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19 March 2019

Steve Moskal  
BP America  
380 Airport Rd.  
Durango, CO 81303  
RE: Table 910 - less PAH, metals

Enclosed are the results of analyses for samples received by the laboratory on 03/13/19 13:15. The data to follow was performed, in whole or in part, by a subcontract laboratory with an additional report attached.

If you any any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Jenna Emerick'.

Jenna Marie Emerick For 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 through the Colorado Department of Public Health and Environment and EPA region 8.



BP America  
380 Airport Rd.  
Durango CO, 81303

Project: Table 910 - less PAH, metals  
Project Name / Number: Thomas Jacquez E #1  
Project Manager: Steve Moskal

Reported:  
03/19/19 11:12

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS 43	1903140-01	Solid	03/13/19 08:50	03/13/19 13:15	
SS 44	1903140-02	Solid	03/13/19 08:55	03/13/19 13:15	
SS 45	1903140-03	Solid	03/13/19 09:05	03/13/19 13:15	
SS 46	1903140-04	Solid	03/13/19 09:35	03/13/19 13:15	
SS 47	1903140-05	Solid	03/13/19 09:55	03/13/19 13:15	
SS 48	1903140-06	Solid	03/13/19 10:05	03/13/19 13:15	
SS 49	1903140-07	Solid	03/13/19 10:10	03/13/19 13:15	
SS 50	1903140-08	Solid	03/13/19 10:50	03/13/19 13:15	
SS 51	1903140-09	Solid	03/13/19 11:00	03/13/19 13:15	
SS 52	1903140-10	Solid	03/13/19 11:15	03/13/19 13:15	
SS 53	1903140-11	Solid	03/13/19 11:20	03/13/19 13:15	
SS 54	1903140-12	Solid	03/13/19 11:50	03/13/19 13:15	
SS 55	1903140-13	Solid	03/13/19 11:55	03/13/19 13:15	
SS 56	1903140-14	Solid	03/13/19 12:40	03/13/19 13:15	

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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**SS 43**

**1903140-01 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	57.5	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	415			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	7.71	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.64			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	1.15			No Unit	1	03/19/19	Calculation		AES
Sodium	34.9	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

**Subcontracted -- Cardinal Laboratories**

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 117 % 73.3-129 03/15/19 8021B MS

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/15/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS

Surrogate: 1-Chlorooctane 94.9 % 41-142 03/15/19 8015B MS

Surrogate: 1-Chlorooctadecane 96.5 % 37.6-147 03/15/19 8015B MS

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SS 44

1903140-02 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	20.3	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	446			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	2.98	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.86			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	4.77			No Unit	1	03/19/19	Calculation		AES
Sodium	87.0	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

**Subcontracted -- Cardinal Laboratories**

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 111 % 73.3-129 03/15/19 8021B MS

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/15/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS

Surrogate: 1-Chlorooctane 98.2 % 41-142 03/15/19 8015B MS

Surrogate: 1-Chlorooctadecane 101 % 37.6-147 03/15/19 8015B MS

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SS 45

1903140-03 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Saturated Paste Extraction

Calcium	20.8	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	430			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	3.51	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.87			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	5.39			No Unit	1	03/19/19	Calculation		AES
Sodium	101	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

Subcontracted -- Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.3-129 03/15/19 8021B MS

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/15/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS

Surrogate: 1-Chlorooctane 95.3 % 41-142 03/15/19 8015B MS

Surrogate: 1-Chlorooctadecane 98.8 % 37.6-147 03/15/19 8015B MS

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**SS 46**

**1903140-04 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	40.3	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	650			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	5.42	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.74			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	5.18			No Unit	1	03/19/19	Calculation		AES
Sodium	132	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

**Subcontracted -- Cardinal Laboratories**

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 116 % 73.3-129 03/15/19 8021B MS

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/15/19	8015B		MS
DRO >C10-C28*	369	10.0	1.56	mg/kg	1	03/15/19	8015B		MS
EXT DRO >C28-C36	45.5	10.0	1.56	mg/kg	1	03/15/19	8015B		MS

