111 %	63.6-154		03/03/14	8015B		ms

**Volatile Organic Compounds by EPA Method 8260B**

Benzene*	<0.050	0.050	0.013	mg/kg	50	03/03/14	8260B		MS
Toluene*	<0.050	0.050	0.015	mg/kg	50	03/03/14	8260B		MS
Ethylbenzene*	<0.050	0.050	0.014	mg/kg	50	03/03/14	8260B		MS
Total Xylenes*	<0.150	0.150	0.042	mg/kg	50	03/03/14	8260B		MS
Total BTEX	<0.300	0.300	0.034	mg/kg	50	03/03/14	8260B		MS

Surrogate: Dibromofluoromethane			100 %	61.3-142		03/03/14	8260B		MS
Surrogate: Toluene-d8			103 %	71.3-129		03/03/14	8260B		MS
Surrogate: 4-Bromofluorobenzene			102 %	65.7-141		03/03/14	8260B		MS

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PO Box 2651  
Durango CO, 81302

Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

**North End Hydrovac Pit****1402178-03 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories**Semivolatile Organic Compounds by GCMS**

Naphthalene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
2-Methylnaphthalene	<0.040	0.040		mg/kg	40	03/12/14	8270C		MS
1-Methylnaphthalene	<0.040	0.040		mg/kg	40	03/12/14	8270C		MS
Acenaphthylene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Acenaphthene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Fluorene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Phenanthrene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Anthracene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Carbazole	<0.040	0.040	0.004	mg/kg	40	03/12/14	8270C		MS
Fluoranthene	<0.040	0.040	0.003	mg/kg	40	03/12/14	8270C		MS
Pyrene	<0.040	0.040	0.003	mg/kg	40	03/12/14	8270C		MS
Benzo[a]anthracene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Chrysene	<0.040	0.040	0.005	mg/kg	40	03/12/14	8270C		MS
Benzo[b]fluoranthene	<0.040	0.040	0.003	mg/kg	40	03/12/14	8270C		MS
Benzo[k]fluoranthene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Benzo[a]pyrene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Indeno[1,2,3-cd]pyrene	<0.040	0.040	0.001	mg/kg	40	03/12/14	8270C		MS
Dibenz[a,h]anthracene	<0.040	0.040	0.002	mg/kg	40	03/12/14	8270C		MS
Benzo[g,h,i]perylene	<0.040	0.040	0.001	mg/kg	40	03/12/14	8270C		MS

Surrogate: Nitrobenzene-d5	8.44 %	16.1-91.8	03/12/14	8270C	S-04	MS
Surrogate: 2-Fluorobiphenyl	22.2 %	27.2-92.9	03/12/14	8270C	S-04	MS
Surrogate: Terphenyl-d14	70.3 %	21.3-96.1	03/12/14	8270C		MS

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Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

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### Saturated Paste Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B403069 - Dissolved Metals, E200.7/E200.8

<b>Duplicate (B403069-DUP1)</b>		<b>Source: 1402178-03</b>			<b>Prepared &amp; Analyzed: 03/11/14</b>					
Calcium	61.5	1.00	mg/kg dry		60.6			1.33	20	
Magnesium	17.3	1.00	mg/kg dry		12.5			32.3	20	R1
Sodium	37.4	1.00	mg/kg dry		37.5			0.429	20	

#### Batch B403070 - General Prep - Wet Chem

<b>Duplicate (B403070-DUP1)</b>		<b>Source: 1402178-03</b>			<b>Prepared &amp; Analyzed: 03/11/14</b>					
pH	8.06		pH Units		8.02			0.498	20	

#### Batch B403071 - General Prep - Wet Chem

<b>Duplicate (B403071-DUP1)</b>		<b>Source: 1402178-03</b>			<b>Prepared &amp; Analyzed: 03/11/14</b>					
Conductivity	530		umhos/cm		480			9.90	20	

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Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
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### Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B403065 - EPA 3050

##### Blank (B403065-BLK1)

Prepared & Analyzed: 03/11/14

Barium	ND	0.010	mg/kg dry
Cadmium	ND	0.050	mg/kg dry
Chromium	ND	0.050	mg/kg dry
Copper	ND	0.020	mg/kg dry
Lead	ND	0.100	mg/kg dry
Nickel	ND	0.050	mg/kg dry
Selenium	ND	0.200	mg/kg dry
Silver	ND	0.050	mg/kg dry
Zinc	ND	0.050	mg/kg dry

