ARCADIS Design & Consultancy for natural and built assets

Mr. Aaron M. Hale, P.G.
Environmental Manager
Kinder Morgan CO_2 Company, LP
500 W Illinois Avenue, Suite 500
Midland, Texas 79701

Arcadis U.S., Inc.
630 Plaza Drive
Suite 100
Highlands Ranch
Colorado 80129
Tel 720 344 3500
Fax 720 344 3535
www.arcadis.com

Subject:
Summary Report for Site YF-3
McElmo Dome Unit, Southwestern Colorado

ENVIRONMENT

Date:
February 8, 2017

Contact:
Kelli Jo Preston

Phone:
303.471.3403

Email:
kellijo.preston@arcadis.com

Our ref:
CO002055

Dear Mr. Hale:

Included herein is the Summary Report for site YF-3, which is part of the McElmo Dome Unit in southwestern Colorado. Arcadis U.S., Inc. (Arcadis) completed field work at site YF-3 in support of Kinder Morgan CO2 Company, LP's (KM) efforts to evaluate how the former drill pits were reclaimed and to determine if remediation is warranted, as may be required by the Colorado Oil and Gas Conservation Commission (COGCC).

Objectives

The objective of the work completed at site YF-3 (described in the Form 27 application [**Attachment A**]) was to demonstrate that "*soils beneath the pit meet the acceptable concentration levels for various constituents of concern (COCs), as outlined in COGCC's Table 910-1 of their 900 Series Rules*". Additionally, if groundwater was encountered during site activities, characterization would be conducted.

Methodology

Soil conditions beneath the former pit location were investigated by advancing eight shallow soil borings as illustrated in **Figure 1**. The soil borings were used to evaluate and confirm the thickness of clean soil cover material, evaluate thickness and characterize COC concentrations of any drilling material left in the

former pit, document the presence or absence of any liner material, and determine the depth and characteristics of native soils beneath the former pit extent. Arcadis subcontracted Kyvek Drilling, out of Aztec, New Mexico to complete the borings.

Soil borings were advanced using hollow stem auger methods, with collection of continuous soil cores, to a target depth of 2 feet below the bottom of the former pit excavation, or an approximate depth up to 15 to 20 feet below ground surface (bgs). Detailed boring logs for the shallow soil borings are provided in **Attachment B**. The borings were drilled with a 5-foot section of hollow stem auger and borehole materials were continuously sampled using a CME core barrel sampler. An Arcadis geologist recorded sample recovery footages and field screened recovered materials in one-foot intervals using a photo-ionization detector (PID) and a soil conductivity probe. Sample materials were logged in accordance with the unified soil classification system (USCS) and field boring logs were prepared with annotations regarding the disposition and depth of any foreign debris (e.g., liner materials) encountered. All shallow soil borings were backfilled using auger cuttings. The drillers also added hydrated bentonite chips, as necessary, to backfill each location and meet existing grade.

Arcadis collected soil aliquots from each recovered one-foot interval in a labeled Ziplock® baggie to facilitate headspace PID screening. Samples from select intervals were transferred into laboratory prepared sample containers for subsequent laboratory analysis of COCs. All samples were submitted to ALS Environmental Laboratory (ALS) for analysis. Each soil sample was analyzed for the following:

- Metals by USEPA Method SW6020A
- Volatiles by USEPA Method SW8260
- Soluble cations (calcium, magnesium, sodium) by Method La29B-6020
- Hexavalent chromium by USEPA Method SW7196 (trivalent chromium was subsequently calculated)
- Electrical conductivity (EC), saturation point, and sodium absorption ratio (SAR) by LaDNR-29B
- Gasoline range organics (GRO) by USEPA Method SW8015
- Diesel range organics (DRO) by USEPA Method SW8015M
- Mercury by USEPA Method SW7471A
- pH by USEPA Method SW9045B

Photos were also collected at the site documenting current surface vegetation; reclamation is considered successful by COGCC when vegetative cover reaches 80%. The photos provide an indication of current land use at, and surrounding the site, which can be used as reference for comparison purposes. The photo log for site YF-3 is provided in **Attachment C**.

Detailed notes were kept during the field activities completed at site YF-3 and are provided in **Attachment D**.

Results

Analytical results received from ALS for the soil samples collected at site YF-3 are presented in **Table 1**. Laboratory report(s) are provided in **Attachment E**.

A total of 24 soil samples collected from eight soil borings, were submitted to ALS for site YF-3. For comparison purposes, **Table 1** also includes screening levels (SLs) where applicable, as defined in Table 910-1 of the COGCC's 900 Series Rules. Analytical results that exceed the Table 910-1 SLs are highlighted in yellow. Key findings are summarized as follows:

- Two EC exceedances, one pH exceedance, and one SAR exceedance were observed in soils shallower than 3 feet, from three boring locations (boring 1, boring 6, and boring 8; **Figure 1** and **Table 1**). Per COGCC guidance, provided under their Rules and Regulation frequently asked questions (FAQs) from 2008 (COGCC 2016); EC, pH, and SAR SLs only need to be applied to samples collected from the first 3 feet bgs. Therefore, any SL exceedances observed at a depth greater than 3 feet bgs "should not adversely affect the successful reclamation of the site" and therefore have not been highlighted.

- Arsenic was observed in multiple locations at concentrations greater than SLs, with a maximum observed concentration of 7.67 milligrams per kilogram (mg/kg). It is generally accepted that background concentrations of arsenic may be as high as 11 mg/kg per the Colorado Department of Public Health and Environment (CDPHE 2014, **Attachment F**). All concentrations were below 11 mg/kg.

- Liner material was observed at 9.5 feet bgs in boring 6 and at 12.5 feet bgs in boring 7, but was otherwise absent from the other borings.

References

Colorado Department of Public Health and Environment (CDPHE). 2014. Arsenic Concentrations in Soil: Risk Management Guidance for Evaluating. July.

Colorado Oil and Gas Conservation Commission (COGCC). Rules & Regulations online FAQ from 2008, accessed July 14, 2016. http://cogcc.state.co.us/documents/reg/Rules/2008/FAQ.cfm#204

Please let us know if you have any questions regarding the content of this summary report.

Sincerely,

Arcadis U.S., Inc.

Kelli Jo Preston
Project Manager

Tables

1 Soil Analytical Results for Samples Collected at McElmo Dome Site YF-3

Figures

1 YF-3 Site Features

Attachments

A Form 27 Application

B Boring Logs

C Photo Log

D Field Notes

E Laboratory Analytical Reports

F CDPHE White Paper on Arsenic Concentrations in Soil

TABLES

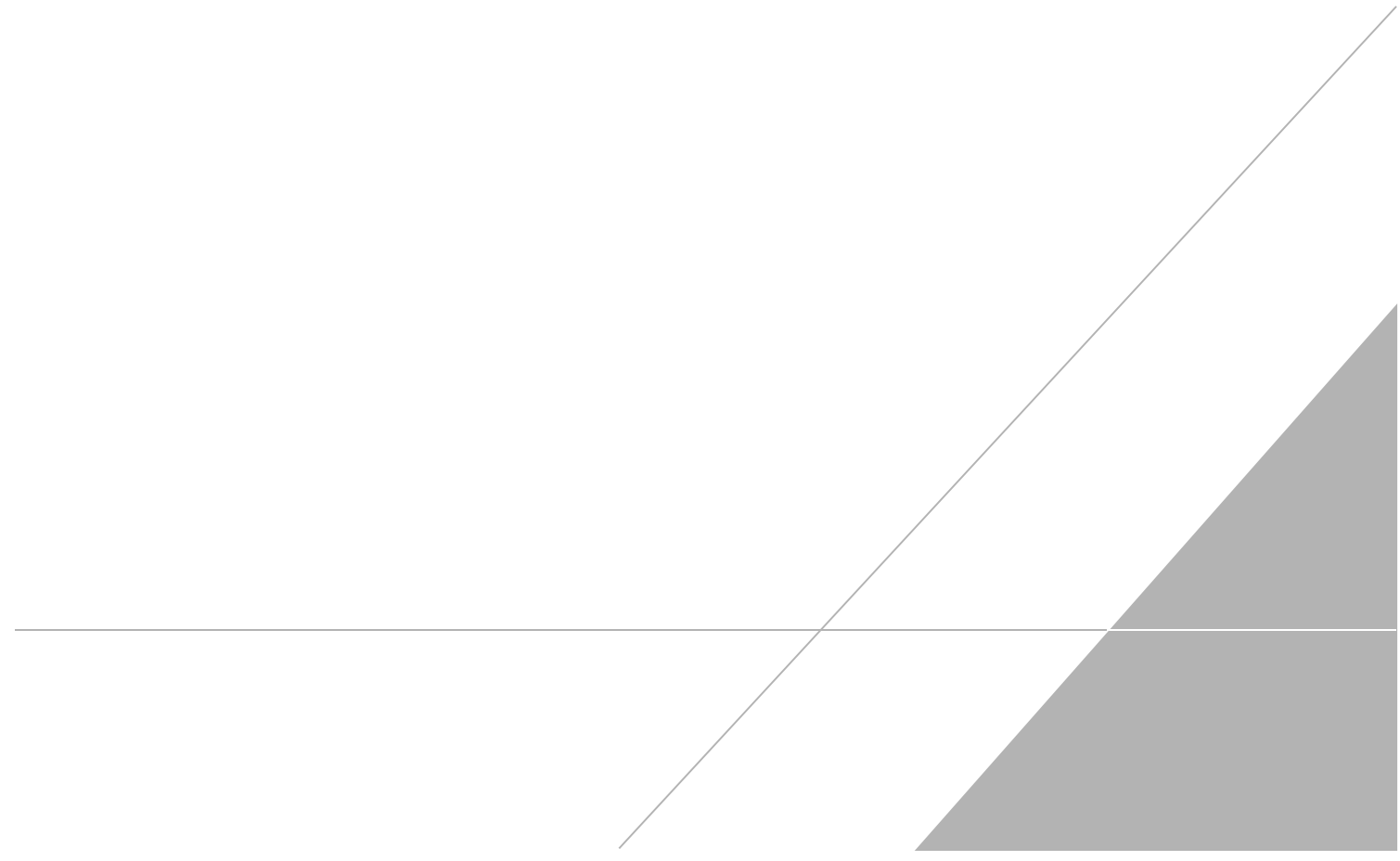


Table 1 - Soil Analytical Results for Samples Collected at McElmo Dome Site YF-3
Kinder Morgan CO2 Company LP

						Metals											Volatiles					
Site	Sample Location	Depth (ft bgs)	Date Collected	Sample ID	Matrix	Arsenic	Barium	Boron	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Silver	Zinc	Benzene	Ethylbenzene	m&p-Xylenes	o-Xylene	Toluene	Total Xylenes
			Table 910-1 Screening Level			0.39	15000	2 mg/L **(results below in mg/kg)**	70	NS	3100	400	1600	390	390	23000	0.17	100	NS	NS	85	175
			Units			mg/kg											mg/kg					
YF-3	Boring 1	0-1	10/29/2016	YF-3-1-0-1-102916	Soil	2.37	135	6.28	< 0.0479	6.86	5.76	6.41	7.21	< 0.172	< 0.0766	19.8	< 4.8 E-3	< 4.8 E-3	< 9.6 E-3	< 4.8 E-3	< 4.8 E-3	< 9.6 E-3
YF-3	Boring 1	11-12	10/29/2016	YF-3-1-11-12-102916	Soil	4.49	312	12.4	< 0.0483	6.71	5.37	6.64	7.94	0.586	< 0.0773	34.2	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3
YF-3	Boring 1	14-15	10/29/2016	YF-3-1-14-15-102916	Soil	6.13	375	9.31	< 0.0471	4.62	4.22	6.27	6.58	< 0.170	< 0.0753	23.6	< 4.8 E-3	< 4.8 E-3	< 9.7 E-3	< 4.8 E-3	< 4.8 E-3	< 9.7 E-3
YF-3	Boring 2	1-2	10/29/2016	YF-3-2-1-2-102916	Soil	2.13	146	5.29	< 0.0479	6.19	4.81	5.58	6.61	< 0.173	< 0.0767	18.4	< 4.9 E-3	< 4.9 E-3	< 9.8 E-3	< 4.9 E-3	< 4.9 E-3	< 9.8 E-3
YF-3	Boring 2	12-13	10/29/2016	YF-3-2-12-13-102916	Soil	7.67	898	11.5	< 0.0465	4.06	3.81	2.82	4.45	< 0.167	< 0.0744	12.8	< 4.8 E-3	< 4.8 E-3	< 9.5 E-3	< 4.8 E-3	< 4.8 E-3	< 9.5 E-3
YF-3	Boring 2	15-16	10/29/2016	YF-3-2-15-16-102916	Soil	7.00	47.2	8.35	< 0.0470	4.14	6.59	7.67	7.75	0.507	< 0.0753	43.3	< 4.8 E-3	< 4.8 E-3	< 9.7 E-3	< 4.8 E-3	< 4.8 E-3	< 9.7 E-3
YF-3	Boring 3	1-2	10/29/2016	YF-3-3-1-2-102916	Soil	2.35	148	5.40	< 0.0461	6.37	4.66	5.34	7.03	< 0.166	< 0.0738	18.0	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3
YF-3	Boring 3	7-8	10/29/2016	YF-3-3-7-8-102916	Soil	4.45	275	10.3	< 0.0484	7.18	5.93	7.24	8.16	0.556	< 0.0774	27.9	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3
YF-3	Boring 3	15-16	10/29/2016	YF-3-3-15-16-102916	Soil	4.80	23.3	10.2	< 0.0480	5.94	9.26	10.7	11.4	< 0.173	< 0.0769	61.9	< 4.9 E-3	< 4.9 E-3	< 9.8 E-3	< 4.9 E-3	< 4.9 E-3	< 9.8 E-3
YF-3	Boring 4	1-2	10/29/2016	YF-3-4-1-2-102916	Soil	1.94	124	3.68	< 0.0466	5.49	3.96	4.41	5.99	< 0.168	< 0.0746	15.3	< 4.9 E-3	< 4.9 E-3	< 9.8 E-3	< 4.9 E-3	< 4.9 E-3	< 9.8 E-3
YF-3	Boring 4	10-11	10/29/2016	YF-3-4-10-11-102916	Soil	5.29	308	13.4	< 0.0469	6.41	5.50	6.39	7.59	< 0.169	< 0.0751	24.6	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3
YF-3	Boring 4	15-16	10/29/2016	YF-3-4-15-16-102916	Soil	4.64	92.7	13.5	< 0.0472	4.97	7.59	9.89	8.60	< 0.170	< 0.0754	43.7	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3
YF-3	Boring 5	2-3	10/31/2016	YF-3-5-2-3-103116	Soil	3.25	279	8.45	< 0.0482	6.24	5.18	6.19	6.99	< 0.173	< 0.0771	21.4	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3
YF-3	Boring 5	5-6	10/31/2016	YF-3-5-5-6-103116	Soil	3.49	228	8.19	< 0.0471	5.88	4.94	5.43	7.36	< 0.169	< 0.0753	20.2	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3
YF-3	Boring 5	15-16	10/31/2016	YF-3-5-15-16-103116	Soil	4.16	48.2	6.28	< 0.0486	4.92	8.94	12.1	11.5	0.494	< 0.0778	50.1	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3
YF-3	Boring 6	2-3	10/31/2016	YF-3-6-2-3-103116	Soil	3.92	218	8.41	< 0.0465	6.85	5.75	6.26	7.82	< 0.168	< 0.0745	22.9	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3
YF-3	Boring 6	10-11	10/31/2016	YF-3-6-10-11-103116	Soil	3.21	373	17.2	0.560	15.0	10.4	18.3	13.1	2.01	< 0.0763	129	< 4.8 E-3	< 4.8 E-3	< 9.5 E-3	< 4.8 E-3	< 4.8 E-3	< 9.5 E-3
YF-3	Boring 6	15-16	10/31/2016	YF-3-6-15-16-103116	Soil	4.84	32.9	9.14	< 0.0468	6.00	13.9	14.7	11.5	0.499	< 0.0749	54.4	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3
YF-3	Boring 7	1-2	10/31/2016	YF-3-7-1-2-103116	Soil	2.60	175	7.43	< 0.0488	7.74	5.51	6.75	7.96	< 0.176	< 0.0780	20.9	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3
YF-3	Boring 7	9-10	10/31/2016	YF-3-7-9-10-103116	Soil	2.09	249	13.0	< 0.0465	19.3	12.1	8.14	14.8	0.688	< 0.0745	78.7	< 4.8 E-3	< 4.8 E-3	< 9.6 E-3	< 4.8 E-3	< 4.8 E-3	< 9.6 E-3
YF-3	Boring 7	15-16	10/31/2016	YF-3-7-15-16-103116	Soil	5.73	78.8	7.96	< 0.0467	5.50	11.3	14.1	12.4	0.694	< 0.0748	61.2	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3	< 5.0 E-3	< 5.0 E-3	< 10.0 E-3
YF-3	Boring 8	1-2	10/31/2016	YF-3-8-1-2-103116	Soil	2.81	162	6.96	< 0.0463	7.96	6.15	6.93	8.46	< 0.167	< 0.0740	21.8	< 4.8 E-3	< 4.8 E-3	< 9.6 E-3	< 4.8 E-3	< 4.8 E-3	< 9.6 E-3
YF-3	Boring 8	6-7	10/31/2016	YF-3-8-6-7-103116	Soil	5.93	262	12.8	< 0.0477	7.20	6.57	7.95	8.24	0.513	< 0.0764	30.6	< 4.8 E-3	< 4.8 E-3	< 9.7 E-3	< 4.8 E-3	< 4.8 E-3	< 9.7 E-3
YF-3	Boring 8	15-16	10/31/2016	YF-3-8-15-16-103116	Soil	4.39	35.4	8.88	< 0.0478	5.62	11.0	12.7	10.9	0.528	< 0.0766	50.1	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3	< 5.0 E-3	< 5.0 E-3	< 9.9 E-3

Notes:
bgs = below ground surface
Cr(III) = Trivalent Chromium
Cr(VI) = Hexavalent Chromium
DRO = Diesel Range Organics
EC = Electrical Conductivity
ft = feet
GRO = Gasoline Range Organics
meq/meq = milliequivalent
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
mmhos/cm = micromho per centimeter
NS = not specified
pH = acidic/basic of water
SAR = Sodium Adsorption Ratio
sat = saturation
TPH= total petroleum hydrocarbons
Exceed the corresponding Table 910-1 concentration screening level.

Table 1 - Soil Analytical Results for Samples Collected at McElmo Dome Site YF-3
Kinder Morgan CO2 Company LP

						Soluble Cations for SAR			Chromium		EC (mmhos/cm@25C)	TPH		Mercury	pH Units	SAR
Site	Sample Location	Depth (ft bgs)	Date Collected	Sample ID	Matrix	Calcium	Magnesium	Sodium	Cr(III)	Cr(VI)	EC@sat	GRO	DRO	Mercury	pH	SAR
			Table 910-1 Screening Level			NS	NS	NS	120000	23	<4 mmhos/cm or 2x background	500		23	6-9	<12
			Units			mg/L			mg/kg		mmhos/cm	mg/kg		mg/kg	SU	meq/meq
YF-3	Boring 1	0-1	10/29/2016	YF-3-1-0-1-102916	Soil	66.3	11.3	26.0	6.86	< 0.299	1.32	< 0.010	3.5	0.0156	9.08	0.776
YF-3	Boring 1	11-12	10/29/2016	YF-3-1-11-12-102916	Soil	869	341	7120	6.71	< 0.300	101	< 0.010	7.5	0.0191	8.25	51.8
YF-3	Boring 1	14-15	10/29/2016	YF-3-1-14-15-102916	Soil	381	235	6000	< 0.700	< 0.298	95.2	< 0.0099	< 0.50	0.0195	8.34	59.6
YF-3	Boring 2	1-2	10/29/2016	YF-3-2-1-2-102916	Soil	56.9	13.6	16.4	6.19	< 0.300	0.928	< 0.010	< 0.50	0.0143	8.67	0.507
YF-3	Boring 2	12-13	10/29/2016	YF-3-2-12-13-102916	Soil	216	124	207	< 0.700	< 0.299	7.29	< 0.010	2.7	0.00722	8.37	2.78
YF-3	Boring 2	15-16	10/29/2016	YF-3-2-15-16-102916	Soil	42.1	49.9	108	< 0.700	< 0.299	2.85	< 0.0099	2.5	0.0177	8.74	2.67
YF-3	Boring 3	1-2	10/29/2016	YF-3-3-1-2-102916	Soil	42.8	10.9	11.4	6.37	< 0.299	0.709	< 0.010	2.6	0.0194	8.66	0.403
YF-3	Boring 3	7-8	10/29/2016	YF-3-3-7-8-102916	Soil	154	60.3	339	7.18	< 0.300	7.14	< 0.0099	2.9	0.0185	8.42	5.86
YF-3	Boring 3	15-16	10/29/2016	YF-3-3-15-16-102916	Soil	55.1	53.1	153	5.94	< 0.298	3.76	< 0.0099	4.0	0.0386	8.73	3.53
YF-3	Boring 4	1-2	10/29/2016	YF-3-4-1-2-102916	Soil	46.4	10.7	6.87	5.49	< 0.299	0.552	< 0.010	2.0	0.0177	8.65	0.236
YF-3	Boring 4	10-11	10/29/2016	YF-3-4-10-11-102916	Soil	37.6	13.8	50.8	6.41	< 0.298	1.16	< 0.0099	2.0	0.0138	8.62	1.80
YF-3	Boring 4	15-16	10/29/2016	YF-3-4-15-16-102916	Soil	13.3	15.1	62.4	< 0.700	< 0.300	0.980	< 0.0099	3.3	0.0177	9.30	2.78
YF-3	Boring 5	2-3	10/31/2016	YF-3-5-2-3-103116	Soil	44.6	11.4	54.2	6.24	< 0.299	1.24	< 0.010	1.7	0.0146	8.56	1.87
YF-3	Boring 5	5-6	10/31/2016	YF-3-5-5-6-103116	Soil	269	128	249	5.88	< 0.298	8.85	< 0.0099	< 0.50	0.0138	8.10	3.13
YF-3	Boring 5	15-16	10/31/2016	YF-3-5-15-16-103116	Soil	37.6	9.26	61.0	< 0.700	< 0.299	1.30	< 0.010	2.6	0.0182	8.95	2.95
YF-3	Boring 6	2-3	10/31/2016	YF-3-6-2-3-103116	Soil	186	52.9	205	6.85	< 0.299	6.41	< 0.010	3.4	0.0186	8.15	3.41
YF-3	Boring 6	10-11	10/31/2016	YF-3-6-10-11-103116	Soil	1750	376	23600	15.0	< 0.299	319	1.9	4.0	0.0294	8.10	133
YF-3	Boring 6	15-16	10/31/2016	YF-3-6-15-16-103116	Soil	13.0	9.97	109	6.00	< 0.299	1.46	< 0.010	< 0.50	0.0577	8.98	5.53
YF-3	Boring 7	1-2	10/31/2016	YF-3-7-1-2-103116	Soil	46.4	10.7	10.9	7.74	< 0.300	0.634	< 0.010	< 0.50	0.0158	8.89	0.375
YF-3	Boring 7	9-10	10/31/2016	YF-3-7-9-10-103116	Soil	628	423	5110	19.3	< 0.298	65.5	0.58	410	0.0610	8.55	38.6
YF-3	Boring 7	15-16	10/31/2016	YF-3-7-15-16-103116	Soil	17.3	12.2	63.2	5.50	< 0.299	1.16	< 0.0099	3.8	0.0812	9.13	2.84
YF-3	Boring 8	1-2	10/31/2016	YF-3-8-1-2-103116	Soil	541	137	1440	7.96	< 0.298	26.3	< 0.010	1.7	0.0132	8.74	14.3
YF-3	Boring 8	6-7	10/31/2016	YF-3-8-6-7-103116	Soil	27.7	12.5	47.4	7.20	< 0.299	0.985	< 0.0099	< 0.50	0.0163	8.84	1.88
YF-3	Boring 8	15-16	10/31/2016	YF-3-8-15-16-103116	Soil	66.6	51.9	291	5.62	< 0.298	4.97	< 0.010	1.7	0.0521	9.31	6.49

Notes:
bgs = below ground surface
Cr(III) = Trivalent Chromium
Cr(VI) = Hexavalent Chromium
DRO = Diesel Range Organics
EC = Electrical Conductivity
ft = feet
GRO = Gasoline Range Organics
meq/meq = milliequivalent
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
mmhos/cm = micromho per centimeter
NS = not specified
pH = acidic/basic of water
SAR = Sodium Adsorption Ratio
sat = saturation
TPH= total petroleum hydrocarbons
Exceed the corresponding Table 910-1 concentration screening level.

FIGURES

CITY: (DENTECH) DIV/GROUP:(ENV) DB:KGPETERS LD: PIC: PM: TM: DATE: 11/21/2016
PROJECT: PATH: E:\KINDERMORGAN_ALISON_HARMON\Figure_1_YF-3_BoringLocations.mxd

LEGEND

- Production Well
- Shallow Boring Location
- Salt Water Pit 10 Feet Deep
- Fresh Water Reserve Pit 10 Feet Deep

0 40 80

SCALE IN FEET

KINDER MORGAN
CORTEZ, CO

YF-3 SITE FEATURES

ARCADIS

FIGURE
1

Service Layer Credits:

ATTACHMENT A

Form 27 Application

FORM 27 Rev 6/99

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

FOR OGCC USE ONLY

OGCC Employee:
☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV
Tracking No: REM #9859

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☑ Other (describe): Evaluation of Former Drilling Pit Area

OGCC Operator Number: 46685
Name of Operator: Kinder Morgan CO2 Co
Address: 17801 Hwy 491
City: Cortez State: CO Zip: 81321

Contact Name and Telephone:
James Conway
No: 970-882-5505
Fax: 970-882-5521

API Number: 05-083-06593
Facility Name: N/A
Well Name: Yellow Jacket (YF-3)

County: Montezuma
Facility Number: N/A
Well Number: 3

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SE 1/4, NE 1/4, Sec 4, T37N, R18W Latitude: 37.496099 N Longitude: 108.831366 W

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Potential for CO2 well drill cuttings exceding COGCC Table 910-1 concentrations

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☑ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): dry land farming, rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Wetherill loam

Potential receptors (water wells within 1/4 mi, surface waters, etc.): No surface water, water wells, or residences identified within 1/2 mile of location.

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
☑ Soils	Not yet determined	See attached assessment scope
☐ Vegetation		
☐ Groundwater		
☐ Surface Water		

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

Kinder Morgan conducted a water well review and no water wells were found within a ½ mile of the location. Kinder Morgan has also prepared the attached scope of work for the assessment of the former drilling pit location.

Describe how source is to be removed:

Upon completion of assessment activities, Kinder Morgan will meet with COGCC to review assessment results and present a Remediation Work plan if subsurface conditions warrant.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

Upon the completion of the assessment activities, Kinder Morgan will submit the results to the COGCC along with any remediation plans (as needed) for the consideration and approval of the COGCC.

Submit Page 2 with Page 1

FORM 27 Rev 6/99

Page 2

State of Colorado
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801, Denver, Colorado 80203
(303)894-2100 Fax:(303)894-2109

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

REMEDIATION WORKPLAN (Cont.)

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

There are no anticipated impacts to groundwater at this location. Please see Groundwater Evaluation section of the attached General Scope of Work.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

If a remediation plan is deemed necessary, Kinder Morgan will address any needed reclamation activities within the remediation plan. This would be completed after Kinder Morgan submits the soil assessment report to the COGCC.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☐ N If yes, describe:

No soil samples are available at this time. Proposed soil boring locations are presented on the figure included within the attached General Scope of Work.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

If offsite disposal of any material is deemed necessary, a properly licensed disposal facilitiy will be used.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 3Q 2016	Date Site Investigation Completed: _____	Date Remediation Plan Submitted: 9/23/16
Remediation Start Date: _____	Anticipated Completion Date: _____	Actual Completion Date: _____

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: James Conway Signed: _____

Title: Operations Engineering & Regulatory Manager Date: 9/23/16

OGCC Approved: _____ Title: Environmental Protection Specialist Date: 10/4/16

See COAs.

General Scope of Work for Yellow Jacket (YF-3)

Kinder Morgan CO2 – McElmo Dome Unit
API Number – 05-083-06593
Montezuma County, Colorado

General Well Location Information

Kinder Morgan's Yellow Jacket Well YF-3 was drilled in 2002. This well was drilled as a CO2 production well. A lined, earthen pit was constructed to hold the water-based drilling fluids for this well. Kinder Morgan's records indicate that the physical pit closure occurred in 2003.

The land use immediately surrounding the well location consists of non-irrigated farm land. In addition, the land use within ½ mile of this well location includes rangeland within the BLM administered Canyons of the Ancients National Monument. There are no residences within ½ mile of this well location.

Groundwater Evaluation

Using the COGCC GIS Online mapping system and knowledge of the area, no groundwater wells were identified or located within ½ mile of this well location. An aerial photo from the COGCC mapping system is included with this work plan.

A review of US Geological Survey data identifies the Dakota-Glen Canyon aquifer system as the major aquifer system in this area of Colorado (Ground Water Atlas of the United States; Arizona, Colorado, New Mexico Utah HA 730-C; US Geological Survey, 1995). The regional direction of flow of the Dakota-Glen Canyon aquifer system in this area is typically to the west and estimated depth of this regional aquifer is between 800-1,200 feet below ground surface. The Mancos Shale confining unit is located between the surface and the Dakota-Glen Canyon aquifer systems which should prohibit any downward migration of surface water into the Dakota-Glen Canyon aquifer system. The major recharge areas for the Dakota-Glen Canyon aquifer system lie well outside of the YF-3 location.

The COGCC GIS Online mapping system shows 2 water well locations 2.5 and 2.6 miles to the east and southeast of the YF-3 location, respectively. These water well locations were not drilled after having their permit denied in 1979. A third water well location (Colorado Division of Water Resources Permit 18230) was drilled to a depth of 300 feet in 1965. This well location listed groundwater at 209 feet in depth but only produced 0.5 gallons per minute. This water well location is located 3.1 miles to the east of YF-3. For this reason, Kinder Morgan does not anticipate that any shallow groundwater would be located at the YF-3 location.

In addition, Kinder Morgan does not anticipate any hydrocarbon impact could migrate to groundwater from the former pits at this location since oil-based drilling mud was not used and the well was drilled for production of CO2. Kinder Morgan does not anticipate encountering any perched water within the former drilling pit, however, if perched water is encountered in the bottom of the hole a sample will be submitted for analysis of BTEX, TDS, Chlorides, and Sulfates per Table 910-1.

Site Assessment

This site assessment is intended to collect current data from the former drilling pit location including:

- Photographic documentation of current surface vegetation and current land use.
- Soil samples from 8 boring locations within the former pit area to gather the following data:
    - Thickness of the clean soil cap
    - Thickness of any drilling material left in the former drilling pit and soil samples to evaluate current concentrations of applicable constituents.
    - Document the presence or absence of any liner material.
    - Depth to native soil or bedrock below the former drilling pit.
- GPS coordinates of each soil boring location.
- Summary report

<u>Soil Boring Program:</u>

Eight soil borings will be advanced to native soil or bedrock below the former drilling pit location to assess the current soil conditions in the former drilling pit location. Borings may extend 2 feet below the bottom of the former drilling pit. A soil boring location map is also included as an attachment to this work plan. The soil boring program will be conducted as follows:

- All necessary utility notifications will be made prior to advancing soil borings.
- A hollow stem auger rig will be utilized to collect a continuous sample of each boring.
- Photograph each full diameter split spoon for inclusion in the assessment report.
- Field screen a sample of each 1 foot interval for total chloride concentration and note on a boring log. Jar the remainder of the sample for potential laboratory analysis per the Laboratory Analysis Plan below. The typical sample submittal for laboratory analysis for each boring will be as follows:
    - Highest chloride sample interval observed from the surface to 3 feet bgs.
    - Highest chloride concentration of the visually identified drilling waste. If no waste is visible, the highest observed chloride concentration from 3 feet bgs to the bottom of the boring.
    - The bottom boring sample.
    - Please note that groundwater is not anticipated to be encountered, however, perched water may be encountered in the bottom of the hole in select locations. If groundwater is encountered, a sample will be submitted for analysis of BTEX, TDS, Chlorides, and Sulfates per Table 910-1.
- Collect the GPS coordinates for each boring.

- Backfill each boring with removed material plus bentonite chips near the ground surface, as needed.

