


Table 910-1				
CONCENTRATION LEVELS		sampled 7/18,19/17		
Contaminant of Concern	Concentrations	Units	MARSHA 41-15 P&A TOP OF PIT	MARSHA 41-15 P&A BOTTOM OF PIT
Organic Compounds in Soil				
TPH (Gasoline Range Organics)		mg/kg		5.2
TPH (Diesel Range Organics)	500	mg/kg		29
Benzene	0.17	mg/kg		ND
Toluene	85	mg/kg		ND
Ethylbenzene	100	mg/kg		ND
Xylenes (total)	175	mg/kg		ND
Acenaphthene	1000	mg/kg		
Anthracene	1000	mg/kg		
Benzo(A)anthracene	0.22	mg/kg		
Benzo(B)fluoranthene	0.22	mg/kg		
Benzo(K)fluoranthene	2.2	mg/kg		
Benzo(A)pyrene	0.022	mg/kg		
Chrysene	22	mg/kg		
Dibenzo(A,H)anthracene	0.022	mg/kg		
Fluoranthene	1000	mg/kg		
Fluorene	1000	mg/kg		
Indeno(1,2,3,C,D)pyrene	0.22	mg/kg		
Napthalene	23	mg/kg		
Pyrene	1000	mg/kg		
Organic Compounds in Ground Water				
Benzene	5	µg/l		
Toluene	560 to 1000	µg/l		
Ethylbenzene	700	µg/l		
Xylenes (total)	1400 to 10,000	µg/l		
Inorganics in Soils				
Electrical Conductivity (EC)	<4000 or 2x background	umhos/cm	650	1000
Sodium Adsorption Ratio (SAR)	<12	NA	6.4	15
pH	6.0-9.0	NA	7.8	9.1
Inorganics in Ground Water				
Total Dissolved Solids (TDS)	<1.25 x background	NA		
Chlorides	<1.25 x background	NA		
Sulfates	<1.25 x background	NA		
Metals in Soils				
Arsenic	0.39	mg/kg		NT
Barium Total	15,000	mg/kg		230
Boron	NA	mg/kg		ND
Boron (Hot Water Soluble)	2	mg/L		NT
Cadmium	70	mg/kg		ND
Chromium (III)	120,000	mg/kg		NA
Chromium (VI)	23	mg/kg		NT
Copper	3,100	mg/kg		24
Lead	400	mg/kg		13
Mercury	23	mg/kg		ND
Nickel	1,600	mg/kg		11
Selenium	390	mg/kg		0.26
Silver	390	mg/kg		ND
Zinc	23,000	mg/kg		56
Chromium	>23	mg/kg		16
Liquid Hydrocarbons in Soils and Ground Water				
Liquid hydrocarbons including condensate and oil	Below detection level	NA		

NA - not applicable

NT - not tested

ND - below the method detection limit

Cr - if Total Cr is >23 mg/kg, an analysis is completed for Cr VI, to facilitate calculation of Cr III

Client Sample Results

Client: Pioneer Natural Resources USA, Inc.
Project/Site: Soil Testing Suite

TestAmerica Job ID: 280-99402-1

Client Sample ID: MARSHA 41-15 P&A TOP OF PIT

Lab Sample ID: 280-99402-1

Date Collected: 07/19/17 08:51

Matrix: Solid

Date Received: 07/20/17 10:00

Method: 20B - Sodium Adsorption Ratio - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	6.4		1.2		No Unit		07/20/17 18:24	07/31/17 21:52	10
Sodium	220		10		mg/Kg		07/20/17 18:24	07/31/17 21:52	10
Calcium	51		2.0		mg/Kg		07/20/17 18:24	07/31/17 21:52	10
Magnesium	21		2.0		mg/Kg		07/20/17 18:24	07/31/17 21:52	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.7		0.1		%			07/21/17 10:16	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8		0.1		SU		07/25/17 12:01	07/25/17 19:27	1
Specific Conductance (25C)	650		10		umhos/cm		07/25/17 12:01	07/28/17 13:00	1