Surrogate: 1-Chlorooctane 100 % 41-142 03/15/19 8015B MS

Surrogate: 1-Chlorooctadecane 133 % 37.6-147 03/15/19 8015B MS

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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SS 47

1903140-05 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Saturated Paste Extraction

Calcium	29.2	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	467			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	4.13	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.76			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	3.78			No Unit	1	03/19/19	Calculation		AES
Sodium	82.3	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

Subcontracted -- Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 116 % 73.3-129 03/15/19 8021B MS

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/15/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS

Surrogate: 1-Chlorooctane 97.0 % 41-142 03/15/19 8015B MS

Surrogate: 1-Chlorooctadecane 99.6 % 37.6-147 03/15/19 8015B MS

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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SS 48

1903140-06 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Saturated Paste Extraction

Calcium	41.8	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	487			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	5.86	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.72			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	2.49			No Unit	1	03/19/19	Calculation		AES
Sodium	64.8	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

Subcontracted -- Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.3-129 03/15/19 8021B MS

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/15/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS

Surrogate: 1-Chlorooctane 93.8 % 41-142 03/15/19 8015B MS

Surrogate: 1-Chlorooctadecane 94.1 % 37.6-147 03/15/19 8015B MS

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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SS 49

1903140-07 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Saturated Paste Extraction

Calcium	174	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	1090			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	24.9	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.39			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	0.85			No Unit	1	03/19/19	Calculation		AES
Sodium	45.2	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

Subcontracted -- Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.3-129 03/15/19 8021B MS

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/15/19	8015B		MS
DRO >C10-C28*	179	10.0	1.56	mg/kg	1	03/15/19	8015B		MS
EXT DRO >C28-C36	52.9	10.0	1.56	mg/kg	1	03/15/19	8015B		MS

Surrogate: 1-Chlorooctane 90.3 % 41-142 03/15/19 8015B MS

Surrogate: 1-Chlorooctadecane 107 % 37.6-147 03/15/19 8015B MS

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**SS 50**

**1903140-08 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	51.8	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	522			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	7.46	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.72			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	2.03			No Unit	1	03/19/19	Calculation		AES
Sodium	59.1	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

**Subcontracted -- Cardinal Laboratories**

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129 03/15/19 8021B MS

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/15/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/15/19	8015B		MS

Surrogate: 1-Chlorooctane 96.2 % 41-142 03/15/19 8015B MS

Surrogate: 1-Chlorooctadecane 92.0 % 37.6-147 03/15/19 8015B MS

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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**SS 51**

**1903140-09 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	126	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	810			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	18.0	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.67			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	0.70			No Unit	1	03/19/19	Calculation		AES
Sodium	31.5	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

**Subcontracted -- Cardinal Laboratories**

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129 03/15/19 8021B MS

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/16/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS

Surrogate: 1-Chlorooctane 91.9 % 41-142 03/16/19 8015B MS

Surrogate: 1-Chlorooctadecane 89.5 % 37.6-147 03/16/19 8015B MS

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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SS 52

1903140-10 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Saturated Paste Extraction

Calcium	74.4	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	610			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	11.7	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.70			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	1.12			No Unit	1	03/19/19	Calculation		AES
Sodium	39.4	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

Subcontracted -- Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.3-129 03/15/19 8021B MS

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/16/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS

Surrogate: 1-Chlorooctane 90.9 % 41-142 03/16/19 8015B MS

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147 03/16/19 8015B MS

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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**SS 53**

**1903140-11 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	138	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	815			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	15.7	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.76			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	0.75			No Unit	1	03/19/19	Calculation		AES
Sodium	34.9	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

**Subcontracted -- Cardinal Laboratories**

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129 03/15/19 8021B MS

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/16/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS

Surrogate: 1-Chlorooctane 76.9 % 41-142 03/16/19 8015B MS

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147 03/16/19 8015B MS

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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**SS 54**