Laboratory Analysis Plan

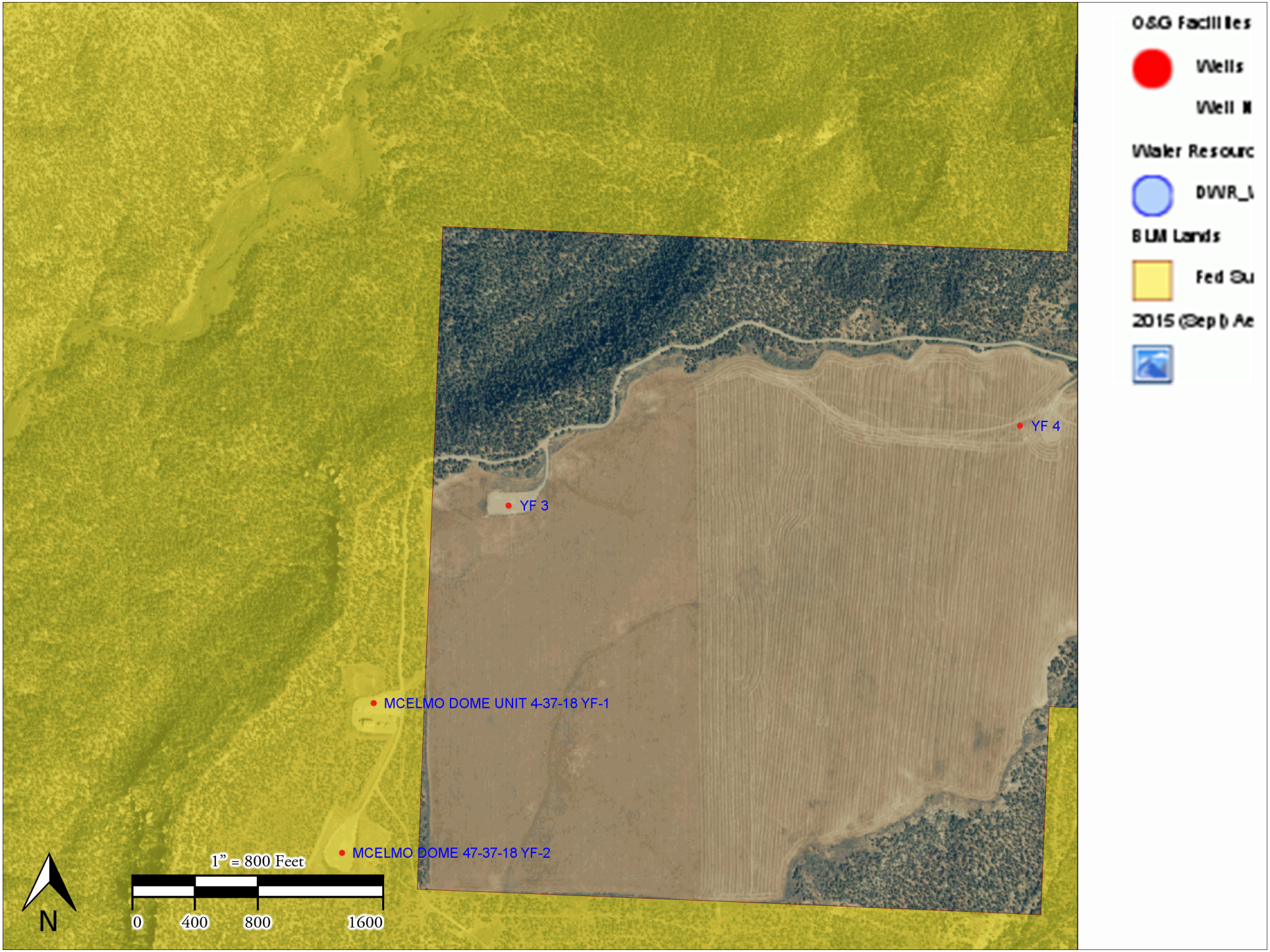
Kinder Morgan proposes to submit each soil sample for analysis of all applicable constituents on COGCC Table 910-1 with the exception of PAHs (Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3,c,d)pyrene, Naphthalene, and Pyrene). The rationale for omitting the PAH analysis is based on the fact that Kinder Morgan did not use any oil based drilling fluids nor were any PAHs listed as chemical ingredients on any of the Safety Data Sheets of the drilling fluid additives.

Per COGCC Rule 910.b(3)C, Kinder Morgan is requesting the COGCC approve this proposed laboratory analysis plan.

Summary Report:

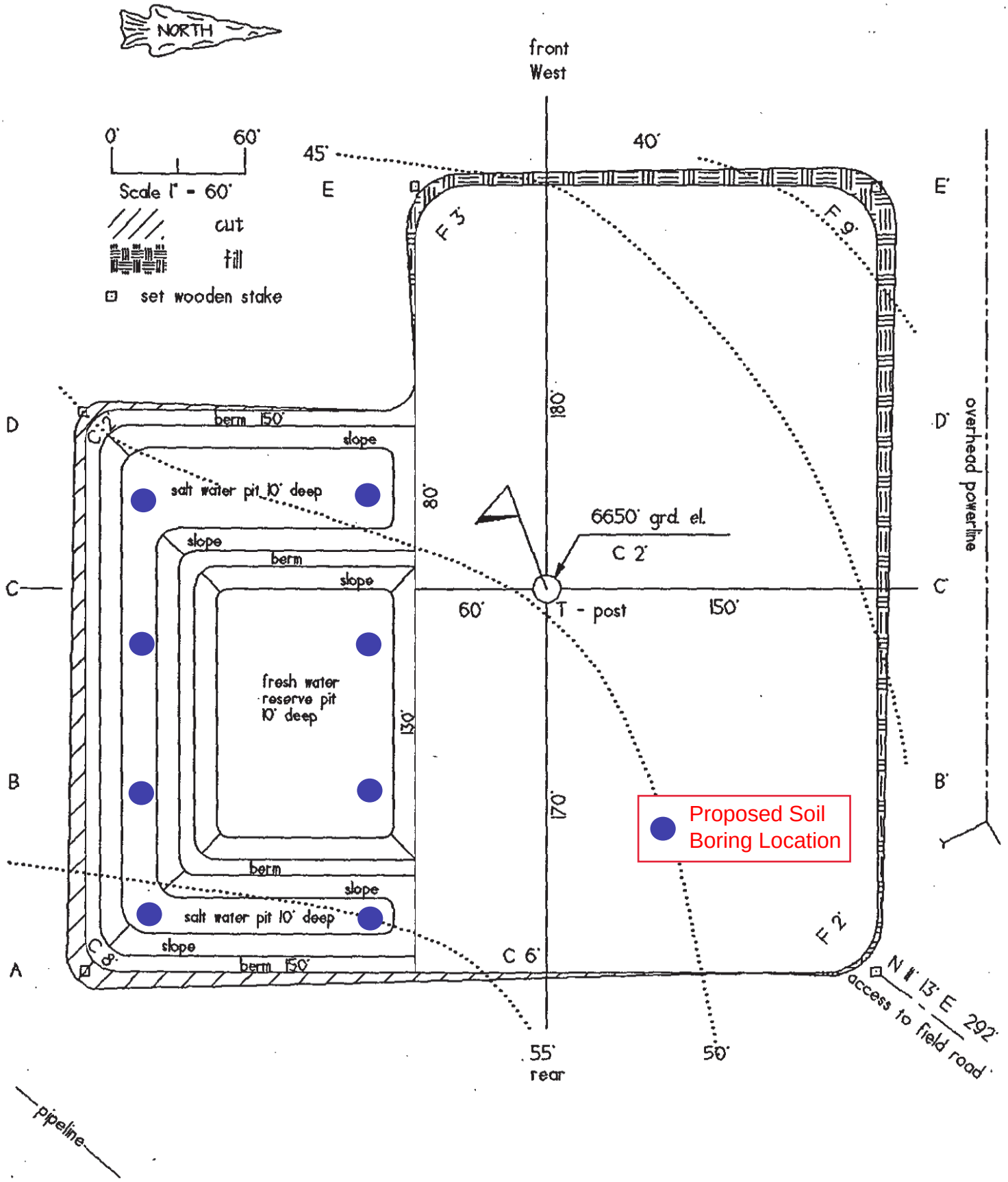
Upon completion of the site assessment activities, a summary report will be prepared and submitted to the COGCC accompanied by an updated Form 27. The summary report will contain all sampling information, including sampling data from the laboratory, field notes, and site photographs.

Kinder Morgan YF-3



YF - 3

pad planview



Remediation Project Number: 9859 (Document #200440397) **Location ID: 313579**

Kinder Morgan CO_2 Co., SENE Section 4, T37N, R18W, N PM, Montezuma County, Colorado, Form 27 Conditions of Approval (COAs)

Conditions of Approval:

Conditionally approved, however, additional information or activities may be required during the course of remediation/reclamation.

COGCC approval is contingent on operator providing notice to SW Environmental Protection Specialist Jim Hughes, jimo.hughes@state.co.us or 970-903-4072 a minimum of 72 hours prior to conducting field operations.

The operator shall collect discrete soil samples to adequately characterize impacted material. Composite samples will NOT be accepted for this purpose. Current COGCC Rules and Regulations regarding pit closures and clean-up standards shall be applied, specifically, but not limited to, the 900 and 1000 series rules. Given that there is no evidence or documentation of pit closure, the current COGCC Rules and Regulations effective May 1, 2009 on federal lands and April 1, 2009 on fee surface shall apply.

Should impacted material be discovered, regardless of size, the operator shall document the source and location, the impacted media and the extent of impact, how and when the operator plans to remediate the impacts, the final disposition of any impacted material removed from the location, as well as analytical results from confirmation samples.

Review of Colorado Division of Water Resources water well information indicates that the nearest domestic water well (approximately 3.1 mile from the former Pit Facility location) had a static water level of 209 ft. bgs. Kinder Morgan shall not be required to advance an additional boring to a depth of 50 ft. bgs at the location to evaluate the potential for shallow groundwater. If groundwater is encountered in the shallow pit area borings, water samples shall be collected and analyzed for Table 910-1 constituents.

Boreholes shall be abandoned per the Colorado Division of Water Resources Water Well Construction Rules.

If any impacted material generated during investigation is temporarily stored on adjacent well pad per COGCC rules and regulations, a Form 4 Sundry Notice shall be submitted by the Operator stating the reason and estimated timeline proposed for the storage of impacted material.

Surface reclamation must meet the COGCC 1000 series rules. Approval of this Form 27 does not imply approval of the reclamation plan submitted by the operator. The operator shall contact the COGCC regional reclamation specialist (Catherine Roy) regarding compliance with 1000 series Rules.

After discussions with KM representatives, it is the understanding of the COGCC that PAHs have not been encountered in other site investigations that have been conducted by the operator thus far. An abbreviated Table 910-1 constituent list, excluding PAHs, shall be accepted at this location. Laboratory results, documenting non-detect of PAHs in previous investigations, shall be provided to COGCC SW EPS prior to commencing sampling for this closure project.

Kinder Morgan CO_2 Co., SENE Section 4, T37N, R18W, N PM, Montezuma County, Colorado, Form 27 Conditions of Approval (COAs)

ATTACHMENT B

Boring Logs

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: YF-3-1

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon
Project Number:
Project Location: Cortez, Co

Date Started: 10/29/16
Date Completed: 10/29/16
Logger: K. Rose
Editor:
Weather Conditions: Sunny

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	~~Construction Details~~ MS sp. cond.
1	2 7 10 11	YF-3-1-0-1-102916 @0820	24"	116.0 13.3	ML	(0-4.5ft) Sandy SILT (10,30,59,10) vf-m sand, no plasticity, no dilatancy, crumbly, red brown, ~~medium stiff~~	0.02 0.02
2 3 4	11 12 13 14		24"	156.6 48.9			0.01 0.03
5 6	10 12 9 12		24"	15.7 18.1	ML	(4.5 - 10 ft) Sandy SILT, little clay (10, 30, 40, 20), no plasticity, no dilatancy, dry, medium	0.03 0.15
7 8	12 10 8 7		24"	18.0 19.5		stiff, inclusions of pebble sized red clay and yellow silt.	0.08 0.57
9 10	8 9 6 5		20"	16.8 18.0			0.05 1.34
11 12	7 6 4 3	YF-3-1-11-12-102916 @0840	24"	19.0 14.2	ML	(10 - 13 ft) SILT (10, 20, 50, 20), vf-m sand, no plasticity, no dilatancy, dry, medium dense, red brown.	0.99 5.04
13 14	6 14 30/4		24"	222.8 130.3	SP	@11 ft: Black staining observed, continuing to 13'. (13 - 15 ft) Silty SAND < 20%	1.64 0.82
15	50/6	YF-3-1-14-15-102916 @0850	12"	299.4		clay, well sorted, vf to med grains, dry, loose, weak cementation, no staining observed.	0.52
						Total Depth: 15' bgs	

Drilling Co.: Kyle K
Driller: Kelly
Drilling Method: 8" HSA
Drilling Fluid:
Remarks:

Sampling Method: 2.5" split spoon
Sampling Interval: 24"
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☒ No
Surface Elev:
North Coor:
East Coor:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: YF-3-2

Sheet: 1 of 1

Project Name: McElmo Dome - Doe Canyon
Project Number:
Project Location: Cortez, CO
Date Started: 10/29/16
Date Completed: 10/29/16
Logger: K. Rose
Editor:
Weather Conditions: Sunny

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	~~NGS~~ Construction Details
1	3 5 6 6	YF-3-2-1-2-102916 @0915	24"	41.8 17.1	ML	(0-1 ft) SILT, little sand (0,20,70,10), no plasticity, powdery, dry, red brown.	sp. cond. 0.02 0.09
2	7						
3	7 7		24"	33.9	ML	(1 - 5 ft) Sandy SILT, (5, 30, 50, 15), no plasticity, no dilatancy, dry, medium stiff, red brown.	0.02
4	9			42.1			0.01
5	10 22 20 22		12"	15.7	ML	(5- 6 ft) SILT, little sand (0, 20, 70, 10), no plasticity, powdery, dry, light red brown.	0.01
6	10			15.8			0.07
7	18 37		24"		ML	(7 - 11.5ft) Sandy SILT (5, 35, 60, 0), no plasticity, vf-m sand, dry, medium stiff, light red brown.	
8	20			10.9			0.05
9	14 50/5		12"				
10				193.9	ML	(11.5 ft) SILT, little sand, little clay, no plasticity, no dilatancy, dry, med stiff, red brown.	0.07
11	21 45 40/4		22"	26.8 16.6			0.04 0.16
12							
13	16 31 30/3	YF-3-2-12-13-102916 @0935	20"	68.0 197.9	SP	(13ft - 15.5ft) Silty SAND <20% clay, well sorted, vf-m grains, dry, loose, weak cementation, no staining observed, yellow brown.	0.51 0.13
14	29			102.6			0.14
15	50 36	YF-3-2-15-16-102916 @0950	24"				
16	23/2			105.3			0.15
					CL	(15.5 - 16 ft) Silty CLAY, no plasticity, dry, med stiff, yellow brown.	
						Total Depth: 16' bgs	

Drilling Co.: Kyrek
Driller: Kelly
Drilling Method: 8" HSA
Drilling Fluid:
Remarks:

Sampling Method: 2.5" split spoon
Sampling Interval: 24"
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☒ No
Surface Elev:
North Coor:
East Coor:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: ~~YF-3-3~~

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon
Project Number:
Project Location: Cortez, CO

Date Started: 10/29/16 Logger: K. Rose
Date Completed: 10/29/16 Editor:
Weather Conditions: Sunny

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	~~MS~~ Construction Details ~~sp. cond~~
1	2, 5, 6, 5	YF-3-3-1-2-102916 @1025	24"	75.0	ML	(0-1 ft) SILT, little sand, low plasticity, powdery, dry, red brown.	0.01
2				73.3	ML	(1-6 ft) Sandy SILT	0.09
3	5, 5, 6, 6		24"	28.6		(5, 35, 50, 10), low plasticity, no dilatancy, dry, medium stiff, red brown.	0.02
4				61.8			0.05
5	11, 10, 11, 12		24"	125.9			0.11
6				122.0			0.02
7	11, 14, 16, 14	YF-3-3-Y-8-102916 @1040	24"	124.2	ML	(6-11 ft) Sandy SILT (5, 30, 55, 10) no plasticity, no dilatancy, dry, medium stiff, light red brown.	0.04
8				100.1			0.20
9	8, 12, 11, 10		24" +6"	63.4			0.15
10				162.8			0.17
11	5, 15, 30/3		16" +2"	31.8	SP	(11-14 ft) Silty SAND, little gravel, well sorted, vf-m grained, dry, ~~medium stiff~~ dense, moderate cementation.	0.06
12				73.9			0.03
13	18, 40/5		12"	262.8			0.05
14				93.4			0.07
15	15, 25, 14, 3	YF-3-3-15-16-102916 @1055	24"	101.5	CL	(14.5-16 ft) Silty CLAY, no plasticity, stiff, dry, yellow gray, no staining observed	0.14
16						Total Depth: 16' bgs	

Drilling Co.: Kuyek
Driller: Kelly
Drilling Method: 8" HSA
Drilling Fluid:
Remarks:

Sampling Method: 2.5" Split spoon
Sampling Interval: 24"
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☒ No
Surface Elev:
North Coor:
East Coor:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: YF-3-4

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon
Project Number:
Project Location: Cortez, CO
Date Started: 10/29/16
Date Completed: 10/29/16
Logger: K. Rose
Editor:
Weather Conditions: Sunny

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	~~Construction Details~~ MS Sp. cond.
1	3 5 7 7	YF-3-4-1-2-102916 @1135	24"	31.9 50.9	ML	(0-1 ft) SILT, little sand, no plasticity, no dilatancy, powdery, dry, red brown.	0.02 0.05
2	6 8 6 7		24"	88.8 90.1	ML	(1-4.5 ft) Sandy SILT (5, 30, 50, 15) no plasticity, dry, medium stiff, red brown.	0.03 0.02
3							
4							
5	10 9 9 10		24"	90.5 82.1	SW	(4.5-10.5 ft) Silty SAND, vf-c grains, little gravel, poorly sorted, dry, loose, light red brown.	0.09 0.10
6							
7	12 15 17		24"	69.4 151.3		@6' Increase to 15% gravel, very loose.	0.02 0.03
8							
9	12 13 16 15		24"	76.4 127.3	~~SP~~ SW	(10.5-15.5 ft) SAND and SILT (10, 40, 40, 10), ~~wet~~ poorly sorted, no plasticity, loose, dry, light red brown.	0.03 0.03
10							
11	14 18 18 34	YF-3-4-10-11-102916 @1150	24"	66.9 63.1			0.04 0.06
12							
13	16 22 29 29		24"	35.0 77.8			0.03 0.02
14							
15	38 50/5	YF-3-4-15-16-102916 @1200	18"	42.5 31.7	CL	(15.5-16 ft) Silty CLAY, no plasticity, no dilatancy, dry, stiff, gray brown, no staining observed.	0.05 0.04
16						Total Depth: 16' bgs	

Drilling Co.: Kuvek
Driller: Kelly
Drilling Method: 8" HSA
Drilling Fluid:
Remarks:

Sampling Method: 2.5" Split spoon
Sampling Interval: 24"
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☒ No
Surface Elev:
North Coor:
East Coor:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: YF-3-5

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon
Project Number:
Project Location: Cortez, CO

Date Started: 10/31/16
Date Completed: 10/31/16
Logger: K. Rose
Editor:
Weather Conditions: Windy, Sunny

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	~~Construction~~ MS Details
1	9 11 12		24"	28.3	ML	(0 - 2.5 ft) Sandy SILT (10, 30, 60, 0), no plasticity, no dilatancy, dry, med stiff, red brown.	Sp. cond. 0.01
2	17			117.1			0.03
3	9 11 11	YF-3-5-2-3-103116 @1400	24"	39.9	ML	(2.5 - 7 ft) Sandy SILT (15, 35, 50, 0), no plasticity, no dilatancy, dry, med stiff, light red brown.	0.05
4	11			38.1			0.06
5	10 10		22" ~~18"~~	52.1			0.22
6	8 6	YF-3-5-5-6-103116 @1415		36.0	SW	(7 - 15 ft) Silty SAND	0.47
7	8 30		18"	28.2		(15, 55, 30, 0), poorly sorted, dry, loose, weak cementation, light brown. Some gray staining, sand vf - coarse.	0.47
8	44/6			38.8			0.18
9	26 50/5		18"	44.6			0.04
10				101.6			0.06
11	6 50/5		14"	~~89.2~~ 89.2			
12							0.07
13	27 50/3		16"	46.5			0.03
14				97.1			0.06
15	44 30/2	YF-3-5-15-16-103116 @1440	18"	66.2	ML	@15 ft: Increase in gravel. (15.5 - 16 ft) SILT (5, 25, 55, 15), no plasticity, no dilatancy, dry, crumbly, no staining observed, yellow brown.	0.16
16				29.5			0.05
						~~Total Depth: 16' bgs~~	

Drilling Co.: Kuyek
Driller: Kelly
Drilling Method: 8" HSA
Drilling Fluid:
Remarks:

Sampling Method: 2.5" split spoon
Sampling Interval: 24"
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☒ No
Surface Elev:
North Coor:
East Coor:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: YF-3-6

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon
Project Number:
Project Location: Cortez, CO

Date Started: 10/31/16
Date Completed: 10/31/16

Logger: K. Rose
Editor:
Weather Conditions: Windy, Cloudy

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	~~Construction Details~~ MS
1	4, 7, 9, 9		22"	73.9 63.0	ML	(0 - 2 ft) Sandy SILT (10,40,50,0) no plasticity, no dilatancy, dry, med stiff, red brown.	sp. cond 0.18 0.04
2							
3	8, 9, 9, 8	YF-3-6-2-3-103116 @1145	24"	105.6 407.2	ML	(2 - 5 ft) Sandy SILT (15, 35, 45, 5), no plasticity, no dilatancy, dry, med stiff,	0.49 1.41
4							
5	8, 13, 10, 10		24"	56.0 41.9	CL	light red brown. @4.5 ft: Fine grained sandstone cobbles (5 - 9.5 ft) CLAY (10, 20, 20, 50) medium plasticity, slow	2.44 9.86
6							
7	4, 6, 7, 9		22"	33.2 398.5		dilatancy, medium stiff, red with black and gray staining	12.30 12.63
8							
9	4, 6, 8, 6		24"	59.7 216.1		@~~10.5~~ 9.5 ft: Black plastic liner, solid black staining until 11 ft.	11.43 11.93
10							
11	4, 4, 5, 8	YF-3-6-10-11-103116 @1200	24"	79.3 180.4	SW CH	(9.5 - 11 ft) Silty SAND, poorly sorted, slightly moist, loose, black staining. (11 - 11.5 ft) CLAY (5, 0, 0, 95)	13.98 13.97
12							
13	9, 13, 30/2		18"	81.2 40.1		high plasticity, slow dilatancy, moist, soft, red.	12.14
14					SW	(11.5 - 13.5 ft) Silty SAND,	1.38
15	24, 30/3	YF-3-6-15-16-103116 @1215	18"	119.7 78.3	ML	poorly sorted, medium dense, dry, light brown. (13.5 - 16 ft) Clayey SILT,	0.17
16						no plasticity, no dilatancy, stiff, dry, yellow brown.	
						Total Depth: 16' bgs	

Drilling Co.: Kyvek
Driller: Kelly
Drilling Method: 8" HSA
Drilling Fluid:
Remarks:

Sampling Method: 2.5" split spoon
Sampling Interval: 24"
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☒ No
Surface Elev:
North Coor:
East Coor:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: YF-3-7

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon
Project Number:
Project Location: Cortez, CO

Date Started: 10/31/16
Date Completed: 10/31/16

Logger: K. Rose
Editor:
Weather Conditions: Sunny, windy

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	~~Construction~~ Details (MS)
1	6 8 9 11	YF-3-7-1-2-103116 @1030	24"	30.5 86.2	ML	(0-1.5) Sandy SILT (10,40,50,0) no plasticity, dry, medium stiff, red brown.	sp. cond. 0.03 0.07
3	9 13 11 12		24"	33.1 127.6	ML	(1.5-5 ft) SAND and SILT, vf-coarse sand, little gravel, dry, medium dense, no plasticity, red brown.	0.06 0.46
5	9 10 8 7		24"	182.0 53.9	CL	(5-12 ft) CLAY (10,20,10,60) medium plasticity, slow dilatancy, red, black + gray staining.	0.27 3.33
7	4 4 4 4		24"	318.0 57.2		@8': slightly moist red clay w/ high plasticity, slow dilatancy, black + gray staining.	5.10 8.58
9	3 3 3 5	YF-3-7-9-10-103116 @1050	24"	98.3 208.5		@11.5 ft: Layer of gravel	9.54 12.86
11	3 3 6 4		24"	120.7 239.8	CL	(12-16 ft) Silty CLAY, low plasticity, no dilatancy, medium stiff, dry, yellow brown, some staining.	9.53 11.73
13	4 9 16 13		24"	83.5 55.8		@12.5 ft: Black liner present.	9.52 0.05
15	19 40/4	YF-3-7-15-16-103116 @1105	18"	179.5 90.4		@13 ft: White fine grained sandstone cobbles	9.44 0.11
16						Total Depth: 16' bgs	

Drilling Co.: Kuvet
Driller: Kelly
Drilling Method: 8" HSA
Drilling Fluid:
Remarks:

Sampling Method: 2.5" split spoon
Sampling Interval: 24"
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☒ No
Surface Elev:
North Coor:
East Coor:

ARCADIS Design & Consultancy for natural and built assets

Soil Boring Log

Boring No.: YF-3-8

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon
Project Number:
Project Location: Cortez, CO

Date Started: 10/31/16
Date Completed: 10/31/16

Logger: K. Rose
Editor:
Weather Conditions: Sunny, windy

Depth (feet)	Blow Counts	Sample ID & Time	Recovery (in.)	PID (ppm)	USCS Class.	Description	~~Construction~~ ms Details
1	3 6 6 6	YF-3-8-1-2-103116 @0940	24"	172.2 89.2	ML	(0 - 1.5ft) Sandy SILT (10, 40, 50, 0) low plasticity, no dilatancy, dry, medium stiff, red brown.	Sp. cond. 0.03 0.24
2							
3	11 12 13 14		24"	54.5 45.2	SW	(1.5 - 5.5 ft) Silty SAND (10, 55, 33, 0) subrounded, poorly sorted, sand vf - c, loose, weak cementation, light red brown.	0.01 0.03
4							
5	12 16 14 14		24"	9.6 38.8	SW	(5.5 - 7 ft) Silty SAND (15, 45, 40, 0)	0.10 0.04
6							
7	10 16 27 50/4	YF-3-8-6-7-103116 @0955	24"	38.0 40.3		subrounded, poorly sorted, sand vf - c, medium dense, moderate cementation, light red brown.	0.13 0.09
8							
9	17 50/5		12"	31.1 33.7	SP	(7 - 13.5 ft) Silty SAND (15, 55, 30, 0) subrounded, well sorted vf-f grained sand, very loose, light brown.	0.06 0.06
10							
11	20 40/1		16"	81.5 52.3		@ 11.5 ft: ~4" layer of white fine grained sandstone cobbles with very strong cementation.	0.03 0.01
12							
13	20 50/6		16"	~~+35.4~~ 135.4	ML	(13.5 - 16 ft) Clayey SILT (5, 5, ~~35~~, 35), low plasticity, no dilatancy, dry, medium stiff, light yellow brown	0.04
14							
15	30 20/1	YF-3-8-15-16-103116 @1015	24"	100.1			0.09
16							
						Total Depth: 16' bgs	

Drilling Co.: Kuyek
Driller: Kelly
Drilling Method: 8" HSA
Drilling Fluid:
Remarks:

Sampling Method: 2.5" split spoon
Sampling Interval: 24"
Water Level Start:
Water Level Finish:
Converted to Well: ☐ Yes ☒ No
Surface Elev:
North Coor:
East Coor:

ATTACHMENT C

Photo Log

Project Photographs

McElmo Dome
Cortez, Colorado

Photo: 1

Date:
10/29/16

Description:
Looking east

Location:
YF-3

Photo: 2

Date:
10/29/16

Description:
Looking north

Location:
YF-3

Project Photographs

McElmo Dome
Cortez, Colorado

Photo: 3

Date:
10/29/16

Description:
Looking south

Location:
YF-3

Photo: 4

Date:
10/29/16

Description:
Looking west

Location:
YF-3

Project Photographs

McElmo Dome
Cortez, Colorado

Photo: 5

Date:
10/31/16

Description:
Liner found at 9.5 feet below ground surface

Location:
YF-3

ATTACHMENT D

Field Notes

ARCADIS
Infrastructure · Water · Environment · Buildings

ARCADIS U.S., Inc.
BY K.R. DATE 10/29/16 SHEET NO 1 OF 1
CHKD. BY ____ DATE ____ JOB NO ____
SUBJECT ____

McElmo Dome & Doe Canyon Site 10/29/16
8" HSA Drilling + Sampling
Kinder Morgan
Weather: Sunny

0730 : Arcadis, Kyvek, Jimmy onsite at YF-3.
0740 : H&S meeting
0800 : Begin drilling at YF-3-1 Staining observed.
0820 YF-3-1-0-1-102916
0840 YF-3-1-11-12-102916
0850 YF-3-1-14-15-102916 TD: 15' bgs
0900 : Begin drilling at ~~YF~~ YF-3-2
0915 YF-3-2-1-2-102916 No staining obsened but high PID readings.
0935 YF-3-2-12-13-102916
0950 YF-3-2-15-16-102916 TD: 16' bgs
1015 : Begin drilling at YF-3-3
1025 YF-3-3-1-2-102916
1040 YF-3-3-7-8-102916
1055 YF-3-3-15-16-102916 TD: 16' bgs
1120 : Begin drilling at YF-3-4
1135 YF-3-4-1-2-102916
1150 YF-3-4-10-11-102916
1200 YF-3-4-15-16-102916 TD: 16' bgs
1230 : Clean up / house keeping
1300 : Mob back to field office to copy paperwork for Kyvek
1330 : Arcadis, Kyvek, Jimmy offsite.

KR

McElmo Dome + Doe Canyon Site 10/31/16
8" HSA drilling at YF-3
Kinder Morgan
Weather: Sunny, windy

0700: Pack coolers in field office w/ all samples from YE-6. FedEx will pick up at 11:00am today

GPS Coordinates YF-3

YF-3-1	N: 813745.04	E: -864553.29.35
	Elevation: 6584.22 ft	
YF-3-2	N: 813718.18	E: -864S473.38
	Elevation: 6585.17 ft	
YF-3-3	N: 813691.30	E: -864S420.57
	Elevation: 6586.20 ft	
YF-3-4	N: 813670.68	E: -864S37.47
	Elevation: 6587.51 ft	
YF-35	N: 813831.42	E: -864S508.56
	Elevation: 6583.12 ft	
YF-3-6	N: 813797.72	E: -864S432.60
	Elevation: 6583.37 ft	
YF-3-7	N: 813779.76	E: -864S380.01
	Elevation: 6584.88 ft	
YF-3-8	N: 813764.78	E: -864S330.64
	Elevation: 6585.07 ft	

0940 Begin drilling at YF-3-8
- 0940 Collect YF-3-8-1-2-103116
- 0955 Collect YF-3-8-6-7-103116
- 1015 Collect YF-3-8-15-16-103116 TD: 16' bgs

1025 Begin drilling at YF-3-7
- 1030 ~~YF-5~~ (YF-7) Collect YF-3-7-1-2-103116
- 1050 Collect YF-3-7-9-10-103116
- 1105 Collect YF-3-7-15-16-103116

1140 Begin drilling at YF-3-6
- 1145 Collect YF-3-6-2-3-103116

10/31/16

1200 YF-3-6-10-11-103116
1215 YF-3-6-15-16-103116
1400 Begin drilling at YF-3-5
1425 YF-3-5-2-3-103116
1435 YF-3-5-5-6-103116
1500 YF-3-5-15-16-103116
1530 Clean up site / housekeeping
Sign out at Yellow Jacket facility
1550 Offsite

KR

ATTACHMENT E

Laboratory Analytical Reports

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

November 18, 2016

Aaron Hale
Kinder Morgan
1001 Louisiana Street
Suite 740D
Houston, TX 77002

Work Order: **HS16110099**

Laboratory Results for: **McElmo Dome & Doe Canyon**

Dear Aaron,

ALS Environmental received 27 sample(s) on Nov 02, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Sonia West

Generated By: Dayna.Fisher
Sonia West
Project Manager

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Work Order: HS16110099

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16110099-01	YF-3-6-10-11-103116	Soil		31-Oct-2016 12:00	02-Nov-2016 08:30	
HS16110099-02	YF-3-6-15-16-103116	Soil		31-Oct-2016 12:15	02-Nov-2016 08:30	
HS16110099-03	YF-3-7-1-2-103116	Soil		31-Oct-2016 10:30	02-Nov-2016 08:30	
HS16110099-04	YF-3-7-9-10-103116	Soil		31-Oct-2016 10:50	02-Nov-2016 08:30	
HS16110099-05	YF-3-7-15-16-103116	Soil		31-Oct-2016 11:05	02-Nov-2016 08:30	
HS16110099-06	YF-3-8-1-2-103116	Soil		31-Oct-2016 09:40	02-Nov-2016 08:30	
HS16110099-07	YF-3-8-6-7-103116	Soil		31-Oct-2016 09:55	02-Nov-2016 08:30	
HS16110099-08	YF-3-8-15-16-103116	Soil		31-Oct-2016 10:15	02-Nov-2016 08:30	
HS16110099-09	TRIP BLANK 100716-09	Water		31-Oct-2016 00:00	02-Nov-2016 08:30	
HS16110099-10	YF-3-1-0-1-102916	Soil		29-Oct-2016 08:20	02-Nov-2016 08:30	
HS16110099-11	YF-3-1-11-12-102916	Soil		29-Oct-2016 08:40	02-Nov-2016 08:30	
HS16110099-12	YF-3-1-14-15-102916	Soil		29-Oct-2016 08:50	02-Nov-2016 08:30	
HS16110099-13	YF-3-2-1-2-102916	Soil		29-Oct-2016 09:15	02-Nov-2016 08:30	
HS16110099-14	YF-3-2-12-13-102916	Soil		29-Oct-2016 09:35	02-Nov-2016 08:30	
HS16110099-15	YF-3-2-15-16-102916	Soil		29-Oct-2016 09:50	02-Nov-2016 08:30	
HS16110099-16	YF-3-3-1-2-102916	Soil		29-Oct-2016 10:25	02-Nov-2016 08:30	
HS16110099-17	YF-3-3-7-8-102916	Soil		29-Oct-2016 10:40	02-Nov-2016 08:30	
HS16110099-18	TRIP BLANK 100716-85	Water		29-Oct-2016 00:00	02-Nov-2016 08:30	
HS16110099-19	YF-3-3-15-16-102916	Soil		29-Oct-2016 10:55	02-Nov-2016 08:30	
HS16110099-20	YF-3-4-1-2-102916	Soil		29-Oct-2016 11:35	02-Nov-2016 08:30	
HS16110099-21	YF-3-4-10-11-102916	Soil		29-Oct-2016 11:50	02-Nov-2016 08:30	
HS16110099-22	YF-3-4-15-16-102916	Soil		29-Oct-2016 12:00	02-Nov-2016 08:30	
HS16110099-23	YF-3-5-2-3-103116	Soil		31-Oct-2016 14:25	02-Nov-2016 08:30	
HS16110099-24	YF-3-5-5-6-103116	Soil		31-Oct-2016 14:35	02-Nov-2016 08:30	
HS16110099-25	YF-3-5-15-16-103116	Soil		31-Oct-2016 15:00	02-Nov-2016 08:30	
HS16110099-26	YF-3-6-2-3-103116	Soil		31-Oct-2016 11:45	02-Nov-2016 08:30	
HS16110099-27	TRIP BLANK 100716-84	Water		31-Oct-2016 00:00	02-Nov-2016 08:30	

Client: Kinder Morgan **CASE NARRATIVE**
Project: McElmo Dome & Doe Canyon
Work Order: HS16110099

Work Order Comments

- For Trip Blank 100716-85, vial 2 of 2 cap was broken while labeling this sample was not used for analysis.