##### LCS (B403065-BS1)

Prepared & Analyzed: 03/11/14

Barium	1.82	0.010	mg/kg dry	2.00	90.8	85-115
Cadmium	1.82	0.050	mg/kg dry	2.00	91.0	85-115
Chromium	1.89	0.050	mg/kg dry	2.00	94.7	85-115
Copper	3.61	0.020	mg/kg dry	4.00	90.3	85-115
Lead	1.95	0.100	mg/kg dry	2.00	97.7	85-115
Nickel	1.73	0.050	mg/kg dry	2.00	86.3	85-115
Selenium	7.51	0.200	mg/kg dry	8.00	93.9	85-115
Silver	0.093	0.050	mg/kg dry	0.100	92.9	85-115
Zinc	1.78	0.050	mg/kg dry	2.00	89.2	85-115

##### LCS Dup (B403065-BSD1)

Prepared & Analyzed: 03/11/14

Barium	1.79	0.010	mg/kg dry	2.00	89.7	85-115	1.13	20
Cadmium	1.80	0.050	mg/kg dry	2.00	90.1	85-115	0.994	20
Chromium	1.88	0.050	mg/kg dry	2.00	94.1	85-115	0.657	20
Copper	3.60	0.020	mg/kg dry	4.00	90.1	85-115	0.235	20
Lead	1.94	0.100	mg/kg dry	2.00	96.9	85-115	0.845	20
Nickel	1.72	0.050	mg/kg dry	2.00	86.1	85-115	0.191	20
Selenium	7.42	0.200	mg/kg dry	8.00	92.8	85-115	1.13	20
Silver	0.091	0.050	mg/kg dry	0.100	90.9	85-115	2.16	20
Zinc	1.76	0.050	mg/kg dry	2.00	88.1	85-115	1.25	20

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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

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### Total Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B403002 - EPA 3050M

##### Blank (B403002-BLK1)

Prepared & Analyzed: 03/04/14

Arsenic ND 0.0005 mg/kg dry

##### LCS (B403002-BS1)

Prepared & Analyzed: 03/04/14

Arsenic 0.0474 0.0005 mg/kg dry 0.0500 94.9 85-115

##### LCS Dup (B403002-BSD1)

Prepared & Analyzed: 03/04/14

Arsenic 0.0476 0.0005 mg/kg dry 0.0500 95.2 85-115 0.393 20

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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

### Total Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B402182 - EPA 7471

##### Blank (B402182-BLK1)

Prepared & Analyzed: 02/26/14

Mercury	ND	0.0002	mg/kg wet
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##### LCS (B402182-BS1)

Prepared & Analyzed: 02/26/14

Mercury	0.0021	0.0002	mg/kg wet	0.00200	103	85-115
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##### LCS Dup (B402182-BSD1)

Prepared & Analyzed: 02/26/14

Mercury	0.0021	0.0002	mg/kg wet	0.00200	106	85-115	2.93	20
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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

### Hot Water Extractable - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B403068 - Hot Water Soluble Metals Extract

##### Blank (B403068-BLK1)

Prepared & Analyzed: 03/11/14

Boron ND 0.300 mg/kg dry

##### LCS (B403068-BS1)

Prepared & Analyzed: 03/11/14

Boron 4.71 0.300 mg/kg dry 5.00 94.1 85-115

##### LCS Dup (B403068-BSD1)

Prepared & Analyzed: 03/11/14

Boron 4.65 0.300 mg/kg dry 5.00 93.0 85-115 1.18 20

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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

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03/13/14 14:10

### Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 4022804 - General Prep - Organics

##### Blank (4022804-BLK1)

Prepared: 02/28/14 Analyzed: 03/01/14

Surrogate: 1-Chlorooctadecane	53.9		mg/kg	50.0		108	63.6-154			
Surrogate: 1-Chlorooctane	51.7		mg/kg	50.0		103	65.2-140			
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
GRO C6-C10	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							

##### LCS (4022804-BS1)

Prepared: 02/28/14 Analyzed: 03/01/14

Surrogate: 1-Chlorooctadecane	55.2		mg/kg	50.0		110	63.6-154			
Surrogate: 1-Chlorooctane	53.1		mg/kg	50.0		106	65.2-140			
DRO >C10-C28	212	10.0	mg/kg	200		106	61.6-132			
GRO C6-C10	217	10.0	mg/kg	200		108	66.4-124			
Total TPH C6-C28	428	10.0	mg/kg	400		107	69.7-122			