**1903140-12 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	64.4	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	530			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	10.8	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	8.00			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	1.02			No Unit	1	03/19/19	Calculation		AES
Sodium	33.7	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

**Subcontracted -- Cardinal Laboratories**

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 116 % 73.3-129 03/15/19 8021B MS

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/16/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS

Surrogate: 1-Chlorooctane 94.6 % 41-142 03/16/19 8015B MS

Surrogate: 1-Chlorooctadecane 96.9 % 37.6-147 03/16/19 8015B MS

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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**SS 55**

**1903140-13 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	75.6	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	914			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	9.01	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	8.01			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	4.08			No Unit	1	03/19/19	Calculation		AES
Sodium	141	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

**Subcontracted -- Cardinal Laboratories**

**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Toluene*	<0.050	0.050	0.002	mg/kg	50	03/15/19	8021B		MS
Ethylbenzene*	<0.050	0.050	0.004	mg/kg	50	03/15/19	8021B		MS
Total Xylenes*	<0.150	0.150	0.010	mg/kg	50	03/15/19	8021B		MS
Total BTEX	<0.300	0.300	0.018	mg/kg	50	03/15/19	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 111 % 73.3-129 03/15/19 8021B MS

**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0	10.0	5.30	mg/kg	1	03/16/19	8015B		MS
DRO >C10-C28*	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	1.56	mg/kg	1	03/16/19	8015B		MS

Surrogate: 1-Chlorooctane 92.8 % 41-142 03/16/19 8015B MS

Surrogate: 1-Chlorooctadecane 92.4 % 37.6-147 03/16/19 8015B MS

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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**SS 56**

**1903140-14 (Solid)**

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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**Saturated Paste Extraction**

Calcium	66.3	0.100	0.013	mg/L	1	03/19/19	EPA200.7		AES
Conductivity	495			umhos/cm	1	03/18/19	ASA#9 10-3.3		JDA
Magnesium	10.8	0.100	0.019	mg/L	1	03/19/19	EPA200.7		AES
pH	7.93			pH Units	1	03/18/19	ASA#9 12-2.6		JDA
SAR	0.85			No Unit	1	03/19/19	Calculation		AES
Sodium	28.3	1.00	0.367	mg/L	1	03/19/19	EPA200.7		AES

**Total Metals by ICPMS**

Arsenic	2.08	1.00	0.214	mg/kg dry	1000	03/18/19	6020A		AES
Manganese	376	2.00	0.0895	mg/kg dry	1000	03/18/19	6020A		AES

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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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 B903143 - Paste Extract**

**Blank (B903143-BLK1)**

Prepared: 03/18/19 Analyzed: 03/19/19

Calcium	ND	0.100	mg/L							
Magnesium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							

**Duplicate (B903143-DUP1)**

Source: 1903140-10 Prepared: 03/18/19 Analyzed: 03/19/19

Calcium	73.4	0.100	mg/L		74.4			1.25	20	
Magnesium	11.7	0.100	mg/L		11.7			0.0161	20	
SAR	1.11		No Unit		1.12			0.897	20	
Sodium	38.7	1.00	mg/L		39.4			1.71	20	

**Batch B903145 - Paste Extract**

**Duplicate (B903145-DUP1)**

Source: 1903140-10 Prepared & Analyzed: 03/18/19

pH	7.69		pH Units		7.70			0.130	20	
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**Batch B903146 - Paste Extract**

**Duplicate (B903146-DUP1)**

Source: 1903140-10 Prepared & Analyzed: 03/18/19

Conductivity	590		umhos/cm		610			3.33	20	
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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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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 B903140 - EPA 3050M**

**Blank (B903140-BLK1)**

Prepared: 03/15/19 Analyzed: 03/18/19

Arsenic	ND	0.100	mg/kg dry							
Manganese	ND	0.200	mg/kg dry							

**LCS (B903140-BS1)**

Prepared: 03/15/19 Analyzed: 03/18/19

Arsenic	4.89	0.100	mg/kg dry	5.00		97.9	80-120			
Manganese	4.95	0.200	mg/kg dry	5.00		98.9	80-120			