Work Order Comments

- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

  The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

GC Semivolatiles by Method SW8015M

Batch ID: 109561

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: 109523

Sample ID: **YF-3-7-9-10-103116 (HS16110099-04)**
- Due to sample matrix interferences, the surrogate recovery was outside of the established control limits.

GC Volatiles by Method SW8015

Batch ID: R284181,R284290

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R284199

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R284187

Sample ID: **YF-3-6-2-3-103116 (HS16110099-26MS)**
- MS/MSD failed QC limits for select compounds due to possible matrix interference.

Batch ID: R284125

Sample ID: **YF-3-7-1-2-103116 (HS16110099-03MS)**
- MS/MSD failed QC limits for select compounds due to possible matrix interference.

Metals by Method La29B SAR

Batch ID: 109936

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method Calculation

Batch ID: R284948

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method La29B-6020

Batch ID: 109937

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: Kinder Morgan **CASE NARRATIVE**
Project: McElmo Dome & Doe Canyon
Work Order: HS16110099

Metals by Method SW7471A

Batch ID: 109771,109772

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW6020

Batch ID: 109658

Sample ID: **YF-3-4-10-11-102916 (HS16110099-21 DIL SX)**
• The percent difference between the results of the sample and the serial dilution were greater than 10%. Boron

Sample ID: **YF-3-4-10-11-102916 (HS16110099-21BS)**
• Boron failed on the PDS but passed on the MS.

Sample ID: **YF-3-4-10-11-102916 (HS16110099-21BS)**
• The PDS recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount for Barium.

Sample ID: **YF-3-4-10-11-102916 (HS16110099-21MS)**
• Arsenic, Chromium, Copper, Lead, Nickel and Zinc failed on the MS but passed on the MSD and PDS.

Sample ID: **YF-3-4-10-11-102916 (HS16110099-21MS)**
• The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Barium

Sample ID: **YF-3-4-10-11-102916 (HS16110099-21MSD)**
• Due to non-homogeneity of the soil sample matrix the MSD recoveries and RPD were outside the control limits, but passed on the MS for Boron.

Sample ID: **YF-3-4-10-11-102916 (HS16110099-21MSD)**
• Due to non-homogeneity of the soil sample matrix the MSD RPD were outside the control limits for Arsenic, Chromium, Copper, Lead, Nickel, Selenium and Zinc.

Batch ID: 109639

Sample ID: **YF-3-4-1-2-102916 (HS16110099-20BS)**
• Boron failed on the PDS but passed on the MS\MSD.

Sample ID: **YF-3-4-1-2-102916 (HS16110099-20BS)**
• The PDS recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount for Barium.

Sample ID: **YF-3-4-1-2-102916 (HS16110099-20MS)**
• Chromium and Zinc failed on the MS\MSD but passed on the PDS.

Sample ID: **YF-3-4-1-2-102916 (HS16110099-20MS)**
• The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Barium

WetChemistry by Method LaDNR-29B EC

Batch ID: R285099

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9045B

Batch ID: R284832,R284938

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method LaDNR-29B SP

Batch ID: R285018,R285019

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: Kinder Morgan **CASE NARRATIVE**
Project: McElmo Dome & Doe Canyon
Work Order: HS16110099

WetChemistry by Method LaDNR-29B SP

WetChemistry by Method SW3550

Batch ID: R284379,R284423,R284457

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW7196

Batch ID: 109729,109730

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-6-10-11-103116
Collection Date: 31-Oct-2016 12:00

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-01
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.8	ug/Kg	1	03-Nov-2016 09:22
Ethylbenzene	ND		4.8	ug/Kg	1	03-Nov-2016 09:22
m,p-Xylene	ND		9.5	ug/Kg	1	03-Nov-2016 09:22
o-Xylene	ND		4.8	ug/Kg	1	03-Nov-2016 09:22
Toluene	ND		4.8	ug/Kg	1	03-Nov-2016 09:22
Xylenes, Total	ND		9.5	ug/Kg	1	03-Nov-2016 09:22
Surr: 1,2-Dichloroethane-d4	*116*		*70-128*	*%REC*	*1*	*03-Nov-2016 09:22*
Surr: 4-Bromofluorobenzene	*95.6*		*73-126*	*%REC*	*1*	*03-Nov-2016 09:22*
Surr: Dibromofluoromethane	*109*		*71-128*	*%REC*	*1*	*03-Nov-2016 09:22*
Surr: Toluene-d8	*89.4*		*73-127*	*%REC*	*1*	*03-Nov-2016 09:22*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	**1.9**		**0.050**	**mg/Kg**	1	04-Nov-2016 15:34
Surr: 4-Bromofluorobenzene	*109*		*70-130*	*%REC*	*1*	*04-Nov-2016 15:34*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 03-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**4.0**		**1.7**	**mg/Kg**	1	05-Nov-2016 04:36
Surr: 2-Fluorobiphenyl	*72.1*		*60-135*	*%REC*	*1*	*05-Nov-2016 04:36*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**15.0**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**133**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**1,750**		**4.99**	**mg/L**	10	17-Nov-2016 12:31
Magnesium	**376**		**4.99**	**mg/L**	10	17-Nov-2016 12:31
Sodium	**23,600**		**250**	**mg/L**	500	17-Nov-2016 16:28
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**3.21**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:04
Barium	**373**		**4.77**	**mg/Kg**	10	09-Nov-2016 15:52
Boron	**17.2**		**2.38**	**mg/Kg**	1	09-Nov-2016 13:42
Cadmium	**0.560**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:04
Chromium	**15.0**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:04
Copper	**10.4**		**0.191**	**mg/Kg**	1	08-Nov-2016 19:04
Lead	**18.3**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:04
Nickel	**13.1**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:04
Selenium	**2.01**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:04
Silver	ND		0.477	mg/Kg	1	08-Nov-2016 19:04
Zinc	**129**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:04
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**29.4**		**3.39**	**ug/Kg**	1	11-Nov-2016 14:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-6-10-11-103116
Collection Date: 31-Oct-2016 12:00

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-01
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**319**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**155**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.484**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.484**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**19.3**		**0.0100**	**wt%**	1	07-Nov-2016 11:57
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		1.99	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.10**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.1**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-6-15-16-103116
Collection Date: 31-Oct-2016 12:15

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	03-Nov-2016 09:49
Ethylbenzene	ND		5.0	ug/Kg	1	03-Nov-2016 09:49
m,p-Xylene	ND		9.9	ug/Kg	1	03-Nov-2016 09:49
o-Xylene	ND		5.0	ug/Kg	1	03-Nov-2016 09:49
Toluene	ND		5.0	ug/Kg	1	03-Nov-2016 09:49
Xylenes, Total	ND		9.9	ug/Kg	1	03-Nov-2016 09:49
Surr: 1,2-Dichloroethane-d4	*112*		*70-128*	*%REC*	*1*	*03-Nov-2016 09:49*
Surr: 4-Bromofluorobenzene	*93.5*		*73-126*	*%REC*	*1*	*03-Nov-2016 09:49*
Surr: Dibromofluoromethane	*112*		*71-128*	*%REC*	*1*	*03-Nov-2016 09:49*
Surr: Toluene-d8	*95.6*		*73-127*	*%REC*	*1*	*03-Nov-2016 09:49*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 17:00
Surr: 4-Bromofluorobenzene	*85.6*		*70-130*	*%REC*	*1*	*03-Nov-2016 17:00*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 03-Nov-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	05-Nov-2016 05:00
Surr: 2-Fluorobiphenyl	*84.9*		*60-135*	*%REC*	*1*	*05-Nov-2016 05:00*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**6.00**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**5.53**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**13.0**		**5.00**	**mg/L**	10	17-Nov-2016 12:34
Magnesium	**9.97**		**5.00**	**mg/L**	10	17-Nov-2016 12:34
Sodium	**109**		**5.00**	**mg/L**	10	17-Nov-2016 12:34
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**4.84**		**0.468**	**mg/Kg**	1	08-Nov-2016 19:09
Barium	**32.9**		**0.468**	**mg/Kg**	1	08-Nov-2016 19:09
Boron	**9.14**		**2.34**	**mg/Kg**	1	09-Nov-2016 13:46
Cadmium	ND		0.468	mg/Kg	1	08-Nov-2016 19:09
Chromium	**6.00**		**0.468**	**mg/Kg**	1	08-Nov-2016 19:09
Copper	**13.9**		**0.187**	**mg/Kg**	1	08-Nov-2016 19:09
Lead	**14.7**		**0.468**	**mg/Kg**	1	08-Nov-2016 19:09
Nickel	**11.5**		**0.468**	**mg/Kg**	1	08-Nov-2016 19:09
Selenium	**0.499**		**0.468**	**mg/Kg**	1	08-Nov-2016 19:09
Silver	ND		0.468	mg/Kg	1	08-Nov-2016 19:09
Zinc	**54.4**		**0.468**	**mg/Kg**	1	08-Nov-2016 19:09
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**57.7**		**3.53**	**ug/Kg**	1	11-Nov-2016 14:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-6-15-16-103116
Collection Date: 31-Oct-2016 12:15

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**1.46**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.729**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.499**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.499**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**14.0**		**0.0100**	**wt%**	1	07-Nov-2016 11:57
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		1.99	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.98**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.0**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-7-1-2-103116
Collection Date: 31-Oct-2016 10:30

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-03
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	03-Nov-2016 10:16
Ethylbenzene	ND		5.0	ug/Kg	1	03-Nov-2016 10:16
m,p-Xylene	ND		10	ug/Kg	1	03-Nov-2016 10:16
o-Xylene	ND		5.0	ug/Kg	1	03-Nov-2016 10:16
Toluene	ND		5.0	ug/Kg	1	03-Nov-2016 10:16
Xylenes, Total	ND		10	ug/Kg	1	03-Nov-2016 10:16
Surr: 1,2-Dichloroethane-d4	*108*		*70-128*	*%REC*	*1*	*03-Nov-2016 10:16*
Surr: 4-Bromofluorobenzene	*94.0*		*73-126*	*%REC*	*1*	*03-Nov-2016 10:16*
Surr: Dibromofluoromethane	*112*		*71-128*	*%REC*	*1*	*03-Nov-2016 10:16*
Surr: Toluene-d8	*95.7*		*73-127*	*%REC*	*1*	*03-Nov-2016 10:16*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 17:16
Surr: 4-Bromofluorobenzene	*89.5*		*70-130*	*%REC*	*1*	*03-Nov-2016 17:16*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 03-Nov-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	05-Nov-2016 05:24
Surr: 2-Fluorobiphenyl	*71.7*		*60-135*	*%REC*	*1*	*05-Nov-2016 05:24*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**7.74**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**0.375**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**46.4**		**4.99**	**mg/L**	10	17-Nov-2016 12:37
Magnesium	**10.7**		**4.99**	**mg/L**	10	17-Nov-2016 12:37
Sodium	**10.9**		**4.99**	**mg/L**	10	17-Nov-2016 12:37
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**2.60**		**0.488**	**mg/Kg**	1	08-Nov-2016 19:13
Barium	**175**		**0.488**	**mg/Kg**	1	08-Nov-2016 19:13
Boron	**7.43**		**2.44**	**mg/Kg**	1	09-Nov-2016 13:51
Cadmium	ND		0.488	mg/Kg	1	08-Nov-2016 19:13
Chromium	**7.74**		**0.488**	**mg/Kg**	1	08-Nov-2016 19:13
Copper	**5.51**		**0.195**	**mg/Kg**	1	08-Nov-2016 19:13
Lead	**6.75**		**0.488**	**mg/Kg**	1	08-Nov-2016 19:13
Nickel	**7.96**		**0.488**	**mg/Kg**	1	08-Nov-2016 19:13
Selenium	ND		0.488	mg/Kg	1	08-Nov-2016 19:13
Silver	ND		0.488	mg/Kg	1	08-Nov-2016 19:13
Zinc	**20.9**		**0.488**	**mg/Kg**	1	08-Nov-2016 19:13
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**15.8**		**3.43**	**ug/Kg**	1	11-Nov-2016 14:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-7-1-2-103116
Collection Date: 31-Oct-2016 10:30

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-03
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**0.634**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.309**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.487**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.487**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**6.68**		**0.0100**	**wt%**	1	07-Nov-2016 11:57
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		2.00	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.89**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**21.9**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-7-9-10-103116
Collection Date: 31-Oct-2016 10:50

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-04
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.8	ug/Kg	1	03-Nov-2016 11:36
Ethylbenzene	ND		4.8	ug/Kg	1	03-Nov-2016 11:36
m,p-Xylene	ND		9.6	ug/Kg	1	03-Nov-2016 11:36
o-Xylene	ND		4.8	ug/Kg	1	03-Nov-2016 11:36
Toluene	ND		4.8	ug/Kg	1	03-Nov-2016 11:36
Xylenes, Total	ND		9.6	ug/Kg	1	03-Nov-2016 11:36
Surr: 1,2-Dichloroethane-d4	*101*		*70-128*	*%REC*	*1*	*03-Nov-2016 11:36*
Surr: 4-Bromofluorobenzene	*104*		*73-126*	*%REC*	*1*	*03-Nov-2016 11:36*
Surr: Dibromofluoromethane	*97.8*		*71-128*	*%REC*	*1*	*03-Nov-2016 11:36*
Surr: Toluene-d8	*95.6*		*73-127*	*%REC*	*1*	*03-Nov-2016 11:36*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	**0.58**		**0.050**	**mg/Kg**	1	03-Nov-2016 17:32
Surr: 4-Bromofluorobenzene	*114*		*70-130*	*%REC*	*1*	*03-Nov-2016 17:32*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 03-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**410**		**17**	**mg/Kg**	10	09-Nov-2016 19:52
Surr: 2-Fluorobiphenyl	*195*	*S*	*60-135*	*%REC*	*10*	*09-Nov-2016 19:52*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**19.3**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**38.6**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**628**		**5.00**	**mg/L**	10	17-Nov-2016 12:46
Magnesium	**423**		**5.00**	**mg/L**	10	17-Nov-2016 12:46
Sodium	**5,110**		**50.0**	**mg/L**	100	17-Nov-2016 16:30
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**2.09**		**0.465**	**mg/Kg**	1	08-Nov-2016 19:17
Barium	**249**		**4.65**	**mg/Kg**	10	09-Nov-2016 15:57
Boron	**13.0**		**2.33**	**mg/Kg**	1	09-Nov-2016 14:08
Cadmium	ND		0.465	mg/Kg	1	08-Nov-2016 19:17
Chromium	**19.3**		**0.465**	**mg/Kg**	1	08-Nov-2016 19:17
Copper	**12.1**		**0.186**	**mg/Kg**	1	08-Nov-2016 19:17
Lead	**8.14**		**0.465**	**mg/Kg**	1	08-Nov-2016 19:17
Nickel	**14.8**		**0.465**	**mg/Kg**	1	08-Nov-2016 19:17
Selenium	**0.688**		**0.465**	**mg/Kg**	1	08-Nov-2016 19:17
Silver	ND		0.465	mg/Kg	1	08-Nov-2016 19:17
Zinc	**78.7**		**0.465**	**mg/Kg**	1	08-Nov-2016 19:17
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**61.0**		**3.42**	**ug/Kg**	1	11-Nov-2016 14:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-7-9-10-103116
Collection Date: 31-Oct-2016 10:50

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-04
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**65.5**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**37.8**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.577**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.577**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**21.5**		**0.0100**	**wt%**	1	07-Nov-2016 11:57
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		1.99	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.55**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.0**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-7-15-16-103116
Collection Date: 31-Oct-2016 11:05

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-05
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	03-Nov-2016 12:03
Ethylbenzene	ND		5.0	ug/Kg	1	03-Nov-2016 12:03
m,p-Xylene	ND		10	ug/Kg	1	03-Nov-2016 12:03
o-Xylene	ND		5.0	ug/Kg	1	03-Nov-2016 12:03
Toluene	ND		5.0	ug/Kg	1	03-Nov-2016 12:03
Xylenes, Total	ND		10	ug/Kg	1	03-Nov-2016 12:03
Surr: 1,2-Dichloroethane-d4	*103*		*70-128*	*%REC*	*1*	*03-Nov-2016 12:03*
Surr: 4-Bromofluorobenzene	*96.0*		*73-126*	*%REC*	*1*	*03-Nov-2016 12:03*
Surr: Dibromofluoromethane	*94.3*		*71-128*	*%REC*	*1*	*03-Nov-2016 12:03*
Surr: Toluene-d8	*92.9*		*73-127*	*%REC*	*1*	*03-Nov-2016 12:03*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 17:48
Surr: 4-Bromofluorobenzene	*87.1*		*70-130*	*%REC*	*1*	*03-Nov-2016 17:48*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 03-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**3.8**		**1.7**	**mg/Kg**	1	05-Nov-2016 07:02
Surr: 2-Fluorobiphenyl	*80.3*		*60-135*	*%REC*	*1*	*05-Nov-2016 07:02*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**5.50**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**2.84**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**17.3**		**5.00**	**mg/L**	10	17-Nov-2016 12:49
Magnesium	**12.2**		**5.00**	**mg/L**	10	17-Nov-2016 12:49
Sodium	**63.2**		**5.00**	**mg/L**	10	17-Nov-2016 12:49
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**5.73**		**0.467**	**mg/Kg**	1	08-Nov-2016 19:22
Barium	**78.8**		**0.467**	**mg/Kg**	1	08-Nov-2016 19:22
Boron	**7.96**		**2.34**	**mg/Kg**	1	09-Nov-2016 14:13
Cadmium	ND		0.467	mg/Kg	1	08-Nov-2016 19:22
Chromium	**5.50**		**0.467**	**mg/Kg**	1	08-Nov-2016 19:22
Copper	**11.3**		**0.187**	**mg/Kg**	1	08-Nov-2016 19:22
Lead	**14.1**		**0.467**	**mg/Kg**	1	08-Nov-2016 19:22
Nickel	**12.4**		**0.467**	**mg/Kg**	1	08-Nov-2016 19:22
Selenium	**0.694**		**0.467**	**mg/Kg**	1	08-Nov-2016 19:22
Silver	ND		0.467	mg/Kg	1	08-Nov-2016 19:22
Zinc	**61.2**		**0.467**	**mg/Kg**	1	08-Nov-2016 19:22
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**81.2**		**3.55**	**ug/Kg**	1	11-Nov-2016 14:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-7-15-16-103116
Collection Date: 31-Oct-2016 11:05

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-05
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**1.16**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.521**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.448**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.448**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**10.1**		**0.0100**	**wt%**	1	07-Nov-2016 11:57
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		2.00	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**9.13**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.0**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-8-1-2-103116
Collection Date: 31-Oct-2016 09:40

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-06
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.8	ug/Kg	1	03-Nov-2016 12:30
Ethylbenzene	ND		4.8	ug/Kg	1	03-Nov-2016 12:30
m,p-Xylene	ND		9.6	ug/Kg	1	03-Nov-2016 12:30
o-Xylene	ND		4.8	ug/Kg	1	03-Nov-2016 12:30
Toluene	ND		4.8	ug/Kg	1	03-Nov-2016 12:30
Xylenes, Total	ND		9.6	ug/Kg	1	03-Nov-2016 12:30
Surr: 1,2-Dichloroethane-d4	*114*		*70-128*	*%REC*	*1*	*03-Nov-2016 12:30*
Surr: 4-Bromofluorobenzene	*99.0*		*73-126*	*%REC*	*1*	*03-Nov-2016 12:30*
Surr: Dibromofluoromethane	*110*		*71-128*	*%REC*	*1*	*03-Nov-2016 12:30*
Surr: Toluene-d8	*91.8*		*73-127*	*%REC*	*1*	*03-Nov-2016 12:30*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 18:04
Surr: 4-Bromofluorobenzene	*88.9*		*70-130*	*%REC*	*1*	*03-Nov-2016 18:04*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 03-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**1.7**		**1.7**	**mg/Kg**	1	05-Nov-2016 07:26
Surr: 2-Fluorobiphenyl	*81.1*		*60-135*	*%REC*	*1*	*05-Nov-2016 07:26*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**7.96**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**14.3**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**541**		**5.00**	**mg/L**	10	17-Nov-2016 12:52
Magnesium	**137**		**5.00**	**mg/L**	10	17-Nov-2016 12:52
Sodium	**1,440**		**5.00**	**mg/L**	10	17-Nov-2016 12:52
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**2.81**		**0.463**	**mg/Kg**	1	08-Nov-2016 19:35
Barium	**162**		**0.463**	**mg/Kg**	1	08-Nov-2016 19:35
Boron	**6.96**		**2.31**	**mg/Kg**	1	09-Nov-2016 14:21
Cadmium	ND		0.463	mg/Kg	1	08-Nov-2016 19:35
Chromium	**7.96**		**0.463**	**mg/Kg**	1	08-Nov-2016 19:35
Copper	**6.15**		**0.185**	**mg/Kg**	1	08-Nov-2016 19:35
Lead	**6.93**		**0.463**	**mg/Kg**	1	08-Nov-2016 19:35
Nickel	**8.46**		**0.463**	**mg/Kg**	1	08-Nov-2016 19:35
Selenium	ND		0.463	mg/Kg	1	08-Nov-2016 19:35
Silver	ND		0.463	mg/Kg	1	08-Nov-2016 19:35
Zinc	**21.8**		**0.463**	**mg/Kg**	1	08-Nov-2016 19:35
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**13.2**		**3.45**	**ug/Kg**	1	11-Nov-2016 14:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-8-1-2-103116
Collection Date: 31-Oct-2016 09:40

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-06
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**26.3**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**13.5**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.513**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.513**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**6.84**		**0.0100**	**wt%**	1	07-Nov-2016 11:57
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		1.99	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.74**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.0**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-8-6-7-103116
Collection Date: 31-Oct-2016 09:55

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-07
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.8	ug/Kg	1	03-Nov-2016 12:58
Ethylbenzene	ND		4.8	ug/Kg	1	03-Nov-2016 12:58
m,p-Xylene	ND		9.7	ug/Kg	1	03-Nov-2016 12:58
o-Xylene	ND		4.8	ug/Kg	1	03-Nov-2016 12:58
Toluene	ND		4.8	ug/Kg	1	03-Nov-2016 12:58
Xylenes, Total	ND		9.7	ug/Kg	1	03-Nov-2016 12:58
Surr: 1,2-Dichloroethane-d4	*110*		*70-128*	*%REC*	*1*	*03-Nov-2016 12:58*
Surr: 4-Bromofluorobenzene	*100*		*73-126*	*%REC*	*1*	*03-Nov-2016 12:58*
Surr: Dibromofluoromethane	*105*		*71-128*	*%REC*	*1*	*03-Nov-2016 12:58*
Surr: Toluene-d8	*89.9*		*73-127*	*%REC*	*1*	*03-Nov-2016 12:58*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 18:20
Surr: 4-Bromofluorobenzene	*88.6*		*70-130*	*%REC*	*1*	*03-Nov-2016 18:20*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 03-Nov-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	05-Nov-2016 06:38
Surr: 2-Fluorobiphenyl	*79.0*		*60-135*	*%REC*	*1*	*05-Nov-2016 06:38*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**7.20**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**1.88**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**27.7**		**5.00**	**mg/L**	10	17-Nov-2016 12:55
Magnesium	**12.5**		**5.00**	**mg/L**	10	17-Nov-2016 12:55
Sodium	**47.4**		**5.00**	**mg/L**	10	17-Nov-2016 12:55
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**5.93**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:39
Barium	**262**		**4.77**	**mg/Kg**	10	09-Nov-2016 16:01
Boron	**12.8**		**2.39**	**mg/Kg**	1	09-Nov-2016 14:26
Cadmium	ND		0.477	mg/Kg	1	08-Nov-2016 19:39
Chromium	**7.20**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:39
Copper	**6.57**		**0.191**	**mg/Kg**	1	08-Nov-2016 19:39
Lead	**7.95**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:39
Nickel	**8.24**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:39
Selenium	**0.513**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:39
Silver	ND		0.477	mg/Kg	1	08-Nov-2016 19:39
Zinc	**30.6**		**0.477**	**mg/Kg**	1	08-Nov-2016 19:39
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**16.3**		**3.42**	**ug/Kg**	1	11-Nov-2016 14:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-8-6-7-103116
Collection Date: 31-Oct-2016 09:55

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-07
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**0.985**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.464**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.471**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.471**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**7.75**		**0.0100**	**wt%**	1	07-Nov-2016 11:57
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		1.99	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.84**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.1**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-8-15-16-103116
Collection Date: 31-Oct-2016 10:15

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-08
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	03-Nov-2016 13:24
Ethylbenzene	ND		5.0	ug/Kg	1	03-Nov-2016 13:24
m,p-Xylene	ND		9.9	ug/Kg	1	03-Nov-2016 13:24
o-Xylene	ND		5.0	ug/Kg	1	03-Nov-2016 13:24
Toluene	ND		5.0	ug/Kg	1	03-Nov-2016 13:24
Xylenes, Total	ND		9.9	ug/Kg	1	03-Nov-2016 13:24
Surr: 1,2-Dichloroethane-d4	*112*		*70-128*	*%REC*	*1*	*03-Nov-2016 13:24*
Surr: 4-Bromofluorobenzene	*96.2*		*73-126*	*%REC*	*1*	*03-Nov-2016 13:24*
Surr: Dibromofluoromethane	*111*		*71-128*	*%REC*	*1*	*03-Nov-2016 13:24*
Surr: Toluene-d8	*90.6*		*73-127*	*%REC*	*1*	*03-Nov-2016 13:24*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 18:52
Surr: 4-Bromofluorobenzene	*80.8*		*70-130*	*%REC*	*1*	*03-Nov-2016 18:52*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 03-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**1.7**		**1.7**	**mg/Kg**	1	05-Nov-2016 07:02
Surr: 2-Fluorobiphenyl	*70.5*		*60-135*	*%REC*	*1*	*05-Nov-2016 07:02*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**5.62**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**6.49**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**66.6**		**4.99**	**mg/L**	10	17-Nov-2016 12:58
Magnesium	**51.9**		**4.99**	**mg/L**	10	17-Nov-2016 12:58
Sodium	**291**		**4.99**	**mg/L**	10	17-Nov-2016 12:58
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**4.39**		**0.478**	**mg/Kg**	1	08-Nov-2016 19:44
Barium	**35.4**		**0.478**	**mg/Kg**	1	08-Nov-2016 19:44
Boron	**8.88**		**2.39**	**mg/Kg**	1	09-Nov-2016 14:30
Cadmium	ND		0.478	mg/Kg	1	08-Nov-2016 19:44
Chromium	**5.62**		**0.478**	**mg/Kg**	1	08-Nov-2016 19:44
Copper	**11.0**		**0.191**	**mg/Kg**	1	08-Nov-2016 19:44
Lead	**12.7**		**0.478**	**mg/Kg**	1	08-Nov-2016 19:44
Nickel	**10.9**		**0.478**	**mg/Kg**	1	08-Nov-2016 19:44
Selenium	**0.528**		**0.478**	**mg/Kg**	1	08-Nov-2016 19:44
Silver	ND		0.478	mg/Kg	1	08-Nov-2016 19:44
Zinc	**50.1**		**0.478**	**mg/Kg**	1	08-Nov-2016 19:44
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**52.1**		**3.47**	**ug/Kg**	1	11-Nov-2016 14:43

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-8-15-16-103116
Collection Date: 31-Oct-2016 10:15

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-08
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**4.97**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**2.77**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.557**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.557**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**12.3**		**0.0100**	**wt%**	1	07-Nov-2016 11:57
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		1.99	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**9.31**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.1**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: TRIP BLANK 100716-09
Collection Date: 31-Oct-2016 00:00

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-09
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		1.0	ug/L	1	03-Nov-2016 20:46
Ethylbenzene	ND		1.0	ug/L	1	03-Nov-2016 20:46
m,p-Xylene	ND		2.0	ug/L	1	03-Nov-2016 20:46
o-Xylene	ND		1.0	ug/L	1	03-Nov-2016 20:46
Toluene	ND		1.0	ug/L	1	03-Nov-2016 20:46
Xylenes, Total	ND		3.0	ug/L	1	03-Nov-2016 20:46
Surr: 1,2-Dichloroethane-d4	*90.2*		*71-125*	*%REC*	*1*	*03-Nov-2016 20:46*
Surr: 4-Bromofluorobenzene	*96.2*		*70-125*	*%REC*	*1*	*03-Nov-2016 20:46*
Surr: Dibromofluoromethane	*94.9*		*74-125*	*%REC*	*1*	*03-Nov-2016 20:46*
Surr: Toluene-d8	*102*		*75-125*	*%REC*	*1*	*03-Nov-2016 20:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-1-0-1-102916
Collection Date: 29-Oct-2016 08:20

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-10
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.8	ug/Kg	1	03-Nov-2016 13:51
Ethylbenzene	ND		4.8	ug/Kg	1	03-Nov-2016 13:51
m,p-Xylene	ND		9.6	ug/Kg	1	03-Nov-2016 13:51
o-Xylene	ND		4.8	ug/Kg	1	03-Nov-2016 13:51
Toluene	ND		4.8	ug/Kg	1	03-Nov-2016 13:51
Xylenes, Total	ND		9.6	ug/Kg	1	03-Nov-2016 13:51
Surr: 1,2-Dichloroethane-d4	*113*		*70-128*	*%REC*	*1*	*03-Nov-2016 13:51*
Surr: 4-Bromofluorobenzene	*94.8*		*73-126*	*%REC*	*1*	*03-Nov-2016 13:51*
Surr: Dibromofluoromethane	*107*		*71-128*	*%REC*	*1*	*03-Nov-2016 13:51*
Surr: Toluene-d8	*95.9*		*73-127*	*%REC*	*1*	*03-Nov-2016 13:51*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 19:07
Surr: 4-Bromofluorobenzene	*85.1*		*70-130*	*%REC*	*1*	*03-Nov-2016 19:07*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**3.5**		**1.7**	**mg/Kg**	1	04-Nov-2016 22:31
Surr: 2-Fluorobiphenyl	*83.3*		*60-135*	*%REC*	*1*	*04-Nov-2016 22:31*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**6.86**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**0.776**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**66.3**		**5.00**	**mg/L**	10	17-Nov-2016 13:00
Magnesium	**11.3**		**5.00**	**mg/L**	10	17-Nov-2016 13:00
Sodium	**26.0**		**5.00**	**mg/L**	10	17-Nov-2016 13:00
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**2.37**		**0.479**	**mg/Kg**	1	08-Nov-2016 19:48
Barium	**135**		**0.479**	**mg/Kg**	1	08-Nov-2016 19:48
Boron	**6.28**		**2.40**	**mg/Kg**	1	09-Nov-2016 14:34
Cadmium	ND		0.479	mg/Kg	1	08-Nov-2016 19:48
Chromium	**6.86**		**0.479**	**mg/Kg**	1	08-Nov-2016 19:48
Copper	**5.76**		**0.192**	**mg/Kg**	1	08-Nov-2016 19:48
Lead	**6.41**		**0.479**	**mg/Kg**	1	08-Nov-2016 19:48
Nickel	**7.21**		**0.479**	**mg/Kg**	1	08-Nov-2016 19:48
Selenium	ND		0.479	mg/Kg	1	08-Nov-2016 19:48
Silver	ND		0.479	mg/Kg	1	08-Nov-2016 19:48
Zinc	**19.8**		**0.479**	**mg/Kg**	1	08-Nov-2016 19:48
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**15.6**		**3.77**	**ug/Kg**	1	11-Nov-2016 14:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-1-0-1-102916
Collection Date: 29-Oct-2016 08:20

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-10
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**1.32**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.594**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.450**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.450**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**5.96**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		1.99	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**9.08**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.2**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-1-11-12-102916
Collection Date: 29-Oct-2016 08:40