##### LCS Dup (4022804-BS1)

Prepared: 02/28/14 Analyzed: 03/01/14

Surrogate: 1-Chlorooctadecane	53.3		mg/kg	50.0		107	63.6-154			
Surrogate: 1-Chlorooctane	51.9		mg/kg	50.0		104	65.2-140			
DRO >C10-C28	212	10.0	mg/kg	200		106	61.6-132	0.309	23.1	
GRO C6-C10	224	10.0	mg/kg	200		112	66.4-124	3.10	23.4	
Total TPH C6-C28	436	10.0	mg/kg	400		109	69.7-122	1.73	20.6	

#### Batch 4022813 - General Prep - Organics

##### Blank (4022813-BLK1)

Prepared: 02/28/14 Analyzed: 03/03/14

Surrogate: 1-Chlorooctadecane	50.0		mg/kg	50.0		100	63.6-154			
Surrogate: 1-Chlorooctane	44.4		mg/kg	50.0		88.8	65.2-140			
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
GRO C6-C10	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							

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Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
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### Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 4022813 - General Prep - Organics

##### LCS (4022813-BS1)

Prepared: 02/28/14 Analyzed: 03/03/14

Surrogate: 1-Chlorooctadecane	53.9		mg/kg	50.0		108	63.6-154			
Surrogate: 1-Chlorooctane	51.7		mg/kg	50.0		103	65.2-140			
DRO >C10-C28	197	10.0	mg/kg	200		98.7	61.6-132			
GRO C6-C10	206	10.0	mg/kg	200		103	66.4-124			
Total TPH C6-C28	403	10.0	mg/kg	400		101	69.7-122			

##### LCS Dup (4022813-BSD1)

Prepared: 02/28/14 Analyzed: 03/03/14

Surrogate: 1-Chlorooctadecane	50.3		mg/kg	50.0		101	63.6-154			
Surrogate: 1-Chlorooctane	47.3		mg/kg	50.0		94.7	65.2-140			
DRO >C10-C28	182	10.0	mg/kg	200		90.8	61.6-132	8.31	23.1	
GRO C6-C10	190	10.0	mg/kg	200		95.1	66.4-124	7.94	23.4	
Total TPH C6-C28	372	10.0	mg/kg	400		93.0	69.7-122	8.12	20.6	

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Project Manager: Joe MacLaren

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### Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 4030305 - Volatiles

##### Blank (4030305-BLK1)

Prepared &amp; Analyzed: 03/03/14

Surrogate: 4-Bromofluorobenzene	0.498		mg/kg	0.500		99.7	65.7-141			
Benzene	ND	0.050	mg/kg							
Surrogate: Dibromofluoromethane	0.498		mg/kg	0.500		99.7	61.3-142			
Ethylbenzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Surrogate: Toluene-d8	0.504		mg/kg	0.500		101	71.3-129			
Total BTEX	ND	0.300	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

##### LCS (4030305-BS1)

Prepared &amp; Analyzed: 03/03/14

Surrogate: 4-Bromofluorobenzene	0.520		mg/kg	0.500		104	65.7-141			
Benzene	2.27	0.050	mg/kg	2.00		113	76.8-122			
Surrogate: Dibromofluoromethane	0.492		mg/kg	0.500		98.5	61.3-142			
Ethylbenzene	2.08	0.050	mg/kg	2.00		104	72.8-128			
m+p - Xylene	4.21	0.100	mg/kg				69.4-129			
o-Xylene	2.05	0.050	mg/kg	2.00		103	70.3-126			
Toluene	2.21	0.050	mg/kg	2.00		111	73.1-129			
Surrogate: Toluene-d8	0.500		mg/kg	0.500		100	71.3-129			
Total Xylenes	6.26	0.150	mg/kg	6.00		104	72-127			

##### LCS Dup (4030305-BSD1)

Prepared &amp; Analyzed: 03/03/14

Surrogate: 4-Bromofluorobenzene	0.523		mg/kg	0.500		105	65.7-141			
Benzene	2.28	0.050	mg/kg	2.00		114	76.8-122	0.367	18.7	
Surrogate: Dibromofluoromethane	0.488		mg/kg	0.500		97.7	61.3-142			
Ethylbenzene	2.09	0.050	mg/kg	2.00		104	72.8-128	0.277	21.8	
m+p - Xylene	4.26	0.100	mg/kg				69.4-129	1.30	25.3	
o-Xylene	2.06	0.050	mg/kg	2.00		103	70.3-126	0.299	23.6	
Toluene	2.24	0.050	mg/kg	2.00		112	73.1-129	1.13	19.4	
Surrogate: Toluene-d8	0.504		mg/kg	0.500		101	71.3-129			
Total Xylenes	6.32	0.150	mg/kg	6.00		105	72-127	0.971	23.2	