**LCS Dup (B903140-BSD1)**

Prepared: 03/15/19 Analyzed: 03/18/19

Arsenic	5.44	0.100	mg/kg dry	5.00		109	80-120	10.6	20	
Manganese	4.84	0.200	mg/kg dry	5.00		96.9	80-120	2.07	20	

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9031505 - Volatiles**

**Blank (9031505-BLK1)**

Prepared & Analyzed: 03/15/19

Surrogate: 4-Bromofluorobenzene (PID)	0.116		mg/kg	0.100		116	73.3-129			
Benzene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

**LCS (9031505-BS1)**

Prepared & Analyzed: 03/15/19

Surrogate: 4-Bromofluorobenzene (PID)	0.129		mg/kg	0.100		129	73.3-129			
Benzene	2.00	0.050	mg/kg	2.00		100	72.2-131			
Ethylbenzene	2.27	0.050	mg/kg	2.00		113	68.9-126			
Toluene	2.13	0.050	mg/kg	2.00		107	71.7-126			
Total Xylenes	6.68	0.150	mg/kg	6.00		111	71.4-125			

**LCS Dup (9031505-BSD1)**

Prepared & Analyzed: 03/15/19

Surrogate: 4-Bromofluorobenzene (PID)	0.125		mg/kg	0.100		125	73.3-129			
Benzene	2.11	0.050	mg/kg	2.00		105	72.2-131	5.23	6.91	
Ethylbenzene	2.29	0.050	mg/kg	2.00		115	68.9-126	1.03	7.88	
Toluene	2.14	0.050	mg/kg	2.00		107	71.7-126	0.349	7.12	
Total Xylenes	6.55	0.150	mg/kg	6.00		109	71.4-125	1.96	7.46	

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BP America  
380 Airport Rd.  
Durango CO, 81303

Project: Table 910 - less PAH, metals  
Project Name / Number: Thomas Jacquez E #1  
Project Manager: Steve Moskal

Reported:  
03/19/19 11:12

**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 9031423 - General Prep - Organics**

**Blank (9031423-BLK1)**

Prepared: 03/14/19 Analyzed: 03/15/19

Surrogate: 1-Chlorooctadecane	49.3		mg/kg	50.0		98.6	37.6-147			
Surrogate: 1-Chlorooctane	48.6		mg/kg	50.0		97.2	41-142			
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
GRO C6-C10	ND	10.0	mg/kg							

**LCS (9031423-BS1)**

Prepared: 03/14/19 Analyzed: 03/15/19

Surrogate: 1-Chlorooctadecane	54.7		mg/kg	50.0		109	37.6-147			
Surrogate: 1-Chlorooctane	51.9		mg/kg	50.0		104	41-142			
DRO >C10-C28	197	10.0	mg/kg	200		98.3	72.9-138			
GRO C6-C10	193	10.0	mg/kg	200		96.5	76.5-133			
Total TPH C6-C28	471	10.0	mg/kg	400		118	78-132			

**LCS Dup (9031423-BSD1)**

Prepared: 03/14/19 Analyzed: 03/15/19

Surrogate: 1-Chlorooctadecane	55.3		mg/kg	50.0		111	37.6-147			
Surrogate: 1-Chlorooctane	55.2		mg/kg	50.0		110	41-142			
DRO >C10-C28	226	10.0	mg/kg	200		113	72.9-138	14.2	20.6	
GRO C6-C10	208	10.0	mg/kg	200		104	76.5-133	7.41	20.6	
Total TPH C6-C28	434	10.0	mg/kg	400		109	78-132	8.22	18	

**Batch 9031503 - General Prep - Organics**

**Blank (9031503-BLK1)**

Prepared & Analyzed: 03/15/19

Surrogate: 1-Chlorooctadecane	44.8		mg/kg	50.0		89.5	37.6-147			
Surrogate: 1-Chlorooctane	46.7		mg/kg	50.0		93.4	41-142			
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
GRO C6-C10	ND	10.0	mg/kg							