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-11
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	03-Nov-2016 14:19
Ethylbenzene	ND		5.0	ug/Kg	1	03-Nov-2016 14:19
m,p-Xylene	ND		10	ug/Kg	1	03-Nov-2016 14:19
o-Xylene	ND		5.0	ug/Kg	1	03-Nov-2016 14:19
Toluene	ND		5.0	ug/Kg	1	03-Nov-2016 14:19
Xylenes, Total	ND		10	ug/Kg	1	03-Nov-2016 14:19
Surr: 1,2-Dichloroethane-d4	*103*		*70-128*	*%REC*	*1*	*03-Nov-2016 14:19*
Surr: 4-Bromofluorobenzene	*96.7*		*73-126*	*%REC*	*1*	*03-Nov-2016 14:19*
Surr: Dibromofluoromethane	*98.5*		*71-128*	*%REC*	*1*	*03-Nov-2016 14:19*
Surr: Toluene-d8	*93.7*		*73-127*	*%REC*	*1*	*03-Nov-2016 14:19*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 19:24
Surr: 4-Bromofluorobenzene	*87.5*		*70-130*	*%REC*	*1*	*03-Nov-2016 19:24*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**7.5**		**1.7**	**mg/Kg**	1	04-Nov-2016 22:55
Surr: 2-Fluorobiphenyl	*78.7*		*60-135*	*%REC*	*1*	*04-Nov-2016 22:55*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**6.71**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**51.8**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**869**		**5.00**	**mg/L**	10	17-Nov-2016 13:03
Magnesium	**341**		**5.00**	**mg/L**	10	17-Nov-2016 13:03
Sodium	**7,120**		**50.0**	**mg/L**	100	17-Nov-2016 16:33
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**4.49**		**0.483**	**mg/Kg**	1	08-Nov-2016 19:52
Barium	**312**		**4.83**	**mg/Kg**	10	09-Nov-2016 16:06
Boron	**12.4**		**2.42**	**mg/Kg**	1	09-Nov-2016 14:39
Cadmium	ND		0.483	mg/Kg	1	08-Nov-2016 19:52
Chromium	**6.71**		**0.483**	**mg/Kg**	1	08-Nov-2016 19:52
Copper	**5.37**		**0.193**	**mg/Kg**	1	08-Nov-2016 19:52
Lead	**6.64**		**0.483**	**mg/Kg**	1	08-Nov-2016 19:52
Nickel	**7.94**		**0.483**	**mg/Kg**	1	08-Nov-2016 19:52
Selenium	**0.586**		**0.483**	**mg/Kg**	1	08-Nov-2016 19:52
Silver	ND		0.483	mg/Kg	1	08-Nov-2016 19:52
Zinc	**34.2**		**0.483**	**mg/Kg**	1	08-Nov-2016 19:52
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**19.1**		**3.53**	**ug/Kg**	1	11-Nov-2016 14:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-1-11-12-102916
Collection Date: 29-Oct-2016 08:40

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-11
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**101**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**50.0**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.494**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.494**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**11.4**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		2.00	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.25**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.1**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-1-14-15-102916
Collection Date: 29-Oct-2016 08:50

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-12
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.8	ug/Kg	1	03-Nov-2016 14:47
Ethylbenzene	ND		4.8	ug/Kg	1	03-Nov-2016 14:47
m,p-Xylene	ND		9.7	ug/Kg	1	03-Nov-2016 14:47
o-Xylene	ND		4.8	ug/Kg	1	03-Nov-2016 14:47
Toluene	ND		4.8	ug/Kg	1	03-Nov-2016 14:47
Xylenes, Total	ND		9.7	ug/Kg	1	03-Nov-2016 14:47
Surr: 1,2-Dichloroethane-d4	*115*		*70-128*	*%REC*	*1*	*03-Nov-2016 14:47*
Surr: 4-Bromofluorobenzene	*92.7*		*73-126*	*%REC*	*1*	*03-Nov-2016 14:47*
Surr: Dibromofluoromethane	*106*		*71-128*	*%REC*	*1*	*03-Nov-2016 14:47*
Surr: Toluene-d8	*95.6*		*73-127*	*%REC*	*1*	*03-Nov-2016 14:47*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 19:39
Surr: 4-Bromofluorobenzene	*89.0*		*70-130*	*%REC*	*1*	*03-Nov-2016 19:39*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	04-Nov-2016 23:19
Surr: 2-Fluorobiphenyl	*68.1*		*60-135*	*%REC*	*1*	*04-Nov-2016 23:19*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	ND		5.00	mg/Kg	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**59.6**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**381**		**5.00**	**mg/L**	10	17-Nov-2016 13:06
Magnesium	**235**		**5.00**	**mg/L**	10	17-Nov-2016 13:06
Sodium	**6,000**		**50.0**	**mg/L**	100	17-Nov-2016 17:21
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**6.13**		**0.471**	**mg/Kg**	1	08-Nov-2016 19:57
Barium	**375**		**4.71**	**mg/Kg**	10	09-Nov-2016 16:10
Boron	**9.31**		**2.35**	**mg/Kg**	1	09-Nov-2016 14:59
Cadmium	ND		0.471	mg/Kg	1	08-Nov-2016 19:57
Chromium	**4.62**		**0.471**	**mg/Kg**	1	08-Nov-2016 19:57
Copper	**4.22**		**0.188**	**mg/Kg**	1	08-Nov-2016 19:57
Lead	**6.27**		**0.471**	**mg/Kg**	1	08-Nov-2016 19:57
Nickel	**6.58**		**0.471**	**mg/Kg**	1	08-Nov-2016 19:57
Selenium	ND		0.471	mg/Kg	1	08-Nov-2016 19:57
Silver	ND		0.471	mg/Kg	1	08-Nov-2016 19:57
Zinc	**23.6**		**0.471**	**mg/Kg**	1	08-Nov-2016 19:57
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**19.5**		**3.47**	**ug/Kg**	1	11-Nov-2016 14:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-1-14-15-102916
Collection Date: 29-Oct-2016 08:50

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-12
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**95.2**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**39.3**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.413**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.413**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**7.98**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		1.98	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.34**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.4**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-2-1-2-102916
Collection Date: 29-Oct-2016 09:15

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-13
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.9	ug/Kg	1	03-Nov-2016 15:14
Ethylbenzene	ND		4.9	ug/Kg	1	03-Nov-2016 15:14
m,p-Xylene	ND		9.8	ug/Kg	1	03-Nov-2016 15:14
o-Xylene	ND		4.9	ug/Kg	1	03-Nov-2016 15:14
Toluene	ND		4.9	ug/Kg	1	03-Nov-2016 15:14
Xylenes, Total	ND		9.8	ug/Kg	1	03-Nov-2016 15:14
Surr: 1,2-Dichloroethane-d4	*106*		*70-128*	*%REC*	*1*	*03-Nov-2016 15:14*
Surr: 4-Bromofluorobenzene	*95.0*		*73-126*	*%REC*	*1*	*03-Nov-2016 15:14*
Surr: Dibromofluoromethane	*109*		*71-128*	*%REC*	*1*	*03-Nov-2016 15:14*
Surr: Toluene-d8	*96.6*		*73-127*	*%REC*	*1*	*03-Nov-2016 15:14*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	03-Nov-2016 19:55
Surr: 4-Bromofluorobenzene	*87.1*		*70-130*	*%REC*	*1*	*03-Nov-2016 19:55*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	04-Nov-2016 23:44
Surr: 2-Fluorobiphenyl	*67.9*		*60-135*	*%REC*	*1*	*04-Nov-2016 23:44*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**6.19**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**0.507**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**56.9**		**5.00**	**mg/L**	10	17-Nov-2016 13:09
Magnesium	**13.6**		**5.00**	**mg/L**	10	17-Nov-2016 13:09
Sodium	**16.4**		**5.00**	**mg/L**	10	17-Nov-2016 13:09
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**2.13**		**0.479**	**mg/Kg**	1	08-Nov-2016 20:01
Barium	**146**		**0.479**	**mg/Kg**	1	08-Nov-2016 20:01
Boron	**5.29**		**2.40**	**mg/Kg**	1	09-Nov-2016 15:03
Cadmium	ND		0.479	mg/Kg	1	08-Nov-2016 20:01
Chromium	**6.19**		**0.479**	**mg/Kg**	1	08-Nov-2016 20:01
Copper	**4.81**		**0.192**	**mg/Kg**	1	08-Nov-2016 20:01
Lead	**5.58**		**0.479**	**mg/Kg**	1	08-Nov-2016 20:01
Nickel	**6.61**		**0.479**	**mg/Kg**	1	08-Nov-2016 20:01
Selenium	ND		0.479	mg/Kg	1	08-Nov-2016 20:01
Silver	ND		0.479	mg/Kg	1	08-Nov-2016 20:01
Zinc	**18.4**		**0.479**	**mg/Kg**	1	08-Nov-2016 20:01
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**14.3**		**3.42**	**ug/Kg**	1	11-Nov-2016 14:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-2-1-2-102916
Collection Date: 29-Oct-2016 09:15

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-13
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**0.928**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.447**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.482**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.482**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**7.41**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 10-Nov-2016		Analyst: KVL
Chromium, Hexavalent	ND		2.00	mg/kg	1	14-Nov-2016 14:50
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.67**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.4**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-2-12-13-102916
Collection Date: 29-Oct-2016 09:35

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-14
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.8	ug/Kg	1	03-Nov-2016 15:42
Ethylbenzene	ND		4.8	ug/Kg	1	03-Nov-2016 15:42
m,p-Xylene	ND		9.5	ug/Kg	1	03-Nov-2016 15:42
o-Xylene	ND		4.8	ug/Kg	1	03-Nov-2016 15:42
Toluene	ND		4.8	ug/Kg	1	03-Nov-2016 15:42
Xylenes, Total	ND		9.5	ug/Kg	1	03-Nov-2016 15:42
Surr: 1,2-Dichloroethane-d4	*112*		*70-128*	*%REC*	*1*	*03-Nov-2016 15:42*
Surr: 4-Bromofluorobenzene	*91.0*		*73-126*	*%REC*	*1*	*03-Nov-2016 15:42*
Surr: Dibromofluoromethane	*113*		*71-128*	*%REC*	*1*	*03-Nov-2016 15:42*
Surr: Toluene-d8	*93.6*		*73-127*	*%REC*	*1*	*03-Nov-2016 15:42*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 12:23
Surr: 4-Bromofluorobenzene	*79.1*		*70-130*	*%REC*	*1*	*04-Nov-2016 12:23*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**2.7**		**1.7**	**mg/Kg**	1	05-Nov-2016 00:08
Surr: 2-Fluorobiphenyl	*66.8*		*60-135*	*%REC*	*1*	*05-Nov-2016 00:08*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	ND		5.00	mg/Kg	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**2.78**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**216**		**5.00**	**mg/L**	10	17-Nov-2016 13:12
Magnesium	**124**		**5.00**	**mg/L**	10	17-Nov-2016 13:12
Sodium	**207**		**5.00**	**mg/L**	10	17-Nov-2016 13:12
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**7.67**		**0.465**	**mg/Kg**	1	08-Nov-2016 20:06
Barium	**898**		**4.65**	**mg/Kg**	10	09-Nov-2016 16:14
Boron	**11.5**		**2.32**	**mg/Kg**	1	09-Nov-2016 15:07
Cadmium	ND		0.465	mg/Kg	1	08-Nov-2016 20:06
Chromium	**4.06**		**0.465**	**mg/Kg**	1	08-Nov-2016 20:06
Copper	**3.81**		**0.186**	**mg/Kg**	1	08-Nov-2016 20:06
Lead	**2.82**		**0.465**	**mg/Kg**	1	08-Nov-2016 20:06
Nickel	**4.45**		**0.465**	**mg/Kg**	1	08-Nov-2016 20:06
Selenium	ND		0.465	mg/Kg	1	08-Nov-2016 20:06
Silver	ND		0.465	mg/Kg	1	08-Nov-2016 20:06
Zinc	**12.8**		**0.465**	**mg/Kg**	1	08-Nov-2016 20:06
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**7.22**		**3.43**	**ug/Kg**	1	11-Nov-2016 14:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-2-12-13-102916
Collection Date: 29-Oct-2016 09:35

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-14
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**7.29**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**3.89**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.533**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.533**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**16.9**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		2.00	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.37**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.4**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-2-15-16-102916
Collection Date: 29-Oct-2016 09:50

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-15
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.8	ug/Kg	1	03-Nov-2016 16:09
Ethylbenzene	ND		4.8	ug/Kg	1	03-Nov-2016 16:09
m,p-Xylene	ND		9.7	ug/Kg	1	03-Nov-2016 16:09
o-Xylene	ND		4.8	ug/Kg	1	03-Nov-2016 16:09
Toluene	ND		4.8	ug/Kg	1	03-Nov-2016 16:09
Xylenes, Total	ND		9.7	ug/Kg	1	03-Nov-2016 16:09
Surr: 1,2-Dichloroethane-d4	*111*		*70-128*	*%REC*	*1*	*03-Nov-2016 16:09*
Surr: 4-Bromofluorobenzene	*89.3*		*73-126*	*%REC*	*1*	*03-Nov-2016 16:09*
Surr: Dibromofluoromethane	*111*		*71-128*	*%REC*	*1*	*03-Nov-2016 16:09*
Surr: Toluene-d8	*92.2*		*73-127*	*%REC*	*1*	*03-Nov-2016 16:09*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 12:39
Surr: 4-Bromofluorobenzene	*82.5*		*70-130*	*%REC*	*1*	*04-Nov-2016 12:39*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**2.5**		**1.7**	**mg/Kg**	1	05-Nov-2016 00:32
Surr: 2-Fluorobiphenyl	*81.0*		*60-135*	*%REC*	*1*	*05-Nov-2016 00:32*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	ND		5.00	mg/Kg	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**2.67**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**42.1**		**5.00**	**mg/L**	10	17-Nov-2016 13:22
Magnesium	**49.9**		**5.00**	**mg/L**	10	17-Nov-2016 13:22
Sodium	**108**		**5.00**	**mg/L**	10	17-Nov-2016 13:22
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**7.00**		**0.470**	**mg/Kg**	1	08-Nov-2016 20:19
Barium	**47.2**		**0.470**	**mg/Kg**	1	08-Nov-2016 20:19
Boron	**8.35**		**2.35**	**mg/Kg**	1	09-Nov-2016 15:12
Cadmium	ND		0.470	mg/Kg	1	08-Nov-2016 20:19
Chromium	**4.14**		**0.470**	**mg/Kg**	1	08-Nov-2016 20:19
Copper	**6.59**		**0.188**	**mg/Kg**	1	08-Nov-2016 20:19
Lead	**7.67**		**0.470**	**mg/Kg**	1	08-Nov-2016 20:19
Nickel	**7.75**		**0.470**	**mg/Kg**	1	08-Nov-2016 20:19
Selenium	**0.507**		**0.470**	**mg/Kg**	1	08-Nov-2016 20:19
Silver	ND		0.470	mg/Kg	1	08-Nov-2016 20:19
Zinc	**43.3**		**0.470**	**mg/Kg**	1	08-Nov-2016 20:19
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**17.7**		**3.50**	**ug/Kg**	1	11-Nov-2016 14:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-2-15-16-102916
Collection Date: 29-Oct-2016 09:50

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-15
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**2.85**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**1.36**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.478**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.478**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**7.89**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		1.99	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.74**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.4**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-3-1-2-102916
Collection Date: 29-Oct-2016 10:25

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-16
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	03-Nov-2016 16:36
Ethylbenzene	ND		5.0	ug/Kg	1	03-Nov-2016 16:36
m,p-Xylene	ND		10	ug/Kg	1	03-Nov-2016 16:36
o-Xylene	ND		5.0	ug/Kg	1	03-Nov-2016 16:36
Toluene	ND		5.0	ug/Kg	1	03-Nov-2016 16:36
Xylenes, Total	ND		10	ug/Kg	1	03-Nov-2016 16:36
Surr: 1,2-Dichloroethane-d4	*102*		*70-128*	*%REC*	*1*	*03-Nov-2016 16:36*
Surr: 4-Bromofluorobenzene	*91.0*		*73-126*	*%REC*	*1*	*03-Nov-2016 16:36*
Surr: Dibromofluoromethane	*99.3*		*71-128*	*%REC*	*1*	*03-Nov-2016 16:36*
Surr: Toluene-d8	*89.7*		*73-127*	*%REC*	*1*	*03-Nov-2016 16:36*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 12:54
Surr: 4-Bromofluorobenzene	*79.6*		*70-130*	*%REC*	*1*	*04-Nov-2016 12:54*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**2.6**		**1.7**	**mg/Kg**	1	05-Nov-2016 01:46
Surr: 2-Fluorobiphenyl	*62.2*		*60-135*	*%REC*	*1*	*05-Nov-2016 01:46*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**6.37**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**0.403**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**42.8**		**5.00**	**mg/L**	10	17-Nov-2016 13:25
Magnesium	**10.9**		**5.00**	**mg/L**	10	17-Nov-2016 13:25
Sodium	**11.4**		**5.00**	**mg/L**	10	17-Nov-2016 13:25
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**2.35**		**0.461**	**mg/Kg**	1	08-Nov-2016 20:23
Barium	**148**		**0.461**	**mg/Kg**	1	08-Nov-2016 20:23
Boron	**5.40**		**2.30**	**mg/Kg**	1	09-Nov-2016 15:16
Cadmium	ND		0.461	mg/Kg	1	08-Nov-2016 20:23
Chromium	**6.37**		**0.461**	**mg/Kg**	1	08-Nov-2016 20:23
Copper	**4.66**		**0.184**	**mg/Kg**	1	08-Nov-2016 20:23
Lead	**5.34**		**0.461**	**mg/Kg**	1	08-Nov-2016 20:23
Nickel	**7.03**		**0.461**	**mg/Kg**	1	08-Nov-2016 20:23
Selenium	ND		0.461	mg/Kg	1	08-Nov-2016 20:23
Silver	ND		0.461	mg/Kg	1	08-Nov-2016 20:23
Zinc	**18.0**		**0.461**	**mg/Kg**	1	08-Nov-2016 20:23
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**19.4**		**3.43**	**ug/Kg**	1	11-Nov-2016 14:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-3-1-2-102916
Collection Date: 29-Oct-2016 10:25

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-16
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**0.709**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.337**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.475**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.475**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**8.15**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		2.00	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.66**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.3**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-3-7-8-102916
Collection Date: 29-Oct-2016 10:40

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-17
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	03-Nov-2016 17:03
Ethylbenzene	ND		5.0	ug/Kg	1	03-Nov-2016 17:03
m,p-Xylene	ND		9.9	ug/Kg	1	03-Nov-2016 17:03
o-Xylene	ND		5.0	ug/Kg	1	03-Nov-2016 17:03
Toluene	ND		5.0	ug/Kg	1	03-Nov-2016 17:03
Xylenes, Total	ND		9.9	ug/Kg	1	03-Nov-2016 17:03
Surr: 1,2-Dichloroethane-d4	*104*		*70-128*	*%REC*	*1*	*03-Nov-2016 17:03*
Surr: 4-Bromofluorobenzene	*87.5*		*73-126*	*%REC*	*1*	*03-Nov-2016 17:03*
Surr: Dibromofluoromethane	*105*		*71-128*	*%REC*	*1*	*03-Nov-2016 17:03*
Surr: Toluene-d8	*95.1*		*73-127*	*%REC*	*1*	*03-Nov-2016 17:03*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 13:10
Surr: 4-Bromofluorobenzene	*82.4*		*70-130*	*%REC*	*1*	*04-Nov-2016 13:10*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**2.9**		**1.7**	**mg/Kg**	1	05-Nov-2016 02:58
Surr: 2-Fluorobiphenyl	*71.2*		*60-135*	*%REC*	*1*	*05-Nov-2016 02:58*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**7.18**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**5.86**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**154**		**5.00**	**mg/L**	10	17-Nov-2016 13:27
Magnesium	**60.3**		**5.00**	**mg/L**	10	17-Nov-2016 13:27
Sodium	**339**		**5.00**	**mg/L**	10	17-Nov-2016 13:27
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**4.45**		**0.484**	**mg/Kg**	1	08-Nov-2016 20:28
Barium	**275**		**4.84**	**mg/Kg**	10	09-Nov-2016 16:35
Boron	**10.3**		**2.42**	**mg/Kg**	1	09-Nov-2016 15:21
Cadmium	ND		0.484	mg/Kg	1	08-Nov-2016 20:28
Chromium	**7.18**		**0.484**	**mg/Kg**	1	08-Nov-2016 20:28
Copper	**5.93**		**0.194**	**mg/Kg**	1	08-Nov-2016 20:28
Lead	**7.24**		**0.484**	**mg/Kg**	1	08-Nov-2016 20:28
Nickel	**8.16**		**0.484**	**mg/Kg**	1	08-Nov-2016 20:28
Selenium	**0.556**		**0.484**	**mg/Kg**	1	08-Nov-2016 20:28
Silver	ND		0.484	mg/Kg	1	08-Nov-2016 20:28
Zinc	**27.9**		**0.484**	**mg/Kg**	1	08-Nov-2016 20:28
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**18.5**		**3.48**	**ug/Kg**	1	11-Nov-2016 15:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-3-7-8-102916
Collection Date: 29-Oct-2016 10:40

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-17
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**7.14**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**3.55**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.497**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.497**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**9.74**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		2.00	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.42**	H	**0.100**	**pH Units**	1	15-Nov-2016 14:15
Temp Deg C @pH	**22.3**	H	**0**	**°C**	1	15-Nov-2016 14:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: TRIP BLANK 100716-85
Collection Date: 29-Oct-2016 00:00

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-18
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		1.0	ug/L	1	03-Nov-2016 21:10
Ethylbenzene	ND		1.0	ug/L	1	03-Nov-2016 21:10
m,p-Xylene	ND		2.0	ug/L	1	03-Nov-2016 21:10
o-Xylene	ND		1.0	ug/L	1	03-Nov-2016 21:10
Toluene	ND		1.0	ug/L	1	03-Nov-2016 21:10
Xylenes, Total	ND		3.0	ug/L	1	03-Nov-2016 21:10
Surr: 1,2-Dichloroethane-d4	*90.8*		*71-125*	*%REC*	*1*	*03-Nov-2016 21:10*
Surr: 4-Bromofluorobenzene	*95.4*		*70-125*	*%REC*	*1*	*03-Nov-2016 21:10*
Surr: Dibromofluoromethane	*94.1*		*74-125*	*%REC*	*1*	*03-Nov-2016 21:10*
Surr: Toluene-d8	*102*		*75-125*	*%REC*	*1*	*03-Nov-2016 21:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-3-15-16-102916
Collection Date: 29-Oct-2016 10:55

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-19
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.9	ug/Kg	1	03-Nov-2016 17:31
Ethylbenzene	ND		4.9	ug/Kg	1	03-Nov-2016 17:31
m,p-Xylene	ND		9.8	ug/Kg	1	03-Nov-2016 17:31
o-Xylene	ND		4.9	ug/Kg	1	03-Nov-2016 17:31
Toluene	ND		4.9	ug/Kg	1	03-Nov-2016 17:31
Xylenes, Total	ND		9.8	ug/Kg	1	03-Nov-2016 17:31
Surr: 1,2-Dichloroethane-d4	*105*		*70-128*	*%REC*	*1*	*03-Nov-2016 17:31*
Surr: 4-Bromofluorobenzene	*93.9*		*73-126*	*%REC*	*1*	*03-Nov-2016 17:31*
Surr: Dibromofluoromethane	*104*		*71-128*	*%REC*	*1*	*03-Nov-2016 17:31*
Surr: Toluene-d8	*93.5*		*73-127*	*%REC*	*1*	*03-Nov-2016 17:31*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 13:43
Surr: 4-Bromofluorobenzene	*81.8*		*70-130*	*%REC*	*1*	*04-Nov-2016 13:43*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**4.0**		**1.7**	**mg/Kg**	1	05-Nov-2016 03:23
Surr: 2-Fluorobiphenyl	*60.3*		*60-135*	*%REC*	*1*	*05-Nov-2016 03:23*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**5.94**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**3.53**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**55.1**		**5.00**	**mg/L**	10	17-Nov-2016 13:30
Magnesium	**53.1**		**5.00**	**mg/L**	10	17-Nov-2016 13:30
Sodium	**153**		**5.00**	**mg/L**	10	17-Nov-2016 13:30
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**4.80**		**0.480**	**mg/Kg**	1	08-Nov-2016 20:32
Barium	**23.3**		**0.480**	**mg/Kg**	1	08-Nov-2016 20:32
Boron	**10.2**		**2.40**	**mg/Kg**	1	09-Nov-2016 15:25
Cadmium	ND		0.480	mg/Kg	1	08-Nov-2016 20:32
Chromium	**5.94**		**0.480**	**mg/Kg**	1	08-Nov-2016 20:32
Copper	**9.26**		**0.192**	**mg/Kg**	1	08-Nov-2016 20:32
Lead	**10.7**		**0.480**	**mg/Kg**	1	08-Nov-2016 20:32
Nickel	**11.4**		**0.480**	**mg/Kg**	1	08-Nov-2016 20:32
Selenium	ND		0.480	mg/Kg	1	08-Nov-2016 20:32
Silver	ND		0.480	mg/Kg	1	08-Nov-2016 20:32
Zinc	**61.9**		**0.480**	**mg/Kg**	1	08-Nov-2016 20:32
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**38.6**		**3.47**	**ug/Kg**	1	11-Nov-2016 15:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-3-15-16-102916
Collection Date: 29-Oct-2016 10:55

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-19
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**3.76**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**1.73**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.461**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.461**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**12.4**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		1.99	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.73**	H	**0.100**	**pH Units**	1	16-Nov-2016 15:15
Temp Deg C @pH	**22.3**	H	**0**	**°C**	1	16-Nov-2016 15:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-4-1-2-102916
Collection Date: 29-Oct-2016 11:35

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-20
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		4.9	ug/Kg	1	03-Nov-2016 17:58
Ethylbenzene	ND		4.9	ug/Kg	1	03-Nov-2016 17:58
m,p-Xylene	ND		9.8	ug/Kg	1	03-Nov-2016 17:58
o-Xylene	ND		4.9	ug/Kg	1	03-Nov-2016 17:58
Toluene	ND		4.9	ug/Kg	1	03-Nov-2016 17:58
Xylenes, Total	ND		9.8	ug/Kg	1	03-Nov-2016 17:58
Surr: 1,2-Dichloroethane-d4	*119*		*70-128*	*%REC*	*1*	*03-Nov-2016 17:58*
Surr: 4-Bromofluorobenzene	*95.9*		*73-126*	*%REC*	*1*	*03-Nov-2016 17:58*
Surr: Dibromofluoromethane	*109*		*71-128*	*%REC*	*1*	*03-Nov-2016 17:58*
Surr: Toluene-d8	*94.4*		*73-127*	*%REC*	*1*	*03-Nov-2016 17:58*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 13:58
Surr: 4-Bromofluorobenzene	*83.7*		*70-130*	*%REC*	*1*	*04-Nov-2016 13:58*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**2.0**		**1.7**	**mg/Kg**	1	05-Nov-2016 03:47
Surr: 2-Fluorobiphenyl	*80.1*		*60-135*	*%REC*	*1*	*05-Nov-2016 03:47*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**5.49**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**0.236**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**46.4**		**5.00**	**mg/L**	10	17-Nov-2016 13:33
Magnesium	**10.7**		**5.00**	**mg/L**	10	17-Nov-2016 13:33
Sodium	**6.87**		**5.00**	**mg/L**	10	17-Nov-2016 13:33
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**1.94**		**0.466**	**mg/Kg**	1	08-Nov-2016 22:11
Barium	**124**		**0.466**	**mg/Kg**	1	08-Nov-2016 22:11
Boron	**3.68**		**2.33**	**mg/Kg**	1	08-Nov-2016 22:11
Cadmium	ND		0.466	mg/Kg	1	08-Nov-2016 22:11
Chromium	**5.49**		**0.466**	**mg/Kg**	1	08-Nov-2016 22:11
Copper	**3.96**		**0.186**	**mg/Kg**	1	08-Nov-2016 22:11
Lead	**4.41**		**0.466**	**mg/Kg**	1	08-Nov-2016 22:11
Nickel	**5.99**		**0.466**	**mg/Kg**	1	08-Nov-2016 22:11
Selenium	ND		0.466	mg/Kg	1	08-Nov-2016 22:11
Silver	ND		0.466	mg/Kg	1	08-Nov-2016 22:11
Zinc	**15.3**		**0.466**	**mg/Kg**	1	08-Nov-2016 22:11
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**17.7**		**3.43**	**ug/Kg**	1	11-Nov-2016 15:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-4-1-2-102916
Collection Date: 29-Oct-2016 11:35

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-20
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**0.552**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.272**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.492**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.492**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**7.49**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		1.99	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.65**	H	**0.100**	**pH Units**	1	16-Nov-2016 15:15
Temp Deg C @pH	**22.1**	H	**0**	**°C**	1	16-Nov-2016 15:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-4-10-11-102916
Collection Date: 29-Oct-2016 11:50

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-21
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	04-Nov-2016 08:55
Ethylbenzene	ND		5.0	ug/Kg	1	04-Nov-2016 08:55
m,p-Xylene	ND		9.9	ug/Kg	1	04-Nov-2016 08:55
o-Xylene	ND		5.0	ug/Kg	1	04-Nov-2016 08:55
Toluene	ND		5.0	ug/Kg	1	04-Nov-2016 08:55
Xylenes, Total	ND		9.9	ug/Kg	1	04-Nov-2016 08:55
Surr: 1,2-Dichloroethane-d4	*110*		*70-128*	*%REC*	*1*	*04-Nov-2016 08:55*
Surr: 4-Bromofluorobenzene	*93.5*		*73-126*	*%REC*	*1*	*04-Nov-2016 08:55*
Surr: Dibromofluoromethane	*110*		*71-128*	*%REC*	*1*	*04-Nov-2016 08:55*
Surr: Toluene-d8	*91.7*		*73-127*	*%REC*	*1*	*04-Nov-2016 08:55*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 14:14
Surr: 4-Bromofluorobenzene	*92.2*		*70-130*	*%REC*	*1*	*04-Nov-2016 14:14*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**2.0**		**1.7**	**mg/Kg**	1	05-Nov-2016 04:11
Surr: 2-Fluorobiphenyl	*68.1*		*60-135*	*%REC*	*1*	*05-Nov-2016 04:11*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**6.41**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**1.80**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**37.6**		**5.00**	**mg/L**	10	17-Nov-2016 13:39
Magnesium	**13.8**		**5.00**	**mg/L**	10	17-Nov-2016 13:39
Sodium	**50.8**		**5.00**	**mg/L**	10	17-Nov-2016 13:39
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**5.29**		**0.469**	**mg/Kg**	1	10-Nov-2016 19:44
Barium	**308**		**2.35**	**mg/Kg**	5	11-Nov-2016 13:18
Boron	**13.4**		**2.35**	**mg/Kg**	1	10-Nov-2016 19:44
Cadmium	ND		0.469	mg/Kg	1	10-Nov-2016 19:44
Chromium	**6.41**		**0.469**	**mg/Kg**	1	10-Nov-2016 19:44
Copper	**5.50**		**0.188**	**mg/Kg**	1	10-Nov-2016 19:44
Lead	**6.39**		**0.469**	**mg/Kg**	1	10-Nov-2016 19:44
Nickel	**7.59**		**0.469**	**mg/Kg**	1	10-Nov-2016 19:44
Selenium	ND		0.469	mg/Kg	1	10-Nov-2016 19:44
Silver	ND		0.469	mg/Kg	1	10-Nov-2016 19:44
Zinc	**24.6**		**0.469**	**mg/Kg**	1	10-Nov-2016 19:44
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**13.8**		**3.56**	**ug/Kg**	1	11-Nov-2016 15:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-4-10-11-102916
Collection Date: 29-Oct-2016 11:50

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-21
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**1.16**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.621**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.534**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.534**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**8.01**		**0.0100**	**wt%**	1	08-Nov-2016 09:56
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		1.99	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.62**	H	**0.100**	**pH Units**	1	16-Nov-2016 15:15
Temp Deg C @pH	**22.2**	H	**0**	**°C**	1	16-Nov-2016 15:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-4-15-16-102916
Collection Date: 29-Oct-2016 12:00