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Debbie Zufelt, Reports Manager

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Colorado Oil and Gas Conservation Commission  
PO Box 2651  
Durango CO, 81302

Project: Table 910  
Project Name / Number: La Boca Dump Site  
Project Manager: Joe MacLaren

Reported:  
03/13/14 14:10

### Semivolatile Organic Compounds by GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 4031107 - SW846-3510

##### Blank (4031107-BLK1)

Prepared: 03/11/14 Analyzed: 03/12/14

1-Methylnaphthalene	ND	0.040	mg/kg							
Surrogate: 2-Fluorobiphenyl	1.60		mg/kg	2.00		80.2	27.2-92.9			
2-Methylnaphthalene	ND	0.040	mg/kg							
Acenaphthene	ND	0.040	mg/kg							
Acenaphthylene	ND	0.040	mg/kg							
Anthracene	ND	0.040	mg/kg							
Benzo[a]anthracene	ND	0.040	mg/kg							
Benzo[a]pyrene	ND	0.040	mg/kg							
Benzo[b]fluoranthene	ND	0.040	mg/kg							
Benzo[g,h,i]perylene	ND	0.040	mg/kg							
Benzo[k]fluoranthene	ND	0.040	mg/kg							
Carbazole	ND	0.040	mg/kg							
Chrysene	ND	0.040	mg/kg							
Dibenz[a,h]anthracene	ND	0.040	mg/kg							
Fluoranthene	ND	0.040	mg/kg							
Fluorene	ND	0.040	mg/kg							
Indeno[1,2,3-cd]pyrene	ND	0.040	mg/kg							
Naphthalene	ND	0.040	mg/kg							
Surrogate: Nitrobenzene-d5	1.47		mg/kg	2.00		73.6	16.1-91.8			
Phenanthrene	ND	0.040	mg/kg							
Pyrene	ND	0.040	mg/kg							
Surrogate: Terphenyl-dl4	2.48		mg/kg	2.00		124	21.3-96.1			

##### LCS (4031107-BS1)

Prepared: 03/11/14 Analyzed: 03/12/14

Surrogate: 2-Fluorobiphenyl	1.59		mg/kg	2.00		79.7	27.2-92.9			
2-Methylnaphthalene	0.411	0.040	mg/kg	0.400		103	16.1-146			
Acenaphthene	0.435	0.040	mg/kg	0.400		109	27-143			
Acenaphthylene	0.420	0.040	mg/kg	0.400		105	21.6-144			
Anthracene	0.441	0.040	mg/kg	0.400		110	36.1-149			
Benzo[a]anthracene	0.469	0.040	mg/kg	0.400		117	0-179			
Benzo[a]pyrene	0.438	0.040	mg/kg	0.400		110	2.25-166			
Benzo[b]fluoranthene	0.396	0.040	mg/kg	0.400		98.9	17.6-158			
Benzo[g,h,i]perylene	0.319	0.040	mg/kg	0.400		79.6	0-173			
Benzo[k]fluoranthene	0.452	0.040	mg/kg	0.400		113	10.6-169			
Carbazole	0.530	0.040	mg/kg	0.400		132	29.8-144			
Chrysene	0.454	0.040	mg/kg	0.400		113	35.1-150			
Dibenz[a,h]anthracene	0.371	0.040	mg/kg	0.400		92.8	2.49-177			
Fluoranthene	0.451	0.040	mg/kg	0.400		113	34.6-148			

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03/13/14 14:10

### Semivolatile Organic Compounds by GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 4031107 - SW846-3510

##### LCS (4031107-BS1)

Prepared: 03/11/14 Analyzed: 03/12/14

Fluorene	0.433	0.040	mg/kg	0.400		108	30.9-138			
Indeno[1,2,3-cd]pyrene	0.360	0.040	mg/kg	0.400		90.0	0-181			
Naphthalene	0.444	0.040	mg/kg	0.400		111	5.46-157			
Surrogate: Nitrobenzene-d5	2.08		mg/kg	2.00		104	16.1-91.8			
Phenanthrene	0.474	0.040	mg/kg	0.400		119	38.6-149			
Pyrene	0.499	0.040	mg/kg	0.400		125	24.8-154			
Surrogate: Terphenyl-dl4	2.24		mg/kg	2.00		112	21.3-96.1			