Client Sample Results

Client: Pioneer Natural Resources USA, Inc.
Project/Site: Soil Testing Suite

TestAmerica Job ID: 280-99402-1

Client Sample ID: MARSHA 41-15 P&A BOTTOM OF PIT

Lab Sample ID: 280-99402-2

Date Collected: 07/19/17 08:54

Matrix: Solid

Date Received: 07/20/17 10:00

Percent Solids: 83.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0065		mg/Kg	☼	07/28/17 20:43	07/28/17 21:24	1
Ethylbenzene	ND		0.0065		mg/Kg	☼	07/28/17 20:43	07/28/17 21:24	1
Toluene	ND		0.0065		mg/Kg	☼	07/28/17 20:43	07/28/17 21:24	1
Xylenes, Total	ND		0.0065		mg/Kg	☼	07/28/17 20:43	07/28/17 21:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		58 - 140	07/28/17 20:43	07/28/17 21:24	1
Toluene-d8 (Surr)	109		80 - 126	07/28/17 20:43	07/28/17 21:24	1
4-Bromofluorobenzene (Surr)	127 *		76 - 127	07/28/17 20:43	07/28/17 21:24	1
Dibromofluoromethane (Surr)	94		75 - 121	07/28/17 20:43	07/28/17 21:24	1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	5.2		1.4		mg/Kg	☼	07/26/17 11:28	07/28/17 00:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	106		77 - 123	07/26/17 11:28	07/28/17 00:50	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	29		4.7		mg/Kg	☼	07/25/17 12:37	07/27/17 16:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	53		49 - 115	07/25/17 12:37	07/27/17 16:11	1

Method: 20B - Sodium Adsorption Ratio - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	15		1.2		No Unit		07/20/17 18:24	07/31/17 21:54	10

Method: 6010B - Total Metals

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	230		1.1		mg/Kg	☼	07/24/17 13:40	07/25/17 03:12	1
Boron	ND	F2 F1	11		mg/Kg	☼	07/24/17 13:40	07/25/17 03:12	1
Cadmium	ND	F2	0.54		mg/Kg	☼	07/24/17 13:40	07/25/17 03:12	1
Calcium	8500	F2 F1	54		mg/Kg	☼	07/24/17 13:40	07/25/17 03:12	1
Magnesium	3500		22		mg/Kg	☼	07/24/17 13:40	07/25/17 03:12	1
Molybdenum	ND	F2	2.2		mg/Kg	☼	07/24/17 13:40	07/25/17 03:12	1
Silver	ND	F2	1.1		mg/Kg	☼	07/24/17 13:40	07/25/17 03:12	1
Sodium	2200		540		mg/Kg	☼	07/24/17 13:40	07/25/17 03:12	1

Method: 6020 - Total Metals by ICP-MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	16		0.23		mg/Kg	☼	07/24/17 13:40	07/24/17 23:03	1
Copper	24	F1	0.28		mg/Kg	☼	07/24/17 13:40	07/24/17 23:03	1
Lead	13		0.11		mg/Kg	☼	07/24/17 13:40	07/24/17 23:03	1
Nickel	11		0.17		mg/Kg	☼	07/24/17 13:40	07/24/17 23:03	1
Selenium	0.26		0.23		mg/Kg	☼	07/24/17 13:40	07/24/17 23:03	1
Zinc	56	F1	1.1		mg/Kg	☼	07/24/17 13:40	07/24/17 23:03	1

TestAmerica Denver

Client Sample Results

Client: Pioneer Natural Resources USA, Inc.
Project/Site: Soil Testing Suite

TestAmerica Job ID: 280-99402-1

Client Sample ID: MARSHA 41-15 P&A BOTTOM OF PIT

Lab Sample ID: 280-99402-2

Date Collected: 07/19/17 08:54

Matrix: Solid

Date Received: 07/20/17 10:00

Percent Solids: 83.3

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	F1	0.022		mg/Kg	☼	07/21/17 12:30	07/21/17 15:10	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16.7		0.1		%	—		07/21/17 10:16	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.1		0.1		SU	—	07/25/17 12:01	07/25/17 19:27	1
Specific Conductance (25C)	1000		10		umhos/cm	—	07/25/17 12:01	07/28/17 13:00	1