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-22
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	03-Nov-2016 18:53
Ethylbenzene	ND		5.0	ug/Kg	1	03-Nov-2016 18:53
m,p-Xylene	ND		10	ug/Kg	1	03-Nov-2016 18:53
o-Xylene	ND		5.0	ug/Kg	1	03-Nov-2016 18:53
Toluene	ND		5.0	ug/Kg	1	03-Nov-2016 18:53
Xylenes, Total	ND		10	ug/Kg	1	03-Nov-2016 18:53
Surr: 1,2-Dichloroethane-d4	*106*		*70-128*	*%REC*	*1*	*03-Nov-2016 18:53*
Surr: 4-Bromofluorobenzene	*93.9*		*73-126*	*%REC*	*1*	*03-Nov-2016 18:53*
Surr: Dibromofluoromethane	*106*		*71-128*	*%REC*	*1*	*03-Nov-2016 18:53*
Surr: Toluene-d8	*95.4*		*73-127*	*%REC*	*1*	*03-Nov-2016 18:53*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 14:30
Surr: 4-Bromofluorobenzene	*85.0*		*70-130*	*%REC*	*1*	*04-Nov-2016 14:30*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**3.3**		**1.7**	**mg/Kg**	1	05-Nov-2016 04:36
Surr: 2-Fluorobiphenyl	*62.2*		*60-135*	*%REC*	*1*	*05-Nov-2016 04:36*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	ND		5.00	mg/Kg	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**2.78**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**13.3**		**5.00**	**mg/L**	10	17-Nov-2016 13:42
Magnesium	**15.1**		**5.00**	**mg/L**	10	17-Nov-2016 13:42
Sodium	**62.4**		**5.00**	**mg/L**	10	17-Nov-2016 13:42
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**4.64**		**0.472**	**mg/Kg**	1	10-Nov-2016 20:06
Barium	**92.7**		**0.472**	**mg/Kg**	1	10-Nov-2016 20:06
Boron	**13.5**		**2.36**	**mg/Kg**	1	10-Nov-2016 20:06
Cadmium	ND		0.472	mg/Kg	1	10-Nov-2016 20:06
Chromium	**4.97**		**0.472**	**mg/Kg**	1	10-Nov-2016 20:06
Copper	**7.59**		**0.189**	**mg/Kg**	1	10-Nov-2016 20:06
Lead	**9.89**		**0.472**	**mg/Kg**	1	10-Nov-2016 20:06
Nickel	**8.60**		**0.472**	**mg/Kg**	1	10-Nov-2016 20:06
Selenium	ND		0.472	mg/Kg	1	10-Nov-2016 20:06
Silver	ND		0.472	mg/Kg	1	10-Nov-2016 20:06
Zinc	**43.7**		**0.472**	**mg/Kg**	1	10-Nov-2016 20:06
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**17.7**		**3.47**	**ug/Kg**	1	11-Nov-2016 15:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-4-15-16-102916
Collection Date: 29-Oct-2016 12:00

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-22
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**0.980**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.485**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.495**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.495**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:05
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**7.18**		**0.0100**	**wt%**	1	08-Nov-2016 10:03
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		2.00	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**9.30**	H	**0.100**	**pH Units**	1	16-Nov-2016 15:15
Temp Deg C @pH	**22.2**	H	**0**	**°C**	1	16-Nov-2016 15:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-5-2-3-103116
Collection Date: 31-Oct-2016 14:25

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-23
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	04-Nov-2016 09:22
Ethylbenzene	ND		5.0	ug/Kg	1	04-Nov-2016 09:22
m,p-Xylene	ND		10	ug/Kg	1	04-Nov-2016 09:22
o-Xylene	ND		5.0	ug/Kg	1	04-Nov-2016 09:22
Toluene	ND		5.0	ug/Kg	1	04-Nov-2016 09:22
Xylenes, Total	ND		10	ug/Kg	1	04-Nov-2016 09:22
Surr: 1,2-Dichloroethane-d4	*112*		*70-128*	*%REC*	*1*	*04-Nov-2016 09:22*
Surr: 4-Bromofluorobenzene	*91.2*		*73-126*	*%REC*	*1*	*04-Nov-2016 09:22*
Surr: Dibromofluoromethane	*104*		*71-128*	*%REC*	*1*	*04-Nov-2016 09:22*
Surr: Toluene-d8	*91.8*		*73-127*	*%REC*	*1*	*04-Nov-2016 09:22*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 14:46
Surr: 4-Bromofluorobenzene	*79.3*		*70-130*	*%REC*	*1*	*04-Nov-2016 14:46*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**1.7**		**1.7**	**mg/Kg**	1	05-Nov-2016 05:00
Surr: 2-Fluorobiphenyl	*70.1*		*60-135*	*%REC*	*1*	*05-Nov-2016 05:00*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**6.24**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**1.87**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**44.6**		**5.00**	**mg/L**	10	17-Nov-2016 16:13
Magnesium	**11.4**		**5.00**	**mg/L**	10	17-Nov-2016 16:13
Sodium	**54.2**		**5.00**	**mg/L**	10	17-Nov-2016 16:13
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**3.25**		**0.482**	**mg/Kg**	1	10-Nov-2016 20:11
Barium	**279**		**2.41**	**mg/Kg**	5	11-Nov-2016 14:01
Boron	**8.45**		**2.41**	**mg/Kg**	1	10-Nov-2016 20:11
Cadmium	ND		0.482	mg/Kg	1	10-Nov-2016 20:11
Chromium	**6.24**		**0.482**	**mg/Kg**	1	10-Nov-2016 20:11
Copper	**5.18**		**0.193**	**mg/Kg**	1	10-Nov-2016 20:11
Lead	**6.19**		**0.482**	**mg/Kg**	1	10-Nov-2016 20:11
Nickel	**6.99**		**0.482**	**mg/Kg**	1	10-Nov-2016 20:11
Selenium	ND		0.482	mg/Kg	1	10-Nov-2016 20:11
Silver	ND		0.482	mg/Kg	1	10-Nov-2016 20:11
Zinc	**21.4**		**0.482**	**mg/Kg**	1	10-Nov-2016 20:11
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**14.6**		**3.37**	**ug/Kg**	1	11-Nov-2016 15:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-5-2-3-103116
Collection Date: 31-Oct-2016 14:25

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-23
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**1.24**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.608**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.488**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.488**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:15
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**8.06**		**0.0100**	**wt%**	1	08-Nov-2016 10:03
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		1.99	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.56**	H	**0.100**	**pH Units**	1	16-Nov-2016 15:15
Temp Deg C @pH	**22.2**	H	**0**	**°C**	1	16-Nov-2016 15:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-5-5-6-103116
Collection Date: 31-Oct-2016 14:35

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-24
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	04-Nov-2016 09:49
Ethylbenzene	ND		5.0	ug/Kg	1	04-Nov-2016 09:49
m,p-Xylene	ND		10	ug/Kg	1	04-Nov-2016 09:49
o-Xylene	ND		5.0	ug/Kg	1	04-Nov-2016 09:49
Toluene	ND		5.0	ug/Kg	1	04-Nov-2016 09:49
Xylenes, Total	ND		10	ug/Kg	1	04-Nov-2016 09:49
Surr: 1,2-Dichloroethane-d4	*107*		*70-128*	*%REC*	*1*	*04-Nov-2016 09:49*
Surr: 4-Bromofluorobenzene	*91.3*		*73-126*	*%REC*	*1*	*04-Nov-2016 09:49*
Surr: Dibromofluoromethane	*112*		*71-128*	*%REC*	*1*	*04-Nov-2016 09:49*
Surr: Toluene-d8	*90.3*		*73-127*	*%REC*	*1*	*04-Nov-2016 09:49*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 11:35
Surr: 4-Bromofluorobenzene	*73.4*		*70-130*	*%REC*	*1*	*04-Nov-2016 11:35*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	05-Nov-2016 05:24
Surr: 2-Fluorobiphenyl	*70.6*		*60-135*	*%REC*	*1*	*05-Nov-2016 05:24*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**5.88**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**3.13**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**269**		**5.00**	**mg/L**	10	17-Nov-2016 16:16
Magnesium	**128**		**5.00**	**mg/L**	10	17-Nov-2016 16:16
Sodium	**249**		**5.00**	**mg/L**	10	17-Nov-2016 16:16
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**3.49**		**0.471**	**mg/Kg**	1	10-Nov-2016 20:24
Barium	**228**		**2.35**	**mg/Kg**	5	11-Nov-2016 14:05
Boron	**8.19**		**2.35**	**mg/Kg**	1	10-Nov-2016 20:24
Cadmium	ND		0.471	mg/Kg	1	10-Nov-2016 20:24
Chromium	**5.88**		**0.471**	**mg/Kg**	1	10-Nov-2016 20:24
Copper	**4.94**		**0.188**	**mg/Kg**	1	10-Nov-2016 20:24
Lead	**5.43**		**0.471**	**mg/Kg**	1	10-Nov-2016 20:24
Nickel	**7.36**		**0.471**	**mg/Kg**	1	10-Nov-2016 20:24
Selenium	ND		0.471	mg/Kg	1	10-Nov-2016 20:24
Silver	ND		0.471	mg/Kg	1	10-Nov-2016 20:24
Zinc	**20.2**		**0.471**	**mg/Kg**	1	10-Nov-2016 20:24
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**13.8**		**3.48**	**ug/Kg**	1	11-Nov-2016 15:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-5-5-6-103116
Collection Date: 31-Oct-2016 14:35

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-24
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**8.85**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**4.59**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.519**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.519**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:15
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**11.0**		**0.0100**	**wt%**	1	08-Nov-2016 10:03
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		1.99	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.10**	H	**0.100**	**pH Units**	1	16-Nov-2016 15:15
Temp Deg C @pH	**22.2**	H	**0**	**°C**	1	16-Nov-2016 15:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-5-15-16-103116
Collection Date: 31-Oct-2016 15:00

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-25
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	04-Nov-2016 10:16
Ethylbenzene	ND		5.0	ug/Kg	1	04-Nov-2016 10:16
m,p-Xylene	ND		9.9	ug/Kg	1	04-Nov-2016 10:16
o-Xylene	ND		5.0	ug/Kg	1	04-Nov-2016 10:16
Toluene	ND		5.0	ug/Kg	1	04-Nov-2016 10:16
Xylenes, Total	ND		9.9	ug/Kg	1	04-Nov-2016 10:16
Surr: 1,2-Dichloroethane-d4	*114*		*70-128*	*%REC*	*1*	*04-Nov-2016 10:16*
Surr: 4-Bromofluorobenzene	*87.1*		*73-126*	*%REC*	*1*	*04-Nov-2016 10:16*
Surr: Dibromofluoromethane	*105*		*71-128*	*%REC*	*1*	*04-Nov-2016 10:16*
Surr: Toluene-d8	*95.4*		*73-127*	*%REC*	*1*	*04-Nov-2016 10:16*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 15:02
Surr: 4-Bromofluorobenzene	*78.6*		*70-130*	*%REC*	*1*	*04-Nov-2016 15:02*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**2.6**		**1.7**	**mg/Kg**	1	05-Nov-2016 05:49
Surr: 2-Fluorobiphenyl	*66.2*		*60-135*	*%REC*	*1*	*05-Nov-2016 05:49*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	ND		5.00	mg/Kg	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**2.95**		**0.00999**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**17.1**		**5.00**	**mg/L**	10	17-Nov-2016 16:19
Magnesium	**9.26**		**5.00**	**mg/L**	10	17-Nov-2016 16:19
Sodium	**61.0**		**5.00**	**mg/L**	10	17-Nov-2016 16:19
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**4.16**		**0.486**	**mg/Kg**	1	10-Nov-2016 20:28
Barium	**48.2**		**0.486**	**mg/Kg**	1	10-Nov-2016 20:28
Boron	**6.28**		**2.43**	**mg/Kg**	1	10-Nov-2016 20:28
Cadmium	ND		0.486	mg/Kg	1	10-Nov-2016 20:28
Chromium	**4.92**		**0.486**	**mg/Kg**	1	10-Nov-2016 20:28
Copper	**8.94**		**0.194**	**mg/Kg**	1	10-Nov-2016 20:28
Lead	**12.1**		**0.486**	**mg/Kg**	1	10-Nov-2016 20:28
Nickel	**11.5**		**0.486**	**mg/Kg**	1	10-Nov-2016 20:28
Selenium	**0.494**		**0.486**	**mg/Kg**	1	10-Nov-2016 20:28
Silver	ND		0.486	mg/Kg	1	10-Nov-2016 20:28
Zinc	**50.1**		**0.486**	**mg/Kg**	1	10-Nov-2016 20:28
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**18.2**		**3.43**	**ug/Kg**	1	11-Nov-2016 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-5-15-16-103116
Collection Date: 31-Oct-2016 15:00

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-25
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**1.30**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**0.490**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.377**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.377**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:15
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**8.47**		**0.0100**	**wt%**	1	08-Nov-2016 10:03
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		2.00	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.95**	H	**0.100**	**pH Units**	1	16-Nov-2016 15:15
Temp Deg C @pH	**22.2**	H	**0**	**°C**	1	16-Nov-2016 15:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-6-2-3-103116
Collection Date: 31-Oct-2016 11:45

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-26
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		**Method:SW8260**				Analyst: WLR
Benzene	ND		5.0	ug/Kg	1	04-Nov-2016 10:43
Ethylbenzene	ND		5.0	ug/Kg	1	04-Nov-2016 10:43
m,p-Xylene	ND		9.9	ug/Kg	1	04-Nov-2016 10:43
o-Xylene	ND		5.0	ug/Kg	1	04-Nov-2016 10:43
Toluene	ND		5.0	ug/Kg	1	04-Nov-2016 10:43
Xylenes, Total	ND		9.9	ug/Kg	1	04-Nov-2016 10:43
Surr: 1,2-Dichloroethane-d4	*114*		*70-128*	*%REC*	*1*	*04-Nov-2016 10:43*
Surr: 4-Bromofluorobenzene	*90.9*		*73-126*	*%REC*	*1*	*04-Nov-2016 10:43*
Surr: Dibromofluoromethane	*108*		*71-128*	*%REC*	*1*	*04-Nov-2016 10:43*
Surr: Toluene-d8	*94.4*		*73-127*	*%REC*	*1*	*04-Nov-2016 10:43*
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: SFE
Gasoline Range Organics	ND		0.050	mg/Kg	1	04-Nov-2016 15:18
Surr: 4-Bromofluorobenzene	*88.4*		*70-130*	*%REC*	*1*	*04-Nov-2016 15:18*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3541 / 04-Nov-2016		Analyst: AAP
TPH (Diesel Range)	**3.4**		**1.7**	**mg/Kg**	1	05-Nov-2016 06:13
Surr: 2-Fluorobiphenyl	*67.7*		*60-135*	*%REC*	*1*	*05-Nov-2016 06:13*
TRIVALENT CHROMIUM		**Method:Calculation**				Analyst: DQ
Chromium, Trivalent	**6.85**		**5.00**	**mg/Kg**	1	16-Nov-2016 18:07
LA29B SODIUM ADSORPTION RATIO		**Method:La29B SAR**		Prep:La29B-6020 / 16-Nov-2016		Analyst: DQ
Sodium Adsorption Ratio	**3.41**		**0.0100**	**meq/meq**	1	18-Nov-2016 14:25
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		**Method:La29B-6020**		Prep:La29B-6020 / 16-Nov-2016		Analyst: RPM
Calcium	**186**		**5.00**	**mg/L**	10	17-Nov-2016 16:22
Magnesium	**52.9**		**5.00**	**mg/L**	10	17-Nov-2016 16:22
Sodium	**205**		**5.00**	**mg/L**	10	17-Nov-2016 16:22
METALS BY SW6020A		**Method:SW6020**		Prep:SW3050A / 08-Nov-2016		Analyst: JCJ
Arsenic	**3.92**		**0.465**	**mg/Kg**	1	10-Nov-2016 20:33
Barium	**218**		**2.33**	**mg/Kg**	5	11-Nov-2016 14:09
Boron	**8.41**		**2.33**	**mg/Kg**	1	10-Nov-2016 20:33
Cadmium	ND		0.465	mg/Kg	1	10-Nov-2016 20:33
Chromium	**6.85**		**0.465**	**mg/Kg**	1	10-Nov-2016 20:33
Copper	**5.75**		**0.186**	**mg/Kg**	1	10-Nov-2016 20:33
Lead	**6.26**		**0.465**	**mg/Kg**	1	10-Nov-2016 20:33
Nickel	**7.82**		**0.465**	**mg/Kg**	1	10-Nov-2016 20:33
Selenium	ND		0.465	mg/Kg	1	10-Nov-2016 20:33
Silver	ND		0.465	mg/Kg	1	10-Nov-2016 20:33
Zinc	**22.9**		**0.465**	**mg/Kg**	1	10-Nov-2016 20:33
MERCURY BY SW7471B		**Method:SW7471A**		Prep:SW7471A / 11-Nov-2016		Analyst: OFO
Mercury	**18.6**		**3.38**	**ug/Kg**	1	11-Nov-2016 15:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: YF-3-6-2-3-103116
Collection Date: 31-Oct-2016 11:45

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-26
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LA29B ELECTRICAL CONDUCTIVITY	**Method:LaDNR-29B EC**					Analyst: DQ
Electrical Conductivity @ saturation	**6.41**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Electrical Conductivity, 1:1 aqueous	**2.99**		**0.0100**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
Saturation % as decimal	**0.467**		**0**	**mmhos/cm @25°C**	1	18-Nov-2016 14:33
LA29B SATURATION POINT (AS FRACTION)	**Method:LaDNR-29B SP**					Analyst: KAH
Saturation Point	**0.467**		**0.100**	**SP as fraction**	1	17-Nov-2016 11:15
MOISTURE	**Method:SW3550**					Analyst: DFF
Percent Moisture	**8.61**		**0.0100**	**wt%**	1	08-Nov-2016 10:03
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**			Prep:SW3060A / 14-Nov-2016		Analyst: JHD
Chromium, Hexavalent	ND		2.00	mg/kg	1	15-Nov-2016 15:51
PH SOIL BY SW9045D	**Method:SW9045B**					Analyst: SAP
pH	**8.15**	H	**0.100**	**pH Units**	1	16-Nov-2016 15:15
Temp Deg C @pH	**22.2**	H	**0**	**°C**	1	16-Nov-2016 15:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Sample ID: TRIP BLANK 100716-84
Collection Date: 31-Oct-2016 00:00

ANALYTICAL REPORT
WorkOrder:HS16110099
Lab ID:HS16110099-27
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		1.0	ug/L	1	03-Nov-2016 21:34
Ethylbenzene	ND		1.0	ug/L	1	03-Nov-2016 21:34
m,p-Xylene	ND		2.0	ug/L	1	03-Nov-2016 21:34
o-Xylene	ND		1.0	ug/L	1	03-Nov-2016 21:34
Toluene	ND		1.0	ug/L	1	03-Nov-2016 21:34
Xylenes, Total	ND		3.0	ug/L	1	03-Nov-2016 21:34
Surr: 1,2-Dichloroethane-d4	*90.4*		*71-125*	*%REC*	*1*	*03-Nov-2016 21:34*
Surr: 4-Bromofluorobenzene	*93.2*		*70-125*	*%REC*	*1*	*03-Nov-2016 21:34*
Surr: Dibromofluoromethane	*93.6*		*74-125*	*%REC*	*1*	*03-Nov-2016 21:34*
Surr: Toluene-d8	*99.6*		*75-125*	*%REC*	*1*	*03-Nov-2016 21:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

Batch ID: 1346 **Method:** VOLATILES BY SW8260C

SampID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS16110099-01	1	5.255 (g)	5 (mL)	0.95	Bulk (5030B)
HS16110099-02	1	5.035 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-03	1	5.005 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-04	1	5.183 (g)	5 (mL)	0.96	Bulk (5030B)
HS16110099-05	1	5.01 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-06	1	5.201 (g)	5 (mL)	0.96	Bulk (5030B)
HS16110099-07	1	5.159 (g)	5 (mL)	0.97	Bulk (5030B)
HS16110099-08	1	5.037 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-10	1	5.211 (g)	5 (mL)	0.96	Bulk (5030B)
HS16110099-11	1	4.99 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-12	1	5.176 (g)	5 (mL)	0.97	Bulk (5030B)
HS16110099-13	1	5.087 (g)	5 (mL)	0.98	Bulk (5030B)
HS16110099-14	1	5.273 (g)	5 (mL)	0.95	Bulk (5030B)
HS16110099-15	1	5.135 (g)	5 (mL)	0.97	Bulk (5030B)
HS16110099-16	1	5.025 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-17	1	5.043 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-19	1	5.128 (g)	5 (mL)	0.98	Bulk (5030B)
HS16110099-20	1	5.089 (g)	5 (mL)	0.98	Bulk (5030B)
HS16110099-21	1	5.066 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-22	1	4.985 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-23	1	5.025 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-24	1	5.009 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-25	1	5.073 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-26	1	5.046 (g)	5 (mL)	0.99	Bulk (5030B)

Batch ID: 1348 **Method:** GASOLINE RANGE ORGANICS BY SW8015C **Prep:**

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS16110099-01	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-02	1	5.01 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-03	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-04	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-05	1	5.05 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-06	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-07	1	5.03 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-08	1	5 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-10	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-11	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-12	1	5.03 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-13	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-14	1	5.01 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-15	1	5.03 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-16	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-17	1	5.03 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-19	1	5.05 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-20	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-21	1	5.04 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-22	1	5.03 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-23	1	5.02 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-24	1	5.03 (g)	5 (mL)	0.99	Bulk (5030B)
HS16110099-25	1	5.01 (g)	5 (mL)	1	Bulk (5030B)
HS16110099-26	1	5.01 (g)	5 (mL)	1	Bulk (5030B)

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

Batch ID: 109523 **Method:** TPH DRO/ORO BY SW8015C **Prep:** 8015SPR_LL

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-01	1	30.05	1 (mL)	0.03328
HS16110099-02	1	30.08	1 (mL)	0.03324
HS16110099-03	1	30.03	1 (mL)	0.0333
HS16110099-04	1	30.08	1 (mL)	0.03324
HS16110099-05	1	30.01	1 (mL)	0.03332
HS16110099-06	1	30.04	1 (mL)	0.03329
HS16110099-07	1	30.03	1 (mL)	0.0333
HS16110099-08	1	30.06	1 (mL)	0.03327

Batch ID: 109561 **Method:** TPH DRO/ORO BY SW8015C **Prep:** 8015SPR_LL

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-10	1	30.06	1 (mL)	0.03327
HS16110099-11	1	30.02	1 (mL)	0.03331
HS16110099-12	1	30.05	1 (mL)	0.03328
HS16110099-13	1	30.07	1 (mL)	0.03326
HS16110099-14	1	30.03	1 (mL)	0.0333
HS16110099-15	1	30.01	1 (mL)	0.03332
HS16110099-16	1	30.09	1 (mL)	0.03323
HS16110099-17	1	30.07	1 (mL)	0.03326
HS16110099-19	1	30.08	1 (mL)	0.03324
HS16110099-20	1	30.02	1 (mL)	0.03331
HS16110099-21	1	30.01	1 (mL)	0.03332
HS16110099-22	1	30.09	1 (mL)	0.03323
HS16110099-23	1	30.06	1 (mL)	0.03327
HS16110099-24	1	30.03	1 (mL)	0.0333
HS16110099-25	1	30.05	1 (mL)	0.03328
HS16110099-26	1	30.04	1 (mL)	0.03329

Batch ID: 109639 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-01	1	0.5245	50 (mL)	95.33
HS16110099-02	1	0.5339	50 (mL)	93.65
HS16110099-03	1	0.5125	50 (mL)	97.56
HS16110099-04	1	0.5371	50 (mL)	93.09
HS16110099-05	1	0.5349	50 (mL)	93.48
HS16110099-06	1	0.5403	50 (mL)	92.54
HS16110099-07	1	0.5238	50 (mL)	95.46
HS16110099-08	1	0.5225	50 (mL)	95.69
HS16110099-10	1	0.5219	50 (mL)	95.8
HS16110099-11	1	0.5173	50 (mL)	96.66
HS16110099-12	1	0.5309	50 (mL)	94.18
HS16110099-13	1	0.5215	50 (mL)	95.88
HS16110099-14	1	0.5379	50 (mL)	92.95
HS16110099-15	1	0.5315	50 (mL)	94.07
HS16110099-16	1	0.5423	50 (mL)	92.2
HS16110099-17	1	0.5167	50 (mL)	96.77
HS16110099-19	1	0.5203	50 (mL)	96.1
HS16110099-20	1	0.5363	50 (mL)	93.23

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

Batch ID: 109658 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-21	1	0.5326	50 (mL)	93.88
HS16110099-22	1	0.5302	50 (mL)	94.3
HS16110099-23	1	0.5188	50 (mL)	96.38
HS16110099-24	1	0.5313	50 (mL)	94.11
HS16110099-25	1	0.5143	50 (mL)	97.22
HS16110099-26	1	0.5372	50 (mL)	93.08

Batch ID: 109729 **Method:** HEXAVALENT CHROMIUM BY SW7196A **Prep:** CR6_S_PR3060A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-01	1	2.5106	100 (mL)	39.83
HS16110099-02	1	2.5072	100 (mL)	39.89
HS16110099-03	1	2.5014	100 (mL)	39.98
HS16110099-04	1	2.5176	100 (mL)	39.72
HS16110099-05	1	2.505	100 (mL)	39.92
HS16110099-06	1	2.5161	100 (mL)	39.74
HS16110099-07	1	2.5079	100 (mL)	39.87
HS16110099-08	1	2.5129	100 (mL)	39.79
HS16110099-10	1	2.5093	100 (mL)	39.85
HS16110099-11	1	2.5023	100 (mL)	39.96
HS16110099-12	1	2.5199	100 (mL)	39.68
HS16110099-13	1	2.5026	100 (mL)	39.96

Batch ID: 109730 **Method:** HEXAVALENT CHROMIUM BY SW7196A **Prep:** CR6_S_PR3060A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-14	1	2.5044	100 (mL)	39.93
HS16110099-15	1	2.5063	100 (mL)	39.9
HS16110099-16	1	2.505	100 (mL)	39.92
HS16110099-17	1	2.5011	100 (mL)	39.98
HS16110099-19	1	2.5158	100 (mL)	39.75
HS16110099-20	1	2.5085	100 (mL)	39.86
HS16110099-21	1	2.5153	100 (mL)	39.76
HS16110099-22	1	2.5037	100 (mL)	39.94
HS16110099-23	1	2.5071	100 (mL)	39.89
HS16110099-24	1	2.5144	100 (mL)	39.77
HS16110099-25	1	2.5044	100 (mL)	39.93
HS16110099-26	1	2.5046	100 (mL)	39.93

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

Batch ID: 109771 **Method:** MERCURY BY SW7471B **Prep:** HG_S_LOWPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-01	1	0.5887	40 (mL)	67.95
HS16110099-02	1	0.5647	40 (mL)	70.83
HS16110099-03	1	0.5821	40 (mL)	68.72
HS16110099-04	1	0.5826	40 (mL)	68.66
HS16110099-05	1	0.5614	40 (mL)	71.25
HS16110099-06	1	0.5787	40 (mL)	69.12
HS16110099-07	1	0.5827	40 (mL)	68.65
HS16110099-08	1	0.5747	40 (mL)	69.6
HS16110099-10	1	0.5287	40 (mL)	75.66
HS16110099-11	1	0.5647	40 (mL)	70.83
HS16110099-12	1	0.5757	40 (mL)	69.48
HS16110099-13	1	0.5841	40 (mL)	68.48
HS16110099-14	1	0.5815	40 (mL)	68.79
HS16110099-15	1	0.5699	40 (mL)	70.19
HS16110099-16	1	0.5812	40 (mL)	68.82
HS16110099-17	1	0.5741	40 (mL)	69.67
HS16110099-19	1	0.5757	40 (mL)	69.48
HS16110099-20	1	0.5823	40 (mL)	68.69
HS16110099-21	1	0.5607	40 (mL)	71.34

Batch ID: 109772 **Method:** MERCURY BY SW7471B **Prep:** HG_S_LOWPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-22	1	0.5748	40 (mL)	69.59
HS16110099-23	1	0.5924	40 (mL)	67.52
HS16110099-24	1	0.5727	40 (mL)	69.84
HS16110099-25	1	0.5814	40 (mL)	68.8
HS16110099-26	1	0.5897	40 (mL)	67.83

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

Batch ID: 109936 **Method:** LA29B SODIUM ADSORPTION RATIO **Prep:** LA29B SAR CATPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-01	1	75.089	75 (mL)	0.9988
HS16110099-02	1	75.062	75 (mL)	0.9992
HS16110099-03	1	75.0874	75 (mL)	0.9988
HS16110099-04	1	75.0458	75 (mL)	0.9994
HS16110099-05	1	75.0038	75 (mL)	0.9999
HS16110099-06	1	75.002	75 (mL)	1
HS16110099-07	1	75.0407	75 (mL)	0.9995
HS16110099-08	1	75.0789	75 (mL)	0.9989
HS16110099-10	1	75.055	75 (mL)	0.9993
HS16110099-11	1	75.0241	75 (mL)	0.9997
HS16110099-12	1	75.0053	75 (mL)	0.9999
HS16110099-13	1	75.0615	75 (mL)	0.9992
HS16110099-14	1	75.043	75 (mL)	0.9994
HS16110099-15	1	75.0015	75 (mL)	1
HS16110099-16	1	75.0252	75 (mL)	0.9997
HS16110099-17	1	75.0084	75 (mL)	0.9999
HS16110099-19	1	75.0224	75 (mL)	0.9997
HS16110099-20	1	75.0268	75 (mL)	0.9996
HS16110099-21	1	75.0538	75 (mL)	0.9993
HS16110099-22	1	75.0195	75 (mL)	0.9997
HS16110099-01	1	75.089	75 (mL)	0.9988
HS16110099-02	1	75.062	75 (mL)	0.9992
HS16110099-03	1	75.0874	75 (mL)	0.9988
HS16110099-04	1	75.0458	75 (mL)	0.9994
HS16110099-05	1	75.0038	75 (mL)	0.9999
HS16110099-06	1	75.002	75 (mL)	1
HS16110099-07	1	75.0407	75 (mL)	0.9995
HS16110099-08	1	75.0789	75 (mL)	0.9989
HS16110099-10	1	75.055	75 (mL)	0.9993
HS16110099-11	1	75.0241	75 (mL)	0.9997
HS16110099-12	1	75.0053	75 (mL)	0.9999
HS16110099-13	1	75.0615	75 (mL)	0.9992
HS16110099-14	1	75.043	75 (mL)	0.9994
HS16110099-15	1	75.0015	75 (mL)	1
HS16110099-16	1	75.0252	75 (mL)	0.9997
HS16110099-17	1	75.0084	75 (mL)	0.9999
HS16110099-19	1	75.0224	75 (mL)	0.9997
HS16110099-20	1	75.0268	75 (mL)	0.9996
HS16110099-21	1	75.0538	75 (mL)	0.9993
HS16110099-22	1	75.0195	75 (mL)	0.9997

Batch ID: 109937 **Method:** LA29B SODIUM ADSORPTION RATIO **Prep:** LA29B SAR CATPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16110099-23	1	75.0082	75 (mL)	0.9999
HS16110099-24	1	75.0633	75 (mL)	0.9992
HS16110099-25	1	75.058	75 (mL)	0.9992
HS16110099-26	1	75.0259	75 (mL)	0.9997
HS16110099-23	1	75.0082	75 (mL)	0.9999
HS16110099-24	1	75.0633	75 (mL)	0.9992
HS16110099-25	1	75.058	75 (mL)	0.9992
HS16110099-26	1	75.0259	75 (mL)	0.9997

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 109523	**Test Name :** TPH DRO/ORO BY SW8015C			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00		03 Nov 2016 16:30	05 Nov 2016 04:36	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15		03 Nov 2016 16:30	05 Nov 2016 05:00	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30		03 Nov 2016 16:30	05 Nov 2016 05:24	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50		03 Nov 2016 16:30	09 Nov 2016 19:52	10
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05		03 Nov 2016 16:30	05 Nov 2016 07:02	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40		03 Nov 2016 16:30	05 Nov 2016 07:26	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55		03 Nov 2016 16:30	05 Nov 2016 06:38	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15		03 Nov 2016 16:30	05 Nov 2016 07:02	1
Batch ID 109561	**Test Name :** TPH DRO/ORO BY SW8015C			**Matrix:** Soil		
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20		04 Nov 2016 14:32	04 Nov 2016 22:31	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40		04 Nov 2016 14:32	04 Nov 2016 22:55	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50		04 Nov 2016 14:32	04 Nov 2016 23:19	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15		04 Nov 2016 14:32	04 Nov 2016 23:44	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35		04 Nov 2016 14:32	05 Nov 2016 00:08	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50		04 Nov 2016 14:32	05 Nov 2016 00:32	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25		04 Nov 2016 14:32	05 Nov 2016 01:46	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40		04 Nov 2016 14:32	05 Nov 2016 02:58	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55		04 Nov 2016 14:32	05 Nov 2016 03:23	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35		04 Nov 2016 14:32	05 Nov 2016 03:47	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50		04 Nov 2016 14:32	05 Nov 2016 04:11	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00		04 Nov 2016 14:32	05 Nov 2016 04:36	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25		04 Nov 2016 14:32	05 Nov 2016 05:00	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35		04 Nov 2016 14:32	05 Nov 2016 05:24	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00		04 Nov 2016 14:32	05 Nov 2016 05:49	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45		04 Nov 2016 14:32	05 Nov 2016 06:13	1