##### LCS Dup (4031107-BS1)

Prepared: 03/11/14 Analyzed: 03/12/14

Surrogate: 2-Fluorobiphenyl	1.78		mg/kg	2.00		89.0	27.2-92.9			
2-Methylnaphthalene	0.420	0.040	mg/kg	0.400		105	16.1-146	2.25	8.99	
Acenaphthene	0.423	0.040	mg/kg	0.400		106	27-143	2.80	6.99	
Acenaphthylene	0.405	0.040	mg/kg	0.400		101	21.6-144	3.69	14.6	
Anthracene	0.463	0.040	mg/kg	0.400		116	36.1-149	4.85	18.5	
Benzo[a]anthracene	0.420	0.040	mg/kg	0.400		105	0-179	11.1	32.5	
Benzo[a]pyrene	0.436	0.040	mg/kg	0.400		109	2.25-166	0.533	60.5	
Benzo[b]fluoranthene	0.408	0.040	mg/kg	0.400		102	17.6-158	2.98	31.4	
Benzo[g,h,i]perylene	0.479	0.040	mg/kg	0.400		120	0-173	40.2	77.4	
Benzo[k]fluoranthene	0.439	0.040	mg/kg	0.400		110	10.6-169	2.91	44.6	
Carbazole	0.461	0.040	mg/kg	0.400		115	29.8-144	14.0	23.4	
Chrysene	0.435	0.040	mg/kg	0.400		109	35.1-150	4.19	19.4	
Dibenz[a,h]anthracene	0.498	0.040	mg/kg	0.400		124	2.49-177	29.1	63.3	
Fluoranthene	0.470	0.040	mg/kg	0.400		118	34.6-148	4.16	19.7	
Fluorene	0.415	0.040	mg/kg	0.400		104	30.9-138	4.20	13.9	
Indeno[1,2,3-cd]pyrene	0.495	0.040	mg/kg	0.400		124	0-181	31.7	77	
Naphthalene	0.432	0.040	mg/kg	0.400		108	5.46-157	2.74	6.7	
Surrogate: Nitrobenzene-d5	1.67		mg/kg	2.00		83.7	16.1-91.8			
Phenanthrene	0.463	0.040	mg/kg	0.400		116	38.6-149	2.40	14.6	
Pyrene	0.464	0.040	mg/kg	0.400		116	24.8-154	7.18	23	
Surrogate: Terphenyl-dl4	2.86		mg/kg	2.00		143	21.3-96.1			

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Project: Table 910  
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Project Manager: Joe MacLaren

**Reported:**  
03/13/14 14:10

### Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

R1 Duplicate sample RPD exceeded laboratory acceptance criteria. BS/BSD RPD was acceptable.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis  
\*Results reported on as received basis unless designated as dry.

RPD Relative Percent Difference

LCS Laboratory Control Sample (Blank Spike)

RL Report Limit

MDL Method Detection Limit

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# CHAIN OF CUSTODY RECORD

Page \_\_\_\_ of \_\_\_\_

Client: Collec

## NOTES:

Contact: Joe MacLaren

1) Ensure proper container packaging.

Address:

2) Ship samples promptly following collection.

Phone Number: 970-302-1680

PO#

Table 1. - Matrix Type  
1 = Surface Water, 2 = Ground Water  
3 = Soil/Sediment, 4 = Prod. W., 5 = Oil  
6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY  
GAL JOB #  
1402-178

Email: Joe.MacLaren@state.co.us Project Name: LA BACA Dunes Signature: [Signature]

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227

Analyses Required

Address: 75 Suttle Street, Durango, CO 81303 www.greenanalytical.com

Sample ID	Collection	Date	Time	Collected by: (Init.)	Miscellaneous			Preservative(s)					Comments	
					Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH		Other (Specify)
1. <del>SOOTY END</del> Hydrova pit	2/25	1:00		<i>[Signature]</i>									X	170c #18 on ice, just sampled
2. <del>Middle</del> Hydrova pit	2/25	1:15		<i>[Signature]</i>									X	
3. <del>SOOTY END</del> Hydrova pit	2/25	1:30		<i>[Signature]</i>									X	
4.														
5.														
6.														
7.														
8.														
9.														
10.														
Relinquished by:	<i>[Signature]</i>	Date:	2-25-14	Time:	4:30	Received by:	<i>Michael Davist</i>	Date:	2-25-14	Time:	4:30			
Relinquished by:		Date:		Time:		Received by:		Date:		Time:				
Relinquished by:		Date:		Time:		Received by:		Date:		Time:				

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)