**LCS (9031503-BS1)**

Prepared & Analyzed: 03/15/19

Surrogate: 1-Chlorooctadecane	48.6		mg/kg	50.0		97.2	37.6-147			
Surrogate: 1-Chlorooctane	51.8		mg/kg	50.0		104	41-142			
DRO >C10-C28	183	10.0	mg/kg	200		91.4	72.9-138			
GRO C6-C10	204	10.0	mg/kg	200		102	76.5-133			
Total TPH C6-C28	387	10.0	mg/kg	400		96.6	78-132			

**LCS Dup (9031503-BSD1)**

Prepared & Analyzed: 03/15/19

Surrogate: 1-Chlorooctadecane	48.4		mg/kg	50.0		96.9	37.6-147			
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Green Analytical Laboratories

Jenna Marie Emerick For Debbie Zufelt, Reports Manager

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BP America 380 Airport Rd. Durango CO, 81303	Project: Table 910 - less PAH, metals Project Name / Number: Thomas Jacquez E #1 Project Manager: Steve Moskal	Reported: 03/19/19 11:12
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**Petroleum Hydrocarbons by GC FID - Quality Control  
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 9031503 - General Prep - Organics (Continued)**

**LCS Dup (9031503-BSD1) (Continued)**

Prepared & Analyzed: 03/15/19

<i>Surrogate: 1-Chlorooctane</i>	52.0		mg/kg	50.0		104	41-142			
DRO >C10-C28	228	10.0	mg/kg	200		114	72.9-138	21.9	20.6	QR-02
GRO C6-C10	225	10.0	mg/kg	200		113	76.5-133	9.97	20.6	
Total TPH C6-C28	453	10.0	mg/kg	400		113	78-132	15.8	18	

**Notes and Definitions**

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- 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

Green Analytical Laboratories

Jenna Marie Emerick For Debbie Zufelt, Reports Manager

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 75 Suttle St Durango, CO 81303

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Page 1 of 2

Company Name: BP America Production Co.  
 Project Manager: Steve Moskal  
 Address: 1199 Main Ave Suite 101  
 City: Durango State: CO Zip: 81301  
 Phone #: (505) 330 9179 Email: steven.moskal@bpx.com  
 Additional Report To:  
 Project Name: Thomas Jacquez E #1  
 Project Number:  
 Sampler Name (Print): Amanda Webb  
 FOR LAB USE ONLY

Lab I.D.	Sample Name or Location	Collected		Matrix (check one)						# of containers				ANALYSIS REQUEST						
		Date	Time	GROUNDWATER	SURFACEWATER	WASTEWATER	PRODUCEDWATER	SOIL	OTHER :	No preservation (general)	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	Other:	Other:					
1003-140-01	SS43	3/13/19	0830					X												
- 02	SS44	3/13/19	0855					X												
- 03	SS45	3/13/19	0905					X												
- 04	SS46	3/13/19	0935					X												
- 05	SS47	3/13/19	0955					X												
- 06	SS48	3/13/19	1005					X												
- 07	SS49	3/13/19	1010					X												
- 08	SS50	3/13/19	1050					X												
- 09	SS51	3/13/19	1100					X												
- 10	SS52	3/13/19	1115					X												

See attached list of analytes

Report to State? (Circle)  Yes  No

Relinquished By: *[Signature]* Date: 3/13/19 Time: 1:35 Received By: *[Signature]* Date: 3/13/19 Time: 1:35

Relinquished By: *[Signature]* Date: 3/13/19 Time: 1:35 Received By: *[Signature]* Date: 3/13/19 Time: 1:35

Delivered By: (Circle One) UPS - FedEx - Kangaroo - Other: Temperature at receipt: 4.1/3.9°C CHECKED BY: *[Signature]*

ADDITIONAL REMARKS: RUSH ASAP

\* Chain of Custody must be signed in "Relinquished By:" as an acceptance of services and all applicable charges.



The samples will be analyzed for BTEX, TPH, SAR, pH, and EC.