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DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 109639	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00		08 Nov 2016 10:45	09 Nov 2016 15:52	10
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00		08 Nov 2016 10:45	09 Nov 2016 13:42	1
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00		08 Nov 2016 10:45	08 Nov 2016 19:04	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15		08 Nov 2016 10:45	09 Nov 2016 13:46	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15		08 Nov 2016 10:45	08 Nov 2016 19:09	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30		08 Nov 2016 10:45	09 Nov 2016 13:51	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30		08 Nov 2016 10:45	08 Nov 2016 19:13	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50		08 Nov 2016 10:45	09 Nov 2016 15:57	10
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50		08 Nov 2016 10:45	09 Nov 2016 14:08	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50		08 Nov 2016 10:45	08 Nov 2016 19:17	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05		08 Nov 2016 10:45	09 Nov 2016 14:13	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05		08 Nov 2016 10:45	08 Nov 2016 19:22	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40		08 Nov 2016 10:45	09 Nov 2016 14:21	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40		08 Nov 2016 10:45	08 Nov 2016 19:35	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55		08 Nov 2016 10:45	09 Nov 2016 16:01	10
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55		08 Nov 2016 10:45	09 Nov 2016 14:26	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55		08 Nov 2016 10:45	08 Nov 2016 19:39	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15		08 Nov 2016 10:45	09 Nov 2016 14:30	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15		08 Nov 2016 10:45	08 Nov 2016 19:44	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20		08 Nov 2016 10:45	09 Nov 2016 14:34	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20		08 Nov 2016 10:45	08 Nov 2016 19:48	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40		08 Nov 2016 10:45	09 Nov 2016 16:06	10
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40		08 Nov 2016 10:45	09 Nov 2016 14:39	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40		08 Nov 2016 10:45	08 Nov 2016 19:52	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50		08 Nov 2016 10:45	09 Nov 2016 16:10	10
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50		08 Nov 2016 10:45	09 Nov 2016 14:59	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50		08 Nov 2016 10:45	08 Nov 2016 19:57	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15		08 Nov 2016 10:45	09 Nov 2016 15:03	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15		08 Nov 2016 10:45	08 Nov 2016 20:01	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35		08 Nov 2016 10:45	09 Nov 2016 16:14	10
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35		08 Nov 2016 10:45	09 Nov 2016 15:07	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35		08 Nov 2016 10:45	08 Nov 2016 20:06	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50		08 Nov 2016 10:45	09 Nov 2016 15:12	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50		08 Nov 2016 10:45	08 Nov 2016 20:19	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25		08 Nov 2016 10:45	09 Nov 2016 15:16	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25		08 Nov 2016 10:45	08 Nov 2016 20:23	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40		08 Nov 2016 10:45	09 Nov 2016 16:35	10
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40		08 Nov 2016 10:45	09 Nov 2016 15:21	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40		08 Nov 2016 10:45	08 Nov 2016 20:28	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55		08 Nov 2016 10:45	09 Nov 2016 15:25	1

Client: Kinder Morgan
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Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55		08 Nov 2016 10:45	08 Nov 2016 20:32	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35		08 Nov 2016 10:45	08 Nov 2016 22:11	1
Batch ID 109658	**Test Name :** METALS BY SW6020A			**Matrix:** Soil		
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50		08 Nov 2016 14:48	11 Nov 2016 13:18	5
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50		08 Nov 2016 14:48	10 Nov 2016 19:44	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00		08 Nov 2016 14:48	10 Nov 2016 20:06	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25		08 Nov 2016 14:48	11 Nov 2016 14:01	5
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25		08 Nov 2016 14:48	10 Nov 2016 20:11	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35		08 Nov 2016 14:48	11 Nov 2016 14:05	5
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35		08 Nov 2016 14:48	10 Nov 2016 20:24	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00		08 Nov 2016 14:48	10 Nov 2016 20:28	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45		08 Nov 2016 14:48	11 Nov 2016 14:09	5
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45		08 Nov 2016 14:48	10 Nov 2016 20:33	1
Batch ID 109729	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50		10 Nov 2016 13:32	14 Nov 2016 14:50	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15		10 Nov 2016 13:32	14 Nov 2016 14:50	1
Batch ID 109730	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A			**Matrix:** Soil		
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00		14 Nov 2016 15:33	15 Nov 2016 15:51	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45		14 Nov 2016 15:33	15 Nov 2016 15:51	1

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
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Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 109771	**Test Name :** MERCURY BY SW7471B			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00		11 Nov 2016 10:06	11 Nov 2016 14:29	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15		11 Nov 2016 10:06	11 Nov 2016 14:35	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30		11 Nov 2016 10:06	11 Nov 2016 14:24	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50		11 Nov 2016 10:06	11 Nov 2016 14:36	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05		11 Nov 2016 10:06	11 Nov 2016 14:38	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40		11 Nov 2016 10:06	11 Nov 2016 14:40	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55		11 Nov 2016 10:06	11 Nov 2016 14:41	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15		11 Nov 2016 10:06	11 Nov 2016 14:43	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20		11 Nov 2016 10:06	11 Nov 2016 14:45	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40		11 Nov 2016 10:06	11 Nov 2016 14:46	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50		11 Nov 2016 10:06	11 Nov 2016 14:48	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15		11 Nov 2016 10:06	11 Nov 2016 14:50	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35		11 Nov 2016 10:06	11 Nov 2016 14:55	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50		11 Nov 2016 10:06	11 Nov 2016 14:57	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25		11 Nov 2016 10:06	11 Nov 2016 14:58	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40		11 Nov 2016 10:06	11 Nov 2016 15:00	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55		11 Nov 2016 10:06	11 Nov 2016 15:02	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35		11 Nov 2016 10:06	11 Nov 2016 15:04	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50		11 Nov 2016 10:06	11 Nov 2016 15:05	1
Batch ID 109772	**Test Name :** MERCURY BY SW7471B			**Matrix:** Soil		
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00		11 Nov 2016 10:08	11 Nov 2016 15:30	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25		11 Nov 2016 10:08	11 Nov 2016 15:32	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35		11 Nov 2016 10:08	11 Nov 2016 15:37	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00		11 Nov 2016 10:08	11 Nov 2016 15:39	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45		11 Nov 2016 10:08	11 Nov 2016 15:40	1

Client: Kinder Morgan
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DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 109936	**Test Name :** LA29B SODIUM ADSORPTION RATIO			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00		16 Nov 2016 13:18	17 Nov 2016 16:28	500
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00		16 Nov 2016 13:18	17 Nov 2016 12:31	10
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15		16 Nov 2016 13:18	17 Nov 2016 12:34	10
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30		16 Nov 2016 13:18	17 Nov 2016 12:37	10
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50		16 Nov 2016 13:18	17 Nov 2016 16:30	100
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50		16 Nov 2016 13:18	17 Nov 2016 12:46	10
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05		16 Nov 2016 13:18	17 Nov 2016 12:49	10
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40		16 Nov 2016 13:18	17 Nov 2016 12:52	10
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55		16 Nov 2016 13:18	17 Nov 2016 12:55	10
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15		16 Nov 2016 13:18	17 Nov 2016 12:58	10
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20		16 Nov 2016 13:18	17 Nov 2016 13:00	10
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40		16 Nov 2016 13:18	17 Nov 2016 16:33	100
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40		16 Nov 2016 13:18	17 Nov 2016 13:03	10
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50		16 Nov 2016 13:18	17 Nov 2016 17:21	100
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50		16 Nov 2016 13:18	17 Nov 2016 13:06	10
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15		16 Nov 2016 13:18	17 Nov 2016 13:09	10
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35		16 Nov 2016 13:18	17 Nov 2016 13:12	10
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50		16 Nov 2016 13:18	17 Nov 2016 13:22	10
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25		16 Nov 2016 13:18	17 Nov 2016 13:25	10
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40		16 Nov 2016 13:18	17 Nov 2016 13:27	10
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55		16 Nov 2016 13:18	17 Nov 2016 13:30	10
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35		16 Nov 2016 13:18	17 Nov 2016 13:33	10

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50		16 Nov 2016 13:18	17 Nov 2016 13:39	10
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00		16 Nov 2016 13:18	17 Nov 2016 13:42	10
Batch ID 109937	**Test Name :** LA29B SODIUM ADSORPTION RATIO			**Matrix:** Soil		
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25		16 Nov 2016 13:18	17 Nov 2016 16:13	10
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35		16 Nov 2016 13:18	17 Nov 2016 16:16	10
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00		16 Nov 2016 13:18	17 Nov 2016 16:19	10
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45		16 Nov 2016 13:18	18 Nov 2016 14:25	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45		16 Nov 2016 13:18	17 Nov 2016 16:22	10
Batch ID R284125	**Test Name :** VOLATILES BY SW8260C			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00			03 Nov 2016 09:22	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15			03 Nov 2016 09:49	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30			03 Nov 2016 10:16	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50			03 Nov 2016 11:36	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05			03 Nov 2016 12:03	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40			03 Nov 2016 12:30	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55			03 Nov 2016 12:58	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15			03 Nov 2016 13:24	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20			03 Nov 2016 13:51	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40			03 Nov 2016 14:19	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50			03 Nov 2016 14:47	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15			03 Nov 2016 15:14	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35			03 Nov 2016 15:42	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50			03 Nov 2016 16:09	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25			03 Nov 2016 16:36	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40			03 Nov 2016 17:03	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55			03 Nov 2016 17:31	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35			03 Nov 2016 17:58	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00			03 Nov 2016 18:53	1

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

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Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R284181	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C			**Matrix:** Soil		
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15			03 Nov 2016 17:00	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30			03 Nov 2016 17:16	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50			03 Nov 2016 17:32	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05			03 Nov 2016 17:48	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40			03 Nov 2016 18:04	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55			03 Nov 2016 18:20	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15			03 Nov 2016 18:52	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20			03 Nov 2016 19:07	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40			03 Nov 2016 19:24	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50			03 Nov 2016 19:39	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15			03 Nov 2016 19:55	1
Batch ID R284187	**Test Name :** VOLATILES BY SW8260C			**Matrix:** Soil		
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50			04 Nov 2016 08:55	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25			04 Nov 2016 09:22	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35			04 Nov 2016 09:49	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00			04 Nov 2016 10:16	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45			04 Nov 2016 10:43	1
Batch ID R284199	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS16110099-09	TRIP BLANK 100716-09	31 Oct 2016 00:00			03 Nov 2016 20:46	1
HS16110099-18	TRIP BLANK 100716-85	29 Oct 2016 00:00			03 Nov 2016 21:10	1
HS16110099-27	TRIP BLANK 100716-84	31 Oct 2016 00:00			03 Nov 2016 21:34	1
Batch ID R284290	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00			04 Nov 2016 15:34	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35			04 Nov 2016 12:23	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50			04 Nov 2016 12:39	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25			04 Nov 2016 12:54	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40			04 Nov 2016 13:10	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55			04 Nov 2016 13:43	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35			04 Nov 2016 13:58	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50			04 Nov 2016 14:14	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00			04 Nov 2016 14:30	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25			04 Nov 2016 14:46	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35			04 Nov 2016 11:35	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00			04 Nov 2016 15:02	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45			04 Nov 2016 15:18	1

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
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Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R284379	**Test Name :** MOISTURE			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00			07 Nov 2016 11:57	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15			07 Nov 2016 11:57	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30			07 Nov 2016 11:57	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50			07 Nov 2016 11:57	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05			07 Nov 2016 11:57	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40			07 Nov 2016 11:57	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55			07 Nov 2016 11:57	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15			07 Nov 2016 11:57	1
Batch ID R284423	**Test Name :** MOISTURE			**Matrix:** Soil		
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20			08 Nov 2016 09:56	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40			08 Nov 2016 09:56	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50			08 Nov 2016 09:56	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15			08 Nov 2016 09:56	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35			08 Nov 2016 09:56	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50			08 Nov 2016 09:56	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25			08 Nov 2016 09:56	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40			08 Nov 2016 09:56	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55			08 Nov 2016 09:56	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35			08 Nov 2016 09:56	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50			08 Nov 2016 09:56	1
Batch ID R284457	**Test Name :** MOISTURE			**Matrix:** Soil		
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00			08 Nov 2016 10:03	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25			08 Nov 2016 10:03	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35			08 Nov 2016 10:03	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00			08 Nov 2016 10:03	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45			08 Nov 2016 10:03	1

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R284832	**Test Name :** PH SOIL BY SW9045D			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00			15 Nov 2016 14:15	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15			15 Nov 2016 14:15	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30			15 Nov 2016 14:15	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50			15 Nov 2016 14:15	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05			15 Nov 2016 14:15	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40			15 Nov 2016 14:15	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55			15 Nov 2016 14:15	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15			15 Nov 2016 14:15	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20			15 Nov 2016 14:15	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40			15 Nov 2016 14:15	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50			15 Nov 2016 14:15	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15			15 Nov 2016 14:15	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35			15 Nov 2016 14:15	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50			15 Nov 2016 14:15	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25			15 Nov 2016 14:15	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40			15 Nov 2016 14:15	1
Batch ID R284938	**Test Name :** PH SOIL BY SW9045D			**Matrix:** Soil		
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55			16 Nov 2016 15:15	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35			16 Nov 2016 15:15	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50			16 Nov 2016 15:15	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00			16 Nov 2016 15:15	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25			16 Nov 2016 15:15	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35			16 Nov 2016 15:15	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00			16 Nov 2016 15:15	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45			16 Nov 2016 15:15	1

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R284948	**Test Name :** TRIVALENT CHROMIUM			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00			16 Nov 2016 18:07	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15			16 Nov 2016 18:07	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30			16 Nov 2016 18:07	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50			16 Nov 2016 18:07	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05			16 Nov 2016 18:07	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40			16 Nov 2016 18:07	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55			16 Nov 2016 18:07	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15			16 Nov 2016 18:07	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20			16 Nov 2016 18:07	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40			16 Nov 2016 18:07	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50			16 Nov 2016 18:07	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15			16 Nov 2016 18:07	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35			16 Nov 2016 18:07	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50			16 Nov 2016 18:07	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25			16 Nov 2016 18:07	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40			16 Nov 2016 18:07	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55			16 Nov 2016 18:07	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35			16 Nov 2016 18:07	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50			16 Nov 2016 18:07	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00			16 Nov 2016 18:07	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25			16 Nov 2016 18:07	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35			16 Nov 2016 18:07	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00			16 Nov 2016 18:07	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45			16 Nov 2016 18:07	1

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R285018	**Test Name :** LA29B SATURATION POINT (AS FRACTION)			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00			17 Nov 2016 11:05	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15			17 Nov 2016 11:05	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30			17 Nov 2016 11:05	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50			17 Nov 2016 11:05	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05			17 Nov 2016 11:05	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40			17 Nov 2016 11:05	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55			17 Nov 2016 11:05	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15			17 Nov 2016 11:05	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20			17 Nov 2016 11:05	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40			17 Nov 2016 11:05	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50			17 Nov 2016 11:05	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15			17 Nov 2016 11:05	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35			17 Nov 2016 11:05	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50			17 Nov 2016 11:05	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25			17 Nov 2016 11:05	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40			17 Nov 2016 11:05	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55			17 Nov 2016 11:05	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35			17 Nov 2016 11:05	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50			17 Nov 2016 11:05	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00			17 Nov 2016 11:05	1
Batch ID R285019	**Test Name :** LA29B SATURATION POINT (AS FRACTION)			**Matrix:** Soil		
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25			17 Nov 2016 11:15	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35			17 Nov 2016 11:15	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00			17 Nov 2016 11:15	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45			17 Nov 2016 11:15	1

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R285099	**Test Name :** LA29B ELECTRICAL CONDUCTIVITY			**Matrix:** Soil		
HS16110099-01	YF-3-6-10-11-103116	31 Oct 2016 12:00			18 Nov 2016 14:33	1
HS16110099-02	YF-3-6-15-16-103116	31 Oct 2016 12:15			18 Nov 2016 14:33	1
HS16110099-03	YF-3-7-1-2-103116	31 Oct 2016 10:30			18 Nov 2016 14:33	1
HS16110099-04	YF-3-7-9-10-103116	31 Oct 2016 10:50			18 Nov 2016 14:33	1
HS16110099-05	YF-3-7-15-16-103116	31 Oct 2016 11:05			18 Nov 2016 14:33	1
HS16110099-06	YF-3-8-1-2-103116	31 Oct 2016 09:40			18 Nov 2016 14:33	1
HS16110099-07	YF-3-8-6-7-103116	31 Oct 2016 09:55			18 Nov 2016 14:33	1
HS16110099-08	YF-3-8-15-16-103116	31 Oct 2016 10:15			18 Nov 2016 14:33	1
HS16110099-10	YF-3-1-0-1-102916	29 Oct 2016 08:20			18 Nov 2016 14:33	1
HS16110099-11	YF-3-1-11-12-102916	29 Oct 2016 08:40			18 Nov 2016 14:33	1
HS16110099-12	YF-3-1-14-15-102916	29 Oct 2016 08:50			18 Nov 2016 14:33	1
HS16110099-13	YF-3-2-1-2-102916	29 Oct 2016 09:15			18 Nov 2016 14:33	1
HS16110099-14	YF-3-2-12-13-102916	29 Oct 2016 09:35			18 Nov 2016 14:33	1
HS16110099-15	YF-3-2-15-16-102916	29 Oct 2016 09:50			18 Nov 2016 14:33	1
HS16110099-16	YF-3-3-1-2-102916	29 Oct 2016 10:25			18 Nov 2016 14:33	1
HS16110099-17	YF-3-3-7-8-102916	29 Oct 2016 10:40			18 Nov 2016 14:33	1
HS16110099-19	YF-3-3-15-16-102916	29 Oct 2016 10:55			18 Nov 2016 14:33	1
HS16110099-20	YF-3-4-1-2-102916	29 Oct 2016 11:35			18 Nov 2016 14:33	1
HS16110099-21	YF-3-4-10-11-102916	29 Oct 2016 11:50			18 Nov 2016 14:33	1
HS16110099-22	YF-3-4-15-16-102916	29 Oct 2016 12:00			18 Nov 2016 14:33	1
HS16110099-23	YF-3-5-2-3-103116	31 Oct 2016 14:25			18 Nov 2016 14:33	1
HS16110099-24	YF-3-5-5-6-103116	31 Oct 2016 14:35			18 Nov 2016 14:33	1
HS16110099-25	YF-3-5-15-16-103116	31 Oct 2016 15:00			18 Nov 2016 14:33	1
HS16110099-26	YF-3-6-2-3-103116	31 Oct 2016 11:45			18 Nov 2016 14:33	1

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109523 **Instrument: FID-7** **Method: SW8015M**

MBLK Sample ID: **MBLK-109523** Units: **mg/Kg** Analysis Date: **04-Nov-2016 22:06**
Client ID: Run ID: **FID-7_284548** SeqNo: **3888148** PrepDate: **03-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	1.7								
Surr: 2-Fluorobiphenyl	*3.29*	*0.10*	*3.33*	*0*	*98.8*	*60 - 135*				

LCS Sample ID: **LCS-109523** Units: **mg/Kg** Analysis Date: **04-Nov-2016 22:31**
Client ID: Run ID: **FID-7_284548** SeqNo: **3888149** PrepDate: **03-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	29.66	1.7	33.33	0	89.0	70 - 130				
Surr: 2-Fluorobiphenyl	*3.504*	*0.10*	*3.33*	*0*	*105*	*60 - 135*				

MS Sample ID: **HS16110099-03MS** Units: **mg/Kg** Analysis Date: **05-Nov-2016 05:49**
Client ID: **YF-3-7-1-2-103116** Run ID: **FID-7_284548** SeqNo: **3888165** PrepDate: **03-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	28.13	1.7	33.31	1.199	80.8	70 - 130				
Surr: 2-Fluorobiphenyl	*3.115*	*0.10*	*3.328*	*0*	*93.6*	*60 - 135*				

MSD Sample ID: **HS16110099-03MSD** Units: **mg/Kg** Analysis Date: **05-Nov-2016 06:13**
Client ID: **YF-3-7-1-2-103116** Run ID: **FID-7_284548** SeqNo: **3888166** PrepDate: **03-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	29.42	1.7	33.27	1.199	84.8	70 - 130	28.13	4.51	30	
Surr: 2-Fluorobiphenyl	*3.093*	*0.10*	*3.324*	*0*	*93.0*	*60 - 135*	*3.115*	*0.728*	*30*	

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-02	HS16110099-03	HS16110099-04
HS16110099-05	HS16110099-06	HS16110099-07	HS16110099-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109561 **Instrument: FID-8** **Method: SW8015M**

MBLK Sample ID: **MBLK-109561** Units: **mg/Kg** Analysis Date: **04-Nov-2016 21:42**
Client ID: Run ID: **FID-8_284560** SeqNo: **3888372** PrepDate: **04-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	1.7								
Surr: 2-Fluorobiphenyl	*2.952*	*0.10*	*3.33*	*0*	*88.7*	*60 - 135*				

LCS Sample ID: **LCS-109561** Units: **mg/Kg** Analysis Date: **04-Nov-2016 22:06**
Client ID: Run ID: **FID-8_284560** SeqNo: **3888373** PrepDate: **04-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	27.19	1.7	33.33	0	81.6	70 - 130				
Surr: 2-Fluorobiphenyl	*3.19*	*0.10*	*3.33*	*0*	*95.8*	*60 - 135*				

MS Sample ID: **HS16110099-16MS** Units: **mg/Kg** Analysis Date: **05-Nov-2016 02:10**
Client ID: **YF-3-3-1-2-102916** Run ID: **FID-8_284560** SeqNo: **3888381** PrepDate: **04-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	27.86	1.7	33.27	2.595	75.9	70 - 130				
Surr: 2-Fluorobiphenyl	*2.569*	*0.10*	*3.324*	*0*	*77.3*	*60 - 135*				

MSD Sample ID: **HS16110099-16MSD** Units: **mg/Kg** Analysis Date: **05-Nov-2016 02:34**
Client ID: **YF-3-3-1-2-102916** Run ID: **FID-8_284560** SeqNo: **3888382** PrepDate: **04-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	27.17	1.7	33.3	2.595	73.8	70 - 130	27.86	2.49	30	
Surr: 2-Fluorobiphenyl	*2.711*	*0.10*	*3.327*	*0*	*81.5*	*60 - 135*	*2.569*	*5.37*	*30*	

The following samples were analyzed in this batch:

HS16110099-10	HS16110099-11	HS16110099-12	HS16110099-13
HS16110099-14	HS16110099-15	HS16110099-16	HS16110099-17
HS16110099-19	HS16110099-20	HS16110099-21	HS16110099-22
HS16110099-23	HS16110099-24	HS16110099-25	HS16110099-26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284181 **Instrument: FID-14** **Method: SW8015**

MBLK Sample ID: **GBLK-161102** Units: **mg/Kg** Analysis Date: **03-Nov-2016 11:47**
Client ID: Run ID: **FID-14_284181** SeqNo: **3880580** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.050								
Surr: 4-Bromofluorobenzene	*0.08236*	*0.0050*	*0.1*	*0*	*82.4*	*70 - 130*				

LCS Sample ID: **GLCS-161102** Units: **mg/Kg** Analysis Date: **03-Nov-2016 11:15**
Client ID: Run ID: **FID-14_284181** SeqNo: **3880579** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.159	0.050	1	0	116	70 - 130				
Surr: 4-Bromofluorobenzene	*0.1002*	*0.0050*	*0.1*	*0*	*100*	*70 - 130*				

MS Sample ID: **HS16110051-21MS** Units: **mg/Kg** Analysis Date: **03-Nov-2016 12:20**
Client ID: Run ID: **FID-14_284181** SeqNo: **3880582** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8426	0.050	1	0	84.3	70 - 130				
Surr: 4-Bromofluorobenzene	*0.08101*	*0.0050*	*0.1*	*0*	*81.0*	*70 - 130*				

MSD Sample ID: **HS16110051-21MSD** Units: **mg/Kg** Analysis Date: **03-Nov-2016 12:36**
Client ID: Run ID: **FID-14_284181** SeqNo: **3880583** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.7927	0.050	1	0	79.3	70 - 130	0.8426	6.1	30	
Surr: 4-Bromofluorobenzene	*0.07129*	*0.0050*	*0.1*	*0*	*71.3*	*70 - 130*	*0.08101*	*12.8*	*30*	

The following samples were analyzed in this batch:

HS16110099-02	HS16110099-03	HS16110099-04	HS16110099-05
HS16110099-06	HS16110099-07	HS16110099-08	HS16110099-10
HS16110099-11	HS16110099-12	HS16110099-13	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284290 **Instrument: FID-14** **Method: SW8015**

MBLK Sample ID: **GBLK-161104** Units: **mg/Kg** Analysis Date: **04-Nov-2016 09:42**
Client ID: Run ID: **FID-14_284290** SeqNo: **3882709** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.050								
Surr: 4-Bromofluorobenzene	*0.07664*	*0.0050*	*0.1*	*0*	*76.6*	*70 - 130*				

LCS Sample ID: **GLCS-161104** Units: **mg/Kg** Analysis Date: **04-Nov-2016 09:10**
Client ID: Run ID: **FID-14_284290** SeqNo: **3882708** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.019	0.050	1	0	102	70 - 130				
Surr: 4-Bromofluorobenzene	*0.09277*	*0.0050*	*0.1*	*0*	*92.8*	*70 - 130*				

MS Sample ID: **HS16110099-24MS** Units: **mg/Kg** Analysis Date: **04-Nov-2016 11:51**
Client ID: **YF-3-5-5-6-103116** Run ID: **FID-14_284290** SeqNo: **3882711** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8639	0.050	1	0	86.4	70 - 130				
Surr: 4-Bromofluorobenzene	*0.08183*	*0.0050*	*0.1*	*0*	*81.8*	*70 - 130*				

MSD Sample ID: **HS16110099-24MSD** Units: **mg/Kg** Analysis Date: **04-Nov-2016 12:07**
Client ID: **YF-3-5-5-6-103116** Run ID: **FID-14_284290** SeqNo: **3882712** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8788	0.050	1	0	87.9	70 - 130	0.8639	1.7	30	
Surr: 4-Bromofluorobenzene	*0.08313*	*0.0050*	*0.1*	*0*	*83.1*	*70 - 130*	*0.08183*	*1.58*	*30*	

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-14	HS16110099-15	HS16110099-16
HS16110099-17	HS16110099-19	HS16110099-20	HS16110099-21
HS16110099-22	HS16110099-23	HS16110099-24	HS16110099-25
HS16110099-26			

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109639 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-109639** Units: **mg/Kg** Analysis Date: **08-Nov-2016 18:46**
Client ID: Run ID: **ICPMS04_284404** SeqNo: **3885973** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.500								
Barium	ND	0.500								
Boron	ND	2.50								
Cadmium	ND	0.500								
Chromium	ND	0.500								
Copper	ND	0.200								
Lead	ND	0.500								
Nickel	ND	0.500								
Selenium	ND	0.500								
Silver	ND	0.500								
Zinc	ND	0.500								

MBLK Sample ID: **MBLK-109639** Units: **mg/Kg** Analysis Date: **09-Nov-2016 13:33**
Client ID: Run ID: **ICPMS04_284488** SeqNo: **3886682** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	ND	2.50								

LCS Sample ID: **LCS-109639** Units: **mg/Kg** Analysis Date: **08-Nov-2016 18:51**
Client ID: Run ID: **ICPMS04_284404** SeqNo: **3885974** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.512	0.500	10	0	95.1	80 - 120				
Barium	9.734	0.500	10	0	97.3	80 - 120				
Boron	50.06	2.50	50	0	100	80 - 120				
Cadmium	9.766	0.500	10	0	97.7	80 - 120				
Chromium	9.516	0.500	10	0	95.2	80 - 120				
Copper	9.749	0.200	10	0	97.5	80 - 120				
Lead	9.788	0.500	10	0	97.9	80 - 120				
Nickel	9.743	0.500	10	0	97.4	80 - 120				
Selenium	9.516	0.500	10	0	95.2	80 - 120				
Silver	9.935	0.500	10	0	99.3	80 - 120				
Zinc	9.754	0.500	10	0	97.5	80 - 120				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109639 **Instrument: ICPMS04** **Method: SW6020**

LCS Sample ID: **LCS-109639** Units: **mg/Kg** Analysis Date: **09-Nov-2016 14:17**
Client ID: Run ID: **ICPMS04_284488** SeqNo: **3886750** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	58.36	2.50	50	0	117	80 - 120				

MS Sample ID: **HS16110099-20MS** Units: **mg/Kg** Analysis Date: **08-Nov-2016 22:20**
Client ID: **YF-3-4-1-2-102916** Run ID: **ICPMS04_284404** SeqNo: **3886092** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.31	0.476	9.526	1.944	98.3	75 - 125				
Barium	199.9	0.476	9.526	124	796	75 - 125				SEO
Boron	53.47	2.38	47.63	3.679	105	75 - 125				
Cadmium	8.743	0.476	9.526	0.04997	91.3	75 - 125				
Chromium	18.7	0.476	9.526	5.493	139	75 - 125				S
Copper	14.1	0.191	9.526	3.961	106	75 - 125				
Lead	14.95	0.476	9.526	4.409	111	75 - 125				
Nickel	17.27	0.476	9.526	5.989	118	75 - 125				
Selenium	8.572	0.476	9.526	0.2461	87.4	75 - 125				
Silver	8.653	0.476	9.526	0.06125	90.2	75 - 125				
Zinc	32.01	0.476	9.526	15.33	175	75 - 125				S

MSD Sample ID: **HS16110099-20MSD** Units: **mg/Kg** Analysis Date: **08-Nov-2016 22:25**
Client ID: **YF-3-4-1-2-102916** Run ID: **ICPMS04_284404** SeqNo: **3886093** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.55	0.478	9.562	1.944	90.0	75 - 125	11.31	6.96	20	
Barium	191	0.478	9.562	124	700	75 - 125	199.9	4.56	20	SEO
Boron	50.48	2.39	47.81	3.679	97.9	75 - 125	53.47	5.76	20	
Cadmium	8.244	0.478	9.562	0.04997	85.7	75 - 125	8.743	5.88	20	
Chromium	17.55	0.478	9.562	5.493	126	75 - 125	18.7	6.37	20	S
Copper	13.12	0.191	9.562	3.961	95.7	75 - 125	14.1	7.22	20	
Lead	14.15	0.478	9.562	4.409	102	75 - 125	14.95	5.52	20	
Nickel	16.18	0.478	9.562	5.989	107	75 - 125	17.27	6.55	20	
Selenium	7.966	0.478	9.562	0.2461	80.7	75 - 125	8.572	7.33	20	
Silver	8.07	0.478	9.562	0.06125	83.8	75 - 125	8.653	6.97	20	
Zinc	29.87	0.478	9.562	15.33	152	75 - 125	32.01	6.91	20	S

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109639 **Instrument: ICPMS04** **Method: SW6020**

PDS Sample ID: **HS16110099-20BS** Units: **mg/Kg** Analysis Date: **08-Nov-2016 22:29**
Client ID: **YF-3-4-1-2-102916** Run ID: **ICPMS04_284404** SeqNo: **3886094** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.13	0.466	9.323	1.944	98.6	75 - 125				
Barium	155.3	0.466	9.323	124	335	75 - 125				SO
Cadmium	8.877	0.466	9.323	0.04997	94.7	75 - 125				
Chromium	15.32	0.466	9.323	5.493	105	75 - 125				
Copper	12.98	0.186	9.323	3.961	96.7	75 - 125				
Lead	14.19	0.466	9.323	4.409	105	75 - 125				
Nickel	15.37	0.466	9.323	5.989	101	75 - 125				
Selenium	9.2	0.466	9.323	0.2461	96.0	75 - 125				
Silver	7.893	0.466	9.323	0.06125	84.0	75 - 125				
Zinc	25.84	0.466	9.323	15.33	113	75 - 125				

PDS Sample ID: **HS16110099-20BS** Units: **mg/Kg** Analysis Date: **09-Nov-2016 15:30**
Client ID: **YF-3-4-1-2-102916** Run ID: **ICPMS04_284488** SeqNo: **3886937** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	61.84	2.33	93.23	3.679	62.4	75 - 125				S

SD Sample ID: **HS16110099-20 DIL SX** Units: **mg/Kg** Analysis Date: **08-Nov-2016 22:16**
Client ID: **YF-3-4-1-2-102916** Run ID: **ICPMS04_284404** SeqNo: **3886091** PrepDate: **08-Nov-2016** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	1.848	2.33					1.944	0	10	J
Barium	128	2.33					124	3.22	10	
Boron	ND	11.7					3.679	0	10	
Cadmium	ND	2.33					0.04997	0	10	
Chromium	5.288	2.33					5.493	3.74	10	
Copper	3.847	0.932					3.961	2.88	10	
Lead	4.674	2.33					4.409	6.01	10	
Nickel	5.877	2.33					5.989	1.87	10	
Selenium	ND	2.33					0.2461	0	10	
Silver	ND	2.33					0.06125	0	10	
Zinc	15.27	2.33					15.33	0.367	10	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109639 **Instrument: ICPMS04** **Method: SW6020**

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-02	HS16110099-03	HS16110099-04
HS16110099-05	HS16110099-06	HS16110099-07	HS16110099-08
HS16110099-10	HS16110099-11	HS16110099-12	HS16110099-13
HS16110099-14	HS16110099-15	HS16110099-16	HS16110099-17
HS16110099-19	HS16110099-20		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109658 **Instrument: ICPMS04** **Method: SW6020**

MBLK Sample ID: **MBLK-109658** Units: **mg/Kg** Analysis Date: **10-Nov-2016 19:36**
Client ID: Run ID: **ICPMS04_284562** SeqNo: **3889294** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.500								
Barium	ND	0.500								
Boron	ND	2.50								
Cadmium	ND	0.500								
Chromium	ND	0.500								
Copper	ND	0.200								
Lead	ND	0.500								
Nickel	ND	0.500								
Selenium	ND	0.500								
Silver	ND	0.500								
Zinc	ND	0.500								

LCS Sample ID: **LCS-109658** Units: **mg/Kg** Analysis Date: **10-Nov-2016 19:40**
Client ID: Run ID: **ICPMS04_284562** SeqNo: **3889295** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.841	0.500	10	0	98.4	80 - 120				
Barium	9.817	0.500	10	0	98.2	80 - 120				
Boron	56.97	2.50	50	0	114	80 - 120				
Cadmium	9.95	0.500	10	0	99.5	80 - 120				
Chromium	9.675	0.500	10	0	96.8	80 - 120				
Copper	9.966	0.200	10	0	99.7	80 - 120				
Lead	9.698	0.500	10	0	97.0	80 - 120				
Nickel	10.05	0.500	10	0	101	80 - 120				
Selenium	9.658	0.500	10	0	96.6	80 - 120				
Silver	9.886	0.500	10	0	98.9	80 - 120				
Zinc	9.986	0.500	10	0	99.9	80 - 120				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109658 **Instrument: ICPMS04** **Method: SW6020**

MS Sample ID: **HS16110099-21MS** Units: **mg/Kg** Analysis Date: **11-Nov-2016 13:48**
Client ID: **YF-3-4-10-11-102916** Run ID: **ICPMS04_284640** SeqNo: **3889969** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.97	0.456	9.111	5.288	62.3	75 - 125				S
Barium	254.5	0.456	9.111	310.7	-617	75 - 125				SEO
Boron	59.31	2.28	45.55	13.4	101	75 - 125				
Cadmium	6.946	0.456	9.111	0.09275	75.2	75 - 125				
Chromium	12.52	0.456	9.111	6.415	67.0	75 - 125				S
Copper	10.85	0.182	9.111	5.503	58.7	75 - 125				S
Lead	11.98	0.456	9.111	6.39	61.3	75 - 125				S
Nickel	12.72	0.456	9.111	7.595	56.2	75 - 125				S
Selenium	7.364	0.456	9.111	0.4072	76.4	75 - 125				
Silver	7.244	0.456	9.111	0	79.5	75 - 125				
Zinc	26.78	0.456	9.111	24.61	23.8	75 - 125				S

MSD Sample ID: **HS16110099-21MSD** Units: **mg/Kg** Analysis Date: **10-Nov-2016 19:57**
Client ID: **YF-3-4-10-11-102916** Run ID: **ICPMS04_284562** SeqNo: **3889299** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.34	0.474	9.489	5.288	95.4	75 - 125	10.97	26.7	20	R
Barium	317.8	0.474	9.489	310.7	74.5	75 - 125	254.5	22.1	20	SREO
Cadmium	8.357	0.474	9.489	0.09275	87.1	75 - 125	6.946	18.4	20	
Chromium	16.54	0.474	9.489	6.415	107	75 - 125	12.52	27.7	20	R
Copper	14.17	0.190	9.489	5.503	91.3	75 - 125	10.85	26.5	20	R
Lead	14.95	0.474	9.489	6.39	90.2	75 - 125	11.98	22.1	20	R
Nickel	16.45	0.474	9.489	7.595	93.3	75 - 125	12.72	25.6	20	R
Selenium	9.039	0.474	9.489	0.4072	91.0	75 - 125	7.364	20.4	20	R
Silver	8.287	0.474	9.489	0	87.3	75 - 125	7.244	13.4	20	
Zinc	34.36	0.474	9.489	24.61	103	75 - 125	26.78	24.8	20	R

MSD Sample ID: **HS16110099-21MSD** Units: **mg/Kg** Analysis Date: **11-Nov-2016 13:52**
Client ID: **YF-3-4-10-11-102916** Run ID: **ICPMS04_284640** SeqNo: **3889970** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	79.5	2.37	47.45	13.4	139	75 - 125	59.31	29.1	20	SR

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109658 **Instrument: ICPMS04** **Method: SW6020**

PDS Sample ID: **HS16110099-21BS** Units: **mg/Kg** Analysis Date: **10-Nov-2016 20:02**
Client ID: **YF-3-4-10-11-102916** Run ID: **ICPMS04_284562** SeqNo: **3889300** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.94	0.469	9.388	5.288	92.1	75 - 125				
Cadmium	8.072	0.469	9.388	0.09275	85.0	75 - 125				
Chromium	14.59	0.469	9.388	6.415	87.1	75 - 125				
Copper	13.52	0.188	9.388	5.503	85.4	75 - 125				
Lead	14.85	0.469	9.388	6.39	90.2	75 - 125				
Nickel	15.71	0.469	9.388	7.595	86.5	75 - 125				
Selenium	8.793	0.469	9.388	0.4072	89.3	75 - 125				
Silver	8.012	0.469	9.388	0.06205	84.7	75 - 125				
Zinc	32.82	0.469	9.388	24.61	87.4	75 - 125				

PDS Sample ID: **HS16110099-21BS** Units: **mg/Kg** Analysis Date: **11-Nov-2016 13:27**
Client ID: **YF-3-4-10-11-102916** Run ID: **ICPMS04_284640** SeqNo: **3889897** PrepDate: **08-Nov-2016** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	342.7	2.35	46.94	308.1	73.8	75 - 125				SO

PDS Sample ID: **HS16110099-21BS** Units: **mg/Kg** Analysis Date: **11-Nov-2016 13:56**
Client ID: **YF-3-4-10-11-102916** Run ID: **ICPMS04_284640** SeqNo: **3889971** PrepDate: **08-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	68.12	2.35	93.88	13.4	58.3	75 - 125				S

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109658 **Instrument: ICPMS04** **Method: SW6020**

SD Sample ID: **HS16110099-21 DIL SX** Units: **mg/Kg** Analysis Date: **10-Nov-2016 19:49**
Client ID: **YF-3-4-10-11-102916** Run ID: **ICPMS04_284562** SeqNo: **3889297** PrepDate: **08-Nov-2016** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	5.25	2.35					5.288	0.717	10	
Boron	11.79	11.7					13.4	12	10	R
Cadmium	ND	2.35					0.09275	0	10	
Chromium	6.36	2.35					6.415	0.856	10	
Copper	5.596	0.939					5.503	1.7	10	
Lead	6.382	2.35					6.39	0.122	10	
Nickel	7.706	2.35					7.595	1.47	10	
Selenium	ND	2.35					0.4072	0	10	
Silver	ND	2.35					0.06205	0	10	
Zinc	25.76	2.35					24.61	4.65	10	

SD Sample ID: **HS16110099-21 DIL SX** Units: **mg/Kg** Analysis Date: **11-Nov-2016 13:22**
Client ID: **YF-3-4-10-11-102916** Run ID: **ICPMS04_284640** SeqNo: **3889896** PrepDate: **08-Nov-2016** DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	301.7	11.7					308.1	2.06	10	

The following samples were analyzed in this batch: HS16110099-21 HS16110099-22 HS16110099-23 HS16110099-24 HS16110099-25 HS16110099-26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109771 **Instrument: HG03** **Method: SW7471A**

MBLK Sample ID: **MBLK-109771** Units: **ug/Kg** Analysis Date: **11-Nov-2016 14:19**
Client ID: Run ID: **HG03_284656** SeqNo: **3890058** PrepDate: **11-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	3.32								

LCS Sample ID: **LCS-109771** Units: **ug/Kg** Analysis Date: **11-Nov-2016 14:22**
Client ID: Run ID: **HG03_284656** SeqNo: **3890059** PrepDate: **11-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	349.3	3.32	333.3	0	105	85 - 115				

MS Sample ID: **HS16110099-03MS** Units: **ug/Kg** Analysis Date: **11-Nov-2016 14:26**
Client ID: **YF-3-7-1-2-103116** Run ID: **HG03_284656** SeqNo: **3890061** PrepDate: **11-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	381.1	3.39	340.3	15.8	107	85 - 115				

MSD Sample ID: **HS16110099-03MSD** Units: **ug/Kg** Analysis Date: **11-Nov-2016 14:28**
Client ID: **YF-3-7-1-2-103116** Run ID: **HG03_284656** SeqNo: **3890062** PrepDate: **11-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	379.1	3.39	339.7	15.8	107	85 - 115	381.1	0.511	20	

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-02	HS16110099-03	HS16110099-04
HS16110099-05	HS16110099-06	HS16110099-07	HS16110099-08
HS16110099-10	HS16110099-11	HS16110099-12	HS16110099-13
HS16110099-14	HS16110099-15	HS16110099-16	HS16110099-17
HS16110099-19	HS16110099-20	HS16110099-21	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109772 **Instrument: HG03** **Method: SW7471A**

MBLK Sample ID: **MBLK-109772** Units: **ug/Kg** Analysis Date: **11-Nov-2016 15:16**
Client ID: Run ID: **HG03_284656** SeqNo: **3890234** PrepDate: **11-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	3.32								

LCS Sample ID: **LCS-109772** Units: **ug/Kg** Analysis Date: **11-Nov-2016 15:18**
Client ID: Run ID: **HG03_284656** SeqNo: **3890235** PrepDate: **11-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	344.7	3.32	333.3	0	103	85 - 115				

MS Sample ID: **HS16110427-01MS** Units: **ug/Kg** Analysis Date: **11-Nov-2016 15:21**
Client ID: Run ID: **HG03_284656** SeqNo: **3890237** PrepDate: **11-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	372.4	3.45	346.1	6.322	106	85 - 115				

MSD Sample ID: **HS16110427-01MSD** Units: **ug/Kg** Analysis Date: **11-Nov-2016 15:23**
Client ID: Run ID: **HG03_284656** SeqNo: **3890238** PrepDate: **11-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	381.7	3.47	348.3	6.322	108	85 - 115	372.4	2.47	20	

The following samples were analyzed in this batch: HS16110099-22 HS16110099-23 HS16110099-24 HS16110099-25 HS16110099-26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109936 **Instrument: ICPMS05** **Method: La29B-6020**

MBLK Sample ID: **MBLK-109936** Units: **mg/L** Analysis Date: **17-Nov-2016 12:28**
Client ID: Run ID: **ICPMS05_284979** SeqNo: **3897184** PrepDate: **16-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	ND	0.500								
Magnesium	ND	0.500								
Sodium	ND	0.500								

DUP Sample ID: **HS16110099-20DUP** Units: **mg/L** Analysis Date: **17-Nov-2016 13:36**
Client ID: **YF-3-4-1-2-102916** Run ID: **ICPMS05_284979** SeqNo: **3897207** PrepDate: **16-Nov-2016** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	41.92	5.00					46.36	10.1	30	
Magnesium	10.11	5.00					10.66	5.32	30	
Sodium	6.812	5.00					6.869	0.834	30	

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-02	HS16110099-03	HS16110099-04
HS16110099-05	HS16110099-06	HS16110099-07	HS16110099-08
HS16110099-10	HS16110099-11	HS16110099-12	HS16110099-13
HS16110099-14	HS16110099-15	HS16110099-16	HS16110099-17
HS16110099-19	HS16110099-20	HS16110099-21	HS16110099-22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109937 **Instrument: ICPMS05** **Method: La29B-6020**

MBLK Sample ID: **MBLK-109937** Units: **mg/L** Analysis Date: **17-Nov-2016 13:48**
Client ID: Run ID: **ICPMS05_284979** SeqNo: **3897211** PrepDate: **16-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	ND	0.500								
Magnesium	ND	0.500								
Sodium	ND	0.500								

DUP Sample ID: **HS16110099-26DUP** Units: **mg/L** Analysis Date: **17-Nov-2016 16:25**
Client ID: **YF-3-6-2-3-103116** Run ID: **ICPMS05_284979** SeqNo: **3897220** PrepDate: **16-Nov-2016** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	183.9	5.00					186.3	1.28	30	
Magnesium	51.88	5.00					52.87	1.89	30	
Sodium	209.7	5.00					204.5	2.49	30	

The following samples were analyzed in this batch: HS16110099-23 HS16110099-24 HS16110099-25 HS16110099-26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284125 **Instrument: VOA8** **Method: SW8260**

MBLK Sample ID: **VBLKS1-110316** Units: **ug/Kg** Analysis Date: **03-Nov-2016 08:55**
Client ID: Run ID: **VOA8_284125** SeqNo: **3879565** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	5.0								
Ethylbenzene	ND	5.0								
m,p-Xylene	ND	10								
o-Xylene	ND	5.0								
Toluene	ND	5.0								
Xylenes, Total	ND	10								
Surr: 1,2-Dichloroethane-d4	*51.08*	*0*	*50*	*0*	*102*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*45.36*	*0*	*50*	*0*	*90.7*	*73 - 126*				
Surr: Dibromofluoromethane	*50.37*	*0*	*50*	*0*	*101*	*71 - 128*				
Surr: Toluene-d8	*47.22*	*0*	*50*	*0*	*94.4*	*73 - 127*				

LCS Sample ID: **VLCSS1-110316** Units: **ug/Kg** Analysis Date: **03-Nov-2016 08:28**
Client ID: Run ID: **VOA8_284125** SeqNo: **3879564** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	46.83	5.0	50	0	93.7	79 - 122				
Ethylbenzene	46.9	5.0	50	0	93.8	80 - 122				
m,p-Xylene	94.59	10	100	0	94.6	79 - 122				
o-Xylene	46.94	5.0	50	0	93.9	80 - 123				
Toluene	45.36	5.0	50	0	90.7	79 - 120				
Xylenes, Total	141.5	10	150	0	94.3	79 - 123				
Surr: 1,2-Dichloroethane-d4	*54.11*	*0*	*50*	*0*	*108*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*52.08*	*0*	*50*	*0*	*104*	*73 - 126*				
Surr: Dibromofluoromethane	*50.54*	*0*	*50*	*0*	*101*	*71 - 128*				
Surr: Toluene-d8	*46.12*	*0*	*50*	*0*	*92.2*	*73 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284125 **Instrument: VOA8** **Method: SW8260**

MS Sample ID: **HS16110099-03MS** Units: **ug/Kg** Analysis Date: **03-Nov-2016 10:43**
Client ID: **YF-3-7-1-2-103116** Run ID: **VOA8_284125** SeqNo: **3879728** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	33.96	4.8	48	0	70.8	79 - 122				S
Ethylbenzene	31.4	4.8	48	0	65.4	80 - 122				S
m,p-Xylene	61.59	9.6	96	0	64.2	79 - 122				S
o-Xylene	30.74	4.8	48	0	64.0	80 - 123				S
Toluene	31.07	4.8	48	0	64.7	79 - 120				S
Xylenes, Total	92.33	9.6	144	0	64.1	79 - 123				S
Surr: 1,2-Dichloroethane-d4	*53.97*	*0*	*48*	*0*	*112*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*49.87*	*0*	*48*	*0*	*104*	*73 - 126*				
Surr: Dibromofluoromethane	*52.25*	*0*	*48*	*0*	*109*	*71 - 128*				
Surr: Toluene-d8	*43.29*	*0*	*48*	*0*	*90.2*	*73 - 127*				

MSD Sample ID: **HS16110099-03MSD** Units: **ug/Kg** Analysis Date: **03-Nov-2016 11:09**
Client ID: **YF-3-7-1-2-103116** Run ID: **VOA8_284125** SeqNo: **3879729** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	34.25	5.0	49.5	0	69.2	79 - 122	33.96	0.837	30	S
Ethylbenzene	31.13	5.0	49.5	0	62.9	80 - 122	31.4	0.892	30	S
m,p-Xylene	61.13	9.9	99	0	61.7	79 - 122	61.59	0.744	30	S
o-Xylene	31.45	5.0	49.5	0	63.5	80 - 123	30.74	2.29	30	S
Toluene	31.77	5.0	49.5	0	64.2	79 - 120	31.07	2.21	30	S
Xylenes, Total	92.58	9.9	148.5	0	62.3	79 - 123	92.33	0.276	30	S
Surr: 1,2-Dichloroethane-d4	*56.05*	*0*	*49.5*	*0*	*113*	*70 - 128*	*53.97*	*3.78*	*30*	
Surr: 4-Bromofluorobenzene	*52.33*	*0*	*49.5*	*0*	*106*	*73 - 126*	*49.87*	*4.81*	*30*	
Surr: Dibromofluoromethane	*50.55*	*0*	*49.5*	*0*	*102*	*71 - 128*	*52.25*	*3.31*	*30*	
Surr: Toluene-d8	*46.64*	*0*	*49.5*	*0*	*94.2*	*73 - 127*	*43.29*	*7.45*	*30*	

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-02	HS16110099-03	HS16110099-04
HS16110099-05	HS16110099-06	HS16110099-07	HS16110099-08
HS16110099-10	HS16110099-11	HS16110099-12	HS16110099-13
HS16110099-14	HS16110099-15	HS16110099-16	HS16110099-17
HS16110099-19	HS16110099-20	HS16110099-22	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284187 **Instrument: VOA8** **Method: SW8260**

MBLK Sample ID: **VBLKS1-110416** Units: **ug/Kg** Analysis Date: **04-Nov-2016 08:29**
Client ID: Run ID: **VOA8_284187** SeqNo: **3880886** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	5.0								
Ethylbenzene	ND	5.0								
m,p-Xylene	ND	10								
o-Xylene	ND	5.0								
Toluene	ND	5.0								
Xylenes, Total	ND	10								
Surr: 1,2-Dichloroethane-d4	*53.96*	*0*	*50*	*0*	*108*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*45.33*	*0*	*50*	*0*	*90.7*	*73 - 126*				
Surr: Dibromofluoromethane	*53.63*	*0*	*50*	*0*	*107*	*71 - 128*				
Surr: Toluene-d8	*46.39*	*0*	*50*	*0*	*92.8*	*73 - 127*				

LCS Sample ID: **VLCSS1-110416** Units: **ug/Kg** Analysis Date: **04-Nov-2016 08:02**
Client ID: Run ID: **VOA8_284187** SeqNo: **3880885** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	43.79	5.0	50	0	87.6	79 - 122				
Ethylbenzene	45.5	5.0	50	0	91.0	80 - 122				
m,p-Xylene	87.96	10	100	0	88.0	79 - 122				
o-Xylene	44.26	5.0	50	0	88.5	80 - 123				
Toluene	42.04	5.0	50	0	84.1	79 - 120				
Xylenes, Total	132.2	10	150	0	88.1	79 - 123				
Surr: 1,2-Dichloroethane-d4	*56.24*	*0*	*50*	*0*	*112*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*52.22*	*0*	*50*	*0*	*104*	*73 - 126*				
Surr: Dibromofluoromethane	*50.56*	*0*	*50*	*0*	*101*	*71 - 128*				
Surr: Toluene-d8	*44.42*	*0*	*50*	*0*	*88.8*	*73 - 127*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284187 **Instrument: VOA8** **Method: SW8260**

MS Sample ID: **HS16110099-26MS** Units: **ug/Kg** Analysis Date: **04-Nov-2016 11:10**
Client ID: **YF-3-6-2-3-103116** Run ID: **VOA8_284187** SeqNo: **3881307** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	37.99	5.0	50	0	76.0	79 - 122				S
Ethylbenzene	35	5.0	50	0	70.0	80 - 122				S
m,p-Xylene	68.13	10	100	0	68.1	79 - 122				S
o-Xylene	33.8	5.0	50	0	67.6	80 - 123				S
Toluene	35.68	5.0	50	0	71.4	79 - 120				S
Xylenes, Total	101.9	10	150	0	68.0	79 - 123				S
Surr: 1,2-Dichloroethane-d4	*53.8*	*0*	*50*	*0*	*108*	*70 - 128*				
Surr: 4-Bromofluorobenzene	*52.41*	*0*	*50*	*0*	*105*	*73 - 126*				
Surr: Dibromofluoromethane	*52.14*	*0*	*50*	*0*	*104*	*71 - 128*				
Surr: Toluene-d8	*46.62*	*0*	*50*	*0*	*93.2*	*73 - 127*				

MSD Sample ID: **HS16110099-26MSD** Units: **ug/Kg** Analysis Date: **04-Nov-2016 11:37**
Client ID: **YF-3-6-2-3-103116** Run ID: **VOA8_284187** SeqNo: **3881308** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	41.7	5.0	50	0	83.4	79 - 122	37.99	9.31	30	
Ethylbenzene	38.2	5.0	50	0	76.4	80 - 122	35	8.74	30	S
m,p-Xylene	73.88	10	100	0	73.9	79 - 122	68.13	8.09	30	S
o-Xylene	36.74	5.0	50	0	73.5	80 - 123	33.8	8.33	30	S
Toluene	39.47	5.0	50	0	78.9	79 - 120	35.68	10.1	30	S
Xylenes, Total	110.6	10	150	0	73.7	79 - 123	101.9	8.17	30	S
Surr: 1,2-Dichloroethane-d4	*56.94*	*0*	*50*	*0*	*114*	*70 - 128*	*53.8*	*5.66*	*30*	
Surr: 4-Bromofluorobenzene	*52.73*	*0*	*50*	*0*	*105*	*73 - 126*	*52.41*	*0.592*	*30*	
Surr: Dibromofluoromethane	*49.45*	*0*	*50*	*0*	*98.9*	*71 - 128*	*52.14*	*5.29*	*30*	
Surr: Toluene-d8	*45.94*	*0*	*50*	*0*	*91.9*	*73 - 127*	*46.62*	*1.49*	*30*	

The following samples were analyzed in this batch: HS16110099-21 HS16110099-23 HS16110099-24 HS16110099-25 HS16110099-26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284199 **Instrument: VOA6** **Method: SW8260**

MBLK Sample ID: **VBLKW-161103** Units: **ug/L** Analysis Date: **03-Nov-2016 13:14**
Client ID: Run ID: **VOA6_284199** SeqNo: **3881081** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
m,p-Xylene	ND	2.0								
o-Xylene	ND	1.0								
Toluene	ND	1.0								
Xylenes, Total	ND	3.0								
Surr: 1,2-Dichloroethane-d4	*45.16*	*1.0*	*50*	*0*	*90.3*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*47.87*	*1.0*	*50*	*0*	*95.7*	*70 - 125*				
Surr: Dibromofluoromethane	*47.32*	*1.0*	*50*	*0*	*94.6*	*74 - 125*				
Surr: Toluene-d8	*50.55*	*1.0*	*50*	*0*	*101*	*75 - 125*				

LCS Sample ID: **VLCSW-161103** Units: **ug/L** Analysis Date: **03-Nov-2016 11:39**
Client ID: Run ID: **VOA6_284199** SeqNo: **3881079** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	49.62	1.0	50	0	99.2	75 - 122				
Ethylbenzene	51.27	1.0	50	0	103	80 - 120				
m,p-Xylene	101.3	2.0	100	0	101	80 - 120				
o-Xylene	51.78	1.0	50	0	104	80 - 120				
Toluene	49.52	1.0	50	0	99.0	75 - 121				
Xylenes, Total	153.1	3.0	150	0	102	79 - 124				
Surr: 1,2-Dichloroethane-d4	*44.62*	*1.0*	*50*	*0*	*89.2*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*49.21*	*1.0*	*50*	*0*	*98.4*	*70 - 125*				
Surr: Dibromofluoromethane	*47.46*	*1.0*	*50*	*0*	*94.9*	*74 - 125*				
Surr: Toluene-d8	*49.56*	*1.0*	*50*	*0*	*99.1*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284199 **Instrument: VOA6** **Method: SW8260**

LCSD Sample ID: **VLCSDW-161103** Units: **ug/L** Analysis Date: **03-Nov-2016 12:02**
Client ID: Run ID: **VOA6_284199** SeqNo: **3881080** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	49.15	1.0	50	0	98.3	75 - 122	49.62	0.95	20	
Ethylbenzene	50.5	1.0	50	0	101	80 - 120	51.27	1.5	20	
m,p-Xylene	100.4	2.0	100	0	100	80 - 120	101.3	0.852	20	
o-Xylene	51.35	1.0	50	0	103	80 - 120	51.78	0.828	20	
Toluene	48.92	1.0	50	0	97.8	75 - 121	49.52	1.23	20	
Xylenes, Total	151.8	3.0	150	0	101	80 - 124	153.1	0.844	20	
Surr: 1,2-Dichloroethane-d4	*44.02*	*1.0*	*50*	*0*	*88.0*	*71 - 125*	*44.62*	*1.37*	*20*	
Surr: 4-Bromofluorobenzene	*48.8*	*1.0*	*50*	*0*	*97.6*	*70 - 125*	*49.21*	*0.847*	*20*	
Surr: Dibromofluoromethane	*47.06*	*1.0*	*50*	*0*	*94.1*	*74 - 125*	*47.46*	*0.855*	*20*	
Surr: Toluene-d8	*49.85*	*1.0*	*50*	*0*	*99.7*	*75 - 125*	*49.56*	*0.58*	*20*	

MS Sample ID: **HS16110087-02MS** Units: **ug/L** Analysis Date: **03-Nov-2016 15:13**
Client ID: Run ID: **VOA6_284199** SeqNo: **3881137** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	46.85	1.0	50	0	93.7	75 - 122				
Ethylbenzene	47.16	1.0	50	0	94.3	80 - 120				
m,p-Xylene	92.61	2.0	100	0	92.6	80 - 120				
o-Xylene	47.14	1.0	50	0	94.3	80 - 120				
Toluene	45.47	1.0	50	0	90.9	75 - 121				
Xylenes, Total	139.7	3.0	150	0	93.2	80 - 124				
Surr: 1,2-Dichloroethane-d4	*44.45*	*1.0*	*50*	*0*	*88.9*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*49.84*	*1.0*	*50*	*0*	*99.7*	*70 - 125*				
Surr: Dibromofluoromethane	*46.48*	*1.0*	*50*	*0*	*93.0*	*74 - 125*				
Surr: Toluene-d8	*49.5*	*1.0*	*50*	*0*	*99.0*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284199 **Instrument: VOA6** **Method: SW8260**

MSD Sample ID: **HS16110087-02MSD** Units: **ug/L** Analysis Date: **03-Nov-2016 15:37**
Client ID: Run ID: **VOA6_284199** SeqNo: **3881138** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	44.53	1.0	50	0	89.1	75 - 122	46.85	5.08	20	
Ethylbenzene	46.11	1.0	50	0	92.2	80 - 120	47.16	2.25	20	
m,p-Xylene	90.69	2.0	100	0	90.7	80 - 120	92.61	2.09	20	
o-Xylene	47.02	1.0	50	0	94.0	80 - 120	47.14	0.257	20	
Toluene	45.34	1.0	50	0	90.7	75 - 121	45.47	0.299	20	
Xylenes, Total	137.7	3.0	150	0	91.8	80 - 124	139.7	1.47	20	
Surr: 1,2-Dichloroethane-d4	*44.62*	*1.0*	*50*	*0*	*89.2*	*71 - 125*	*44.45*	*0.383*	*20*	
Surr: 4-Bromofluorobenzene	*49.25*	*1.0*	*50*	*0*	*98.5*	*70 - 125*	*49.84*	*1.2*	*20*	
Surr: Dibromofluoromethane	*46.9*	*1.0*	*50*	*0*	*93.8*	*74 - 125*	*46.48*	*0.887*	*20*	
Surr: Toluene-d8	*50.05*	*1.0*	*50*	*0*	*100*	*75 - 125*	*49.5*	*1.11*	*20*	

The following samples were analyzed in this batch: HS16110099-09 HS16110099-18 HS16110099-27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109729 **Instrument: UV-2450** **Method: SW7196**

MBLK Sample ID: **MBLK-109729** Units: **mg/kg** Analysis Date: **14-Nov-2016 14:50**
Client ID: Run ID: **UV-2450_284803** SeqNo: **3892478** PrepDate: **10-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	2.00								

LCS Sample ID: **LCS-109729** Units: **mg/kg** Analysis Date: **14-Nov-2016 14:50**
Client ID: Run ID: **UV-2450_284803** SeqNo: **3892477** PrepDate: **10-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.72	2.00	10	0	97.2	80 - 120				

MS Sample ID: **HS16110099-13MS** Units: **mg/kg** Analysis Date: **14-Nov-2016 14:50**
Client ID: **YF-3-2-1-2-102916** Run ID: **UV-2450_284803** SeqNo: **3892475** PrepDate: **10-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	8.253	1.99	9.967	-0.03996	83.2	75 - 125				

MSD Sample ID: **HS16110099-13MSD** Units: **mg/kg** Analysis Date: **14-Nov-2016 14:50**
Client ID: **YF-3-2-1-2-102916** Run ID: **UV-2450_284803** SeqNo: **3892476** PrepDate: **10-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.277	2.00	9.996	-0.03996	93.2	75 - 125	8.253	11.7	20	

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-02	HS16110099-03	HS16110099-04
HS16110099-05	HS16110099-06	HS16110099-07	HS16110099-08
HS16110099-10	HS16110099-11	HS16110099-12	HS16110099-13

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: 109730 **Instrument: UV-2450** **Method: SW7196**

MBLK Sample ID: **MBLK-109730** Units: **mg/kg** Analysis Date: **15-Nov-2016 15:51**
Client ID: Run ID: **UV-2450_284921** SeqNo: **3894872** PrepDate: **14-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	ND	2.00								

LCS Sample ID: **LCS-109730** Units: **mg/kg** Analysis Date: **15-Nov-2016 15:51**
Client ID: Run ID: **UV-2450_284921** SeqNo: **3894871** PrepDate: **14-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.64	2.00	10	0	96.4	80 - 120				

MS Sample ID: **HS16110099-26MS** Units: **mg/kg** Analysis Date: **15-Nov-2016 15:51**
Client ID: **YF-3-6-2-3-103116** Run ID: **UV-2450_284921** SeqNo: **3894869** PrepDate: **14-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.316	2.00	9.996	0.07985	92.4	75 - 125				

MSD Sample ID: **HS16110099-26MSD** Units: **mg/kg** Analysis Date: **15-Nov-2016 15:51**
Client ID: **YF-3-6-2-3-103116** Run ID: **UV-2450_284921** SeqNo: **3894870** PrepDate: **14-Nov-2016** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.052	1.99	9.969	0.07985	90.0	75 - 125	9.316	2.88	20	

The following samples were analyzed in this batch:

HS16110099-14	HS16110099-15	HS16110099-16	HS16110099-17
HS16110099-19	HS16110099-20	HS16110099-21	HS16110099-22
HS16110099-23	HS16110099-24	HS16110099-25	HS16110099-26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284379 **Instrument: Balance1** **Method: SW3550**

DUP Sample ID: **HS16110099-08DUP** Units: **wt%** Analysis Date: **07-Nov-2016 11:57**
Client ID: **YF-3-8-15-16-103116** Run ID: **Balance1_284379** SeqNo: **3884499** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	11.3	0.0100					12.3	8.47	20	

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-02	HS16110099-03	HS16110099-04
HS16110099-05	HS16110099-06	HS16110099-07	HS16110099-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284423 **Instrument: Balance1** **Method: SW3550**

DUP Sample ID: **HS16110343-08DUP** Units: **wt%** Analysis Date: **08-Nov-2016 09:56**
Client ID: Run ID: **Balance1_284423** SeqNo: **3885273** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	8.83	0.0100					7.81	12.3	20	

The following samples were analyzed in this batch:

HS16110099-10	HS16110099-11	HS16110099-12	HS16110099-13
HS16110099-14	HS16110099-15	HS16110099-16	HS16110099-17
HS16110099-19	HS16110099-20	HS16110099-21	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284457 **Instrument: Balance1** **Method: SW3550**

DUP Sample ID: **HS16110191-01DUP** Units: **wt%** Analysis Date: **08-Nov-2016 10:03**
Client ID: Run ID: **Balance1_284457** SeqNo: **3886008** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	28.4	0.0100					27.7	2.5	20	

The following samples were analyzed in this batch: HS16110099-22 HS16110099-23 HS16110099-24 HS16110099-25 HS16110099-26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284832 **Instrument: WetChem_HS** **Method: SW9045B**

DUP Sample ID: **HS16110607-02DUP** Units: **pH Units** Analysis Date: **15-Nov-2016 14:15**
Client ID: Run ID: **WetChem_HS_284832** SeqNo: **3893133** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.11	0.100					6.12	0.164	10	
Temp Deg C @pH	22.7	0					22.6	0.442	10	

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-02	HS16110099-03	HS16110099-04
HS16110099-05	HS16110099-06	HS16110099-07	HS16110099-08
HS16110099-10	HS16110099-11	HS16110099-12	HS16110099-13
HS16110099-14	HS16110099-15	HS16110099-16	HS16110099-17

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R284938 **Instrument: WetChem_HS** **Method: SW9045B**

DUP Sample ID: **HS16110266-08DUP** Units: **pH Units** Analysis Date: **16-Nov-2016 15:15**
Client ID: Run ID: **WetChem_HS_284938** SeqNo: **3895155** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.64	0.100					8.68	0.462	10	
Temp Deg C @pH	22	0					22	0	10	

The following samples were analyzed in this batch:

HS16110099-19	HS16110099-20	HS16110099-21	HS16110099-22
HS16110099-23	HS16110099-24	HS16110099-25	HS16110099-26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R285018 **Instrument: Balance1** **Method: LaDNR-29B SP**

DUP Sample ID: **HS16110099-20DUP** Units: **SP as fraction** Analysis Date: **17-Nov-2016 11:05**
Client ID: **YF-3-4-1-2-102916** Run ID: **Balance1_285018** SeqNo: **3896933** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.483	0.100					0.492	1.85	30	

The following samples were analyzed in this batch:

HS16110099-01	HS16110099-02	HS16110099-03	HS16110099-04
HS16110099-05	HS16110099-06	HS16110099-07	HS16110099-08
HS16110099-10	HS16110099-11	HS16110099-12	HS16110099-13
HS16110099-14	HS16110099-15	HS16110099-16	HS16110099-17
HS16110099-19	HS16110099-20	HS16110099-21	HS16110099-22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: HS16110099

QC BATCH REPORT

Batch ID: R285019 **Instrument: Balance1** **Method: LaDNR-29B SP**

DUP Sample ID: **HS16110099-26DUP** Units: **SP as fraction** Analysis Date: **17-Nov-2016 11:15**
Client ID: **YF-3-6-2-3-103116** Run ID: **Balance1_285019** SeqNo: **3896941** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.454	0.100					0.467	2.82	30	

The following samples were analyzed in this batch: HS16110099-23 HS16110099-24 HS16110099-25 HS16110099-26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
WorkOrder: **HS16110099**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	16-022-1	27-Mar-2017
California	2919 2016-2018	31-Jul-2018
Illinois	003872	09-May-2017
Kansas	E-10352 2016-2017	31-Jul-2017
Kentucky	96 2016-2017	30-Apr-2017
Louisiana	03087 2016-2017	30-Jun-2017
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R193 2016-2017	30-Apr-2017
Oklahoma	2016-122	31-Aug-2017
Texas	TX104704231-16-17	30-Apr-2017

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Work Order: HS16110099

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16110099-01	YF-3-6-10-11-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-01	YF-3-6-10-11-103116	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-01	YF-3-6-10-11-103116	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-01	YF-3-6-10-11-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-02	YF-3-6-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-02	YF-3-6-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-02	YF-3-6-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-02	YF-3-6-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-03	YF-3-7-1-2-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-03	YF-3-7-1-2-103116	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-03	YF-3-7-1-2-103116	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-03	YF-3-7-1-2-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-04	YF-3-7-9-10-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-04	YF-3-7-9-10-103116	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-04	YF-3-7-9-10-103116	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-04	YF-3-7-9-10-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-05	YF-3-7-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-05	YF-3-7-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-05	YF-3-7-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-05	YF-3-7-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-06	YF-3-8-1-2-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-06	YF-3-8-1-2-103116	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-06	YF-3-8-1-2-103116	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-06	YF-3-8-1-2-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-07	YF-3-8-6-7-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-07	YF-3-8-6-7-103116	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-07	YF-3-8-6-7-103116	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-07	YF-3-8-6-7-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-08	YF-3-8-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-08	YF-3-8-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-08	YF-3-8-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-08	YF-3-8-15-16-103116	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-09	TRIP BLANK 100716-09	Login	11/2/2016 3:16:37 PM	KRM	VW-3
HS16110099-10	YF-3-1-0-1-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-10	YF-3-1-0-1-102916	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-10	YF-3-1-0-1-102916	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-10	YF-3-1-0-1-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-11	YF-3-1-11-12-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-11	YF-3-1-11-12-102916	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-11	YF-3-1-11-12-102916	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Work Order: HS16110099

SAMPLE TRACKING

HS16110099-11	YF-3-1-11-12-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-12	YF-3-1-14-15-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-12	YF-3-1-14-15-102916	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-12	YF-3-1-14-15-102916	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-12	YF-3-1-14-15-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-13	YF-3-2-1-2-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-13	YF-3-2-1-2-102916	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-13	YF-3-2-1-2-102916	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-13	YF-3-2-1-2-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-14	YF-3-2-12-13-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-14	YF-3-2-12-13-102916	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-14	YF-3-2-12-13-102916	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-14	YF-3-2-12-13-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-15	YF-3-2-15-16-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-15	YF-3-2-15-16-102916	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-15	YF-3-2-15-16-102916	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-15	YF-3-2-15-16-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-16	YF-3-3-1-2-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-16	YF-3-3-1-2-102916	Login	11/2/2016 3:16:37 PM	KRM	VW-2
HS16110099-16	YF-3-3-1-2-102916	Login	11/2/2016 3:16:37 PM	KRM	BTEX B1
HS16110099-16	YF-3-3-1-2-102916	Login	11/2/2016 3:16:37 PM	KRM	1D
HS16110099-17	YF-3-3-7-8-102916	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-17	YF-3-3-7-8-102916	Login	11/2/2016 3:16:38 PM	KRM	VW-2
HS16110099-17	YF-3-3-7-8-102916	Login	11/2/2016 3:16:38 PM	KRM	BTEX B1
HS16110099-17	YF-3-3-7-8-102916	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-18	TRIP BLANK 100716-85	Login	11/2/2016 3:16:38 PM	KRM	VW-3
HS16110099-19	YF-3-3-15-16-102916	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-19	YF-3-3-15-16-102916	Login	11/2/2016 3:16:38 PM	KRM	VW-2
HS16110099-19	YF-3-3-15-16-102916	Login	11/2/2016 3:16:38 PM	KRM	BTEX B1
HS16110099-19	YF-3-3-15-16-102916	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-20	YF-3-4-1-2-102916	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-20	YF-3-4-1-2-102916	Login	11/2/2016 3:16:38 PM	KRM	VW-2
HS16110099-20	YF-3-4-1-2-102916	Login	11/2/2016 3:16:38 PM	KRM	BTEX B1
HS16110099-20	YF-3-4-1-2-102916	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-21	YF-3-4-10-11-102916	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-21	YF-3-4-10-11-102916	Login	11/2/2016 3:16:38 PM	KRM	VW-2
HS16110099-21	YF-3-4-10-11-102916	Login	11/2/2016 3:16:38 PM	KRM	BTEX B1
HS16110099-21	YF-3-4-10-11-102916	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-22	YF-3-4-15-16-102916	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-22	YF-3-4-15-16-102916	Login	11/2/2016 3:16:38 PM	KRM	VW-2
HS16110099-22	YF-3-4-15-16-102916	Login	11/2/2016 3:16:38 PM	KRM	BTEX B1
HS16110099-22	YF-3-4-15-16-102916	Login	11/2/2016 3:16:38 PM	KRM	1D

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Work Order: HS16110099

SAMPLE TRACKING

HS16110099-23	YF-3-5-2-3-103116	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-23	YF-3-5-2-3-103116	Login	11/2/2016 3:16:38 PM	KRM	VW-2
HS16110099-23	YF-3-5-2-3-103116	Login	11/2/2016 3:16:38 PM	KRM	BTEX B1
HS16110099-23	YF-3-5-2-3-103116	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-24	YF-3-5-5-6-103116	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-24	YF-3-5-5-6-103116	Login	11/2/2016 3:16:38 PM	KRM	VW-2
HS16110099-24	YF-3-5-5-6-103116	Login	11/2/2016 3:16:38 PM	KRM	BTEX B1
HS16110099-24	YF-3-5-5-6-103116	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-25	YF-3-5-15-16-103116	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-25	YF-3-5-15-16-103116	Login	11/2/2016 3:16:38 PM	KRM	VW-2
HS16110099-25	YF-3-5-15-16-103116	Login	11/2/2016 3:16:38 PM	KRM	BTEX B1
HS16110099-25	YF-3-5-15-16-103116	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-26	YF-3-6-2-3-103116	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-26	YF-3-6-2-3-103116	Login	11/2/2016 3:16:38 PM	KRM	VW-2
HS16110099-26	YF-3-6-2-3-103116	Login	11/2/2016 3:16:38 PM	KRM	BTEX B1
HS16110099-26	YF-3-6-2-3-103116	Login	11/2/2016 3:16:38 PM	KRM	1D
HS16110099-27	TRIP BLANK 100716-84	Login	11/2/2016 3:16:38 PM	KRM	VW-3
HS16110099-01	YF-3-6-10-11-103116	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-02	YF-3-6-15-16-103116	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-03	YF-3-7-1-2-103116	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-04	YF-3-7-9-10-103116	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-05	YF-3-7-15-16-103116	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-06	YF-3-8-1-2-103116	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-07	YF-3-8-6-7-103116	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-08	YF-3-8-15-16-103116	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-10	YF-3-1-0-1-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-11	YF-3-1-11-12-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-12	YF-3-1-14-15-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-13	YF-3-2-1-2-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-14	YF-3-2-12-13-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-15	YF-3-2-15-16-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-16	YF-3-3-1-2-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-17	YF-3-3-7-8-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-19	YF-3-3-15-16-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-20	YF-3-4-1-2-102916	Out	11/8/2016 10:03:11 AM	PVL	METPREP
HS16110099-01	YF-3-6-10-11-103116	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-02	YF-3-6-15-16-103116	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-03	YF-3-7-1-2-103116	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-04	YF-3-7-9-10-103116	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-05	YF-3-7-15-16-103116	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-06	YF-3-8-1-2-103116	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-07	YF-3-8-6-7-103116	Return	11/8/2016 10:03:30 AM	PVL	1D

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Work Order: HS16110099

SAMPLE TRACKING

HS16110099-08	YF-3-8-15-16-103116	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-10	YF-3-1-0-1-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-11	YF-3-1-11-12-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-12	YF-3-1-14-15-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-13	YF-3-2-1-2-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-14	YF-3-2-12-13-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-15	YF-3-2-15-16-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-16	YF-3-3-1-2-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-17	YF-3-3-7-8-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-19	YF-3-3-15-16-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-20	YF-3-4-1-2-102916	Return	11/8/2016 10:03:30 AM	PVL	1D
HS16110099-21	YF-3-4-10-11-102916	Out	11/8/2016 3:02:29 PM	PVL	METPREP
HS16110099-22	YF-3-4-15-16-102916	Out	11/8/2016 3:02:29 PM	PVL	METPREP
HS16110099-23	YF-3-5-2-3-103116	Out	11/8/2016 3:02:29 PM	PVL	METPREP
HS16110099-24	YF-3-5-5-6-103116	Out	11/8/2016 3:02:29 PM	PVL	METPREP
HS16110099-25	YF-3-5-15-16-103116	Out	11/8/2016 3:02:29 PM	PVL	METPREP
HS16110099-26	YF-3-6-2-3-103116	Out	11/8/2016 3:02:29 PM	PVL	METPREP
HS16110099-21	YF-3-4-10-11-102916	Return	11/8/2016 3:02:56 PM	PVL	1D
HS16110099-22	YF-3-4-15-16-102916	Return	11/8/2016 3:02:56 PM	PVL	1D
HS16110099-23	YF-3-5-2-3-103116	Return	11/8/2016 3:02:56 PM	PVL	1D
HS16110099-24	YF-3-5-5-6-103116	Return	11/8/2016 3:02:56 PM	PVL	1D
HS16110099-25	YF-3-5-15-16-103116	Return	11/8/2016 3:02:56 PM	PVL	1D
HS16110099-26	YF-3-6-2-3-103116	Return	11/8/2016 3:02:56 PM	PVL	1D
HS16110099-22	YF-3-4-15-16-102916	Return	11/17/2016 6:31:01 PM	OFO	1D
HS16110099-23	YF-3-5-2-3-103116	Return	11/17/2016 6:31:01 PM	OFO	1D
HS16110099-24	YF-3-5-5-6-103116	Return	11/17/2016 6:31:01 PM	OFO	1D
HS16110099-25	YF-3-5-15-16-103116	Return	11/17/2016 6:31:01 PM	OFO	1D
HS16110099-26	YF-3-6-2-3-103116	Return	11/17/2016 6:31:01 PM	OFO	1D
HS16110099-01	YF-3-6-10-11-103116	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-02	YF-3-6-15-16-103116	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-03	YF-3-7-1-2-103116	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-04	YF-3-7-9-10-103116	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-05	YF-3-7-15-16-103116	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-06	YF-3-8-1-2-103116	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-07	YF-3-8-6-7-103116	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-08	YF-3-8-15-16-103116	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-10	YF-3-1-0-1-102916	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-11	YF-3-1-11-12-102916	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-12	YF-3-1-14-15-102916	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-13	YF-3-2-1-2-102916	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-14	YF-3-2-12-13-102916	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-15	YF-3-2-15-16-102916	Return	11/17/2016 6:31:26 PM	OFO	1D

Client: Kinder Morgan
Project: McElmo Dome & Doe Canyon
Work Order: HS16110099

SAMPLE TRACKING

HS16110099-16	YF-3-3-1-2-102916	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-17	YF-3-3-7-8-102916	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-19	YF-3-3-15-16-102916	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-20	YF-3-4-1-2-102916	Return	11/17/2016 6:31:26 PM	OFO	1D
HS16110099-21	YF-3-4-10-11-102916	Return	11/17/2016 6:31:26 PM	OFO	1D

Sample Receipt Checklist

Client Name: Kinder Morgan
Work Order: HS16110099
Date/Time Received: **02-Nov-2016 08:30**
Received by: **RPG**

Checklist completed by: *Krysta Mathis* eSignature 2-Nov-2016 Date
Reviewed by: *Sonia West* eSignature 3-Nov-2016 Date

Matrices: **soils**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☐	No ☑	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.9/1.2, 1.3/1.6, 0.4/0.7 u/c	11	
Cooler(s)/Kit(s):	25624, 25482, 25722		
Date/Time sample(s) sent to storage:	11/02/2016 17:00		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: TB 100716-85 2 of 2 cap was broken while labeling this sample was not used for analysis.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

ALS Environmental

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Chain of Custody F

Page ____ of ____

COC ID: 14812

HS16110099

Kinder Morgan
McElmo Dome & Doe Canyon

Ieston, WV
3168

5280

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	Workorder Dir. 47971	Project Name	McElmo Dome
Work Order		Project Number	CO002255.0001
Company Name	Kinder Morgan	Bill To Company	Kinder Morgan CO2 Company, L.P.
Send Report To	Aaron Hale	Invoice Attn	Mike Hannigan
Address	1001 Louisiana Street Suite 740D	Address	17801 Highway 491
City/State/Zip	Houston, TX 77002	City/State/Zip	Cortez, CO 81321
Phone	(713) 369-9193	Phone	(970) 882-5532
Fax	(713) 495-2835	Fax	
e-Mail Address		e-Mail Address	

A	8260_S (BTEX 8260)
B	8015_GRO_S (GRO 8015)
C	8015M_S_LL (DRO 8015)
D	LA29B SAR (SAR & EC)
E	PH_S (pH)
F	ICP_S_Low (As,Ba,B,Cd,Cr,Cu,Pb,Ni,Se,Ag,Zn)
G	HG_S_Low (Mercury)
H	Cr3_S (Trivalent Chromium)
I	Cr6_S (Hexavalent Chromium)
J	MOIST_SW3550 (Moisture)

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	YF-3-6-10-11-103116	10/31/16	1200	soil	n/a	4	X	X	X	X	X	X	X	X	X	X	
2	YF-3-6-15-16-103116	10/31/16	1215	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
3	YF-3-7-1-2-103116	10/31/16	1030														
4	YF-3-7-9-10-103116	10/31/16	1050														
5	YF-3-7-15-16-103116	10/31/16	1105														
6	YF-3-8-1-2-103116	10/31/16	0940														
7	YF-3-8-6-7-103116	10/31/16	0955														
8	YF-3-8-15-16-103116	10/31/16	1015														
9	Trip Blank	n/a	n/a				X										
10																	

Sampler(s) Please Print & Sign: Kaelynn Rose Kaelynn Rose

Shipment Method: FedEx

Required Turnaround Time: (Check Box) TAT 10 days Other:

Results Due Date:

Relinquished by: Kaelynn Rose Date: 10/31/16 Time: 1100

Relinquished by: Date: Time:

Received by:

Received by (Laboratory): R Cuss 11/2/16 08:30

Logged by (Laboratory): Date: Time:

Checked by (Laboratory):

Notes: [KM CO2 RFP 16MDLRFP077]

Cooler ID	Cooler Temp.
25722	0-4 °C
IR 11	
40-	

QC Package: (Check One Box Below)
QC Level STD
Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed.

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Chain of Custody F

Page _____ of _____

COC ID: 14813

HS16110099

Kinder Morgan

McElmo Dome & Doe Canyon

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	Workorder Dir. 47971	Project Name	McElmo Dome
Work Order		Project Number	CO002255.0001
Company Name	Kinder Morgan	Bill To Company	Kinder Morgan CO2 Company, L.P.
Send Report To	Aaron Hale	Invoice Attn	Mike Hannigan
Address	1001 Louisiana Street Suite 740D	Address	17801 Highway 491
City/State/Zip	Houston, TX 77002	City/State/Zip	Cortez, CO 81321
Phone	(713) 369-9193	Phone	(970) 882-5532
Fax	(713) 495-2835	Fax	
e-Mail Address		e-Mail Address	

A	8260_S (BTEX 8260)
B	8015_GRO_S (GRO 8015)
C	8015M_S_LL (DRO 8015)
D	LA29B SAR (SAR & EC)
E	PH_S (pH)
F	ICP_S_Low (As,Ba,B,Cd,Cr,Cu,Pb,Ni,Se,Ag,Zn)
G	HG_S_Low (Mercury)
H	Cr3_S (Trivalent Chromium)
I	Cr6_S (Hexavalent Chromium)
J	MOIST_SW3550 (Moisture)

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	YF-3-1-0-1-102916	10/29/16	0820	Soil	n/a	4	X	X	X	X	X	X	X	X	X	X	
2	YF-3-1-11-12-102916		0840														
3	YF-3-1-14-15-102916		0850														
4	YF-3-2-1-2-102916		0915														
5	YF-3-2-12-13-102916		0935														
6	YF-3-2-15-16-102916		0950														
7	YF-3-3-1-2-102916		1025														
8	YF-3-3-7-8-102916		1040				X										
9	Trip Blank	n/a	n/a				X										
10																	

Sampler(s) Please Print & Sign: Kaelynn Rose / Kaelynn Rose

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) TAT 10 days Other:

Results Due Date:

Relinquished by: Kaelynn Rose Date: 11/1/16 Time: 1100 Received by:

Relinquished by: Date: Time: Received by (Laboratory): R Cuse 11/2/16 08:30

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: [KM CO2 RFP 16MDLRFP077]

Cooler ID	Cooler Temp.
25624	0.9
1R 11	
CF+0.3	

QC Package: (Check One Box Below)

QC Level STD

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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Chain of Custody For HS16110099

Page _____ of _____

COC ID: 148138

Kinder Morgan

McElmo Dome & Doe Canyon

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	Workorder Dir. 47971	Project Name	McElmo Dome
Work Order		Project Number	CO002255.0001
Company Name	Kinder Morgan	Bill To Company	Kinder Morgan CO2 Company, L.P.
Send Report To	Aaron Hale	Invoice Attn	Mike Hannigan
Address	1001 Louisiana Street Suite 740D	Address	17801 Highway 491
City/State/Zip	Houston, TX 77002	City/State/Zip	Cortez, CO 81321
Phone	(713) 369-9193	Phone	(970) 882-5532
Fax	(713) 495-2835	Fax	
e-Mail Address		e-Mail Address	

A	8260_S (BTEX 8260)
B	8015_GRO_S (GRO 8015)
C	8015M_S_LL (DRO 8015)
D	LA29B SAR (SAR & EC)
E	PH_S (pH)
F	ICP_S_Low (As,Ba,B,Cd,Cr,Cu,Pb,Ni,Se,Ag,Zn)
G	HG_S_Low (Mercury)
H	Cr3_S (Trivalent Chromium)
I	Cr6_S (Hexavalent Chromium)
J	MOIST_SW3550 (Moisture)

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	YF-3-3-15-16-102916	10/29/16	1055	Soil	n/a	4	X	X	X	X	X	X	X	X	X	X	
2	YF-3-4-1-2-102916		1135														
3	YF-3-4-10-11-102916		1150														
4	YF-3-4-15-16-102916		1200														
5	YF-3-5-2-3-103116	10/31/16	1425	soil	n/a	4											
6	YF-3-5-5-6-103116		1435														
7	YF-3-5-15-16-10/31/16		1500														
8	YF-3-6-2-3-103116		1145														
9	Trip Blank	n/a	n/a				X										
10																	

Sampler(s) Please Print & Sign: Kaelynn Rose/Kaelynn Rose

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) TAT 10 days Other

Results Due Date:

Relinquished by: Kaelynn Rose Date: 11/1/16 Time: 1100 Received by:

Relinquished by: Date: Time: Received by (Laboratory): R Cica 11/2/16 08:30

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: [KM CO2 RFP 16MDLRFP077]

Cooler ID	Cooler Temp.
25482	1.3
IR 11	
10-3	

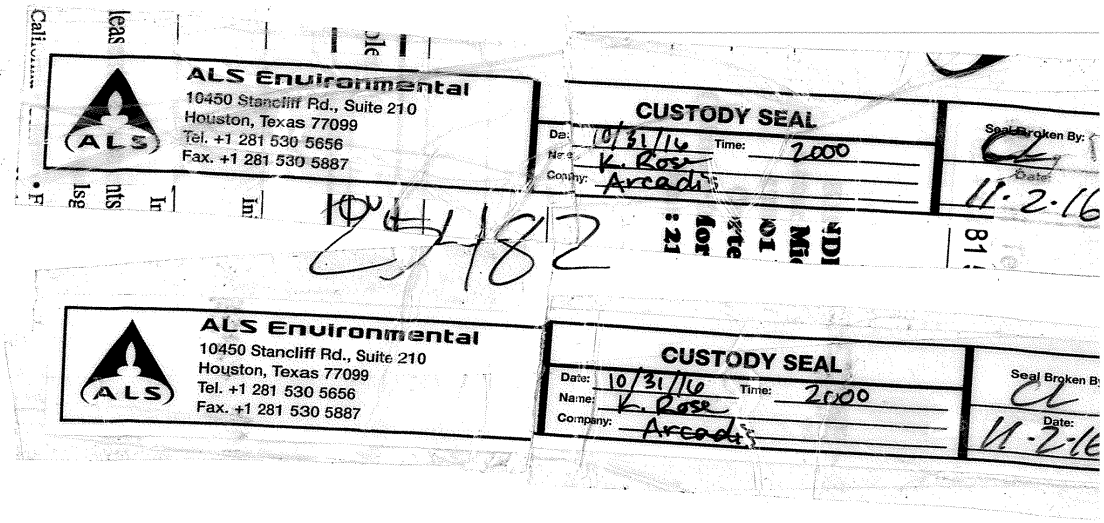
QC Package: (Check One Box Below)

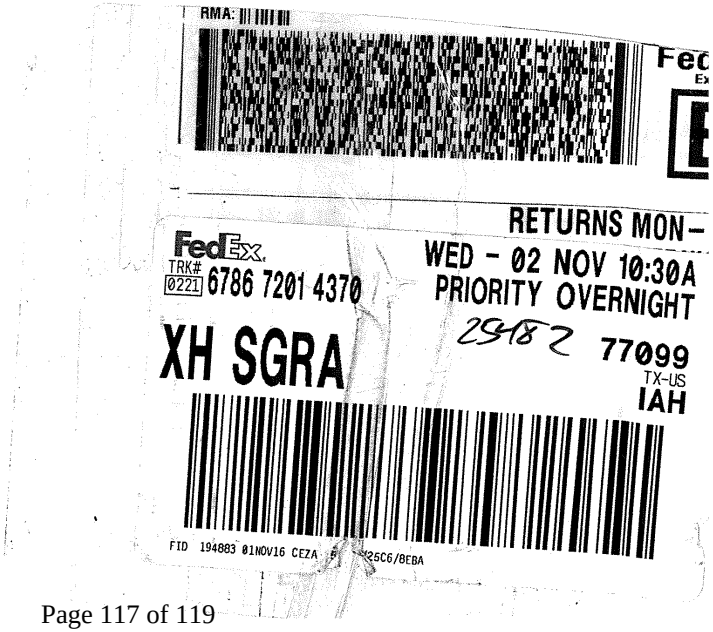
QC Level STD

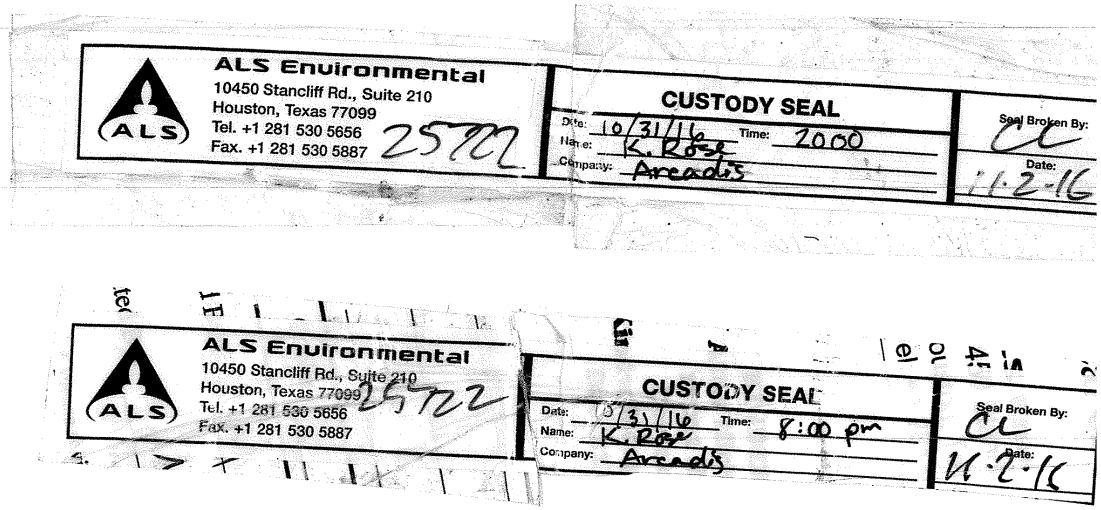
Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.







ATTACHMENT F

CDPHE White Paper on Arsenic Concentrations in Soil

Colorado Department of Public Health and Environment

Arsenic Concentrations in Soil

Risk management guidance for evaluating reviewed/revised July 2014

Regulatory Limitation

This guidance does not modify, replace, or pre-empt any existing statutory or regulatory requirements, enforcement actions, agreements, policies or other legal mechanisms that may govern actions within the Hazardous Materials and Waste Management Division's (the "division's") various remedial programs. In the event of a conflict between this guidance and existing risk assessment guidance and other programmatic requirements, this guidance defers to the various legal and operating mechanisms of those remedial programs.

This guidance was developed with the division's remedial programs in mind. Other state and federal agencies are not obligated to use the process outlined herein, although the same analysis could apply to other sites undergoing investigation and cleanup where testing for arsenic is required and it may be present in sampled environmental media. Parties wanting to use this guidance at their site must seek approval to do so from the regulatory agency responsible for overseeing their remedial activities.

Purpose

The division has prepared this guidance for the purpose of making preliminary determinations when screening data collected from sites that don't necessarily have a reason to believe arsenic contamination may be present, such as a routine Phase II investigation conducted prior to a property transaction. This guidance is simply meant to inform the regulated community of their responsibilities in managing arsenic risks: it is not regulation, nor does it constitute an enforceable standard that must be complied with.

Background

Arsenic is naturally occurring in some geologic environments in Colorado due to weathering and erosion of bedrock and soil, including highly mineralized areas that are mined for metal ores. It is present in more than 200 different minerals, the most common of which is called arsenopyrite. It may also be present in the environment due to a number of anthropogenic activities including: military operations and firing ranges; mining, especially sulfide ores; smelting copper, gold and lead ores; preservation of wood (CCA); chicken feed operations and associated manures (CAFO) due to arsenic-containing growth promoters; tanning and taxidermy operations; coal-burning emissions and ash-derived residues from power plants; and may be present in landfills and landfill-derived leachate. Arsenic may also be found due to the manufacture, use and disposal of: ammunition; fireworks; pigments (paint, paper, ceramics, etc.); older herbicides, insecticides, and pesticides (examples: monosodium methanearsonate (MSMA), disodium methanearsonate (DSMA) and lead-arsonate); electronics containing Gallium-Arsenide-Selenium (GAS) semi-conductors; lead acid battery plates; glass; and some pharmaceuticals. Other anthropogenic arsenic sources may likely exist. Arsenic contamination in soil is of public health concern due to its toxic effects as a carcinogen and a non-carcinogen. Making risk management decisions about arsenic can be difficult because natural occurring concentrations in soil often exceed carcinogenic risk based exposure values.

This guidance was prepared by the division using a data set of background arsenic concentrations developed by the U.S. EPA Region 8. The data set includes over 2,700 samples from 44 counties in Colorado. The areas sampled included: native grasslands; agricultural areas; urban mixed land use; and mining. A summary of the data set is presented in the table below. The complete data set may be found on the U.S. EPA Region 8's website at http://www2.epa.gov/region8/hh-exposure-assessment.

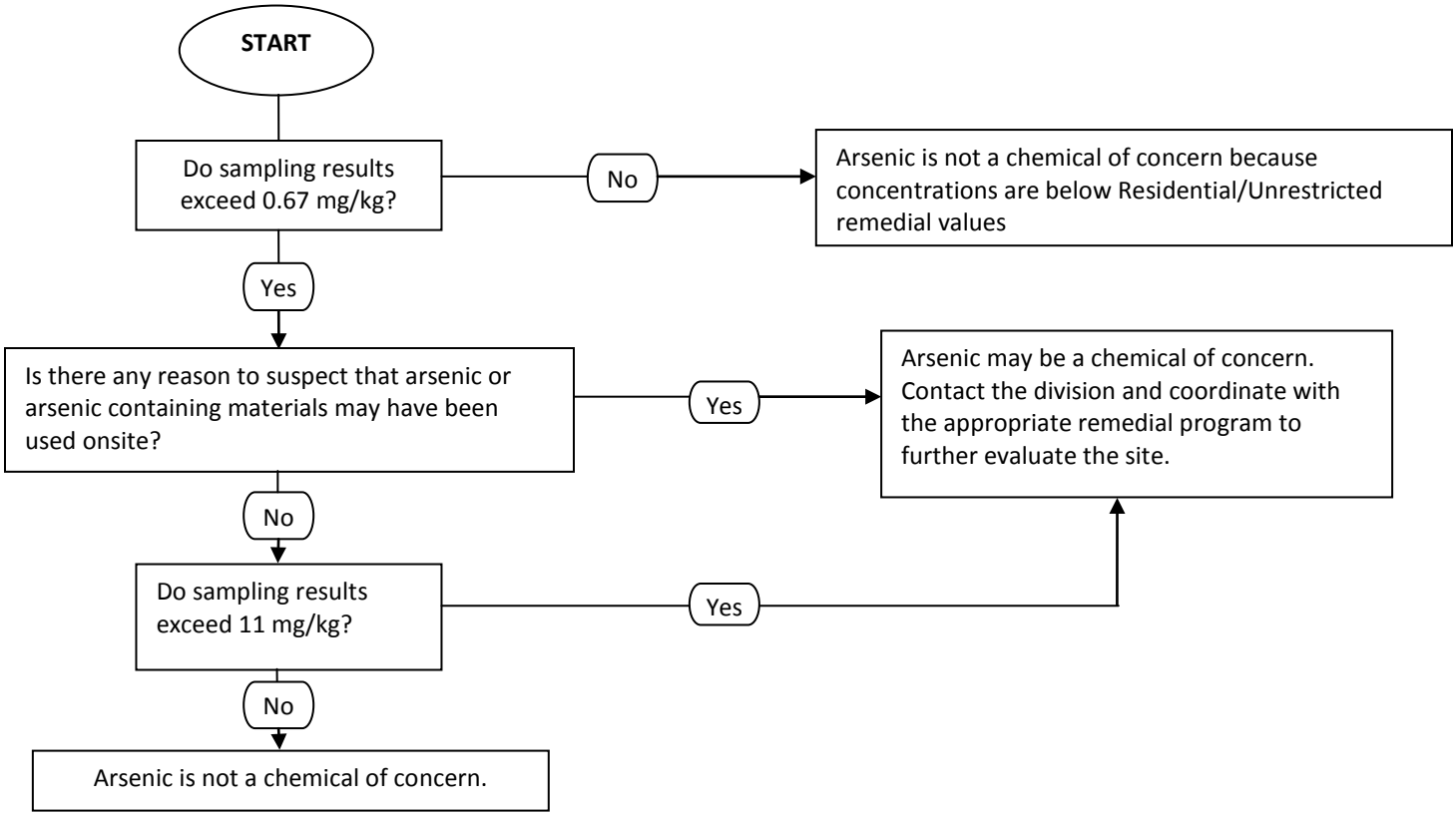
Region 8 U.S. EPA 95% UCLM Background Soil Arsenic Concentrations in Colorado

Land Use	Concentration (mg/kg)
Native Grassland, Rangeland, or Agriculture	3-14
Urban Mixed Use	6-19
Mining	10
Average of all land uses	11

Division Guidance Regarding Background Arsenic Concentration

The division's approach to evaluating arsenic in soil is depicted in the following flowchart. This guidance assumes that, based upon the size, history and environmental concerns associated with a particular site, an adequate amount of arsenic data has been obtained to make a determination regarding arsenic concentrations in soil. It isn't meant to be a guide on how to conduct a background study for risk assessment and/or site closure purposes. Guidance on the subject of data collection and analysis needs for conducting a background study should be sought from other published sources. Soil samples should be collected and analyzed for arsenic if the site history suggests it may be present as a result of anthropogenic activities. However, since arsenic is one of the chemicals included as part of a standard "metals" analysis package from a laboratory, you may already have obtained arsenic data for your site.

The current residential/unrestricted land use remedial objective for inorganic arsenic is 0.67 mg/kg (U.S. EPA regional screening level). If arsenic concentrations at your site are lower than 0.67 mg/kg, the division will require no further action to address arsenic in soil. If arsenic concentrations are lower than 11 mg/kg (the average of the 95% UCLM of background concentrations found by the U.S. EPA in Colorado), and releases of arsenic could not have occurred at the site, based on historical data or process knowledge, the division will require no further action to address arsenic in soil. If arsenic concentrations are greater than 0.67 mg/kg, and the available information suggests that a release of arsenic could have occurred at the site, the division will require additional evaluation of the data and possibly additional sampling to determine whether corrective measures for arsenic are required. This evaluation may include a site specific background study with sampling from offsite locations, and/or additional sampling in areas of the site where activities that could have contributed to environmental contamination never occurred. Please consult with the division prior to performing any background study. If it can be demonstrated that arsenic concentrations in soil are unrelated to site activities, the division will require no further action regarding arsenic. It should be noted that material such as arsenic-bearing mine tailings or oil and gas drill cuttings, although derived from a naturally occurring source material, are not considered to be naturally occurring background once they have been generated through human activity. Therefore, mine tailings and drill cuttings may be subject to remediation if ecological or health-based concentrations are exceeded.



For more information please contact:
Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Customer Technical Assistance Line:
(303) 692-3320
(888) 569-1831 ext. 3320 toll-free
E-mail: comments.hmwmd@state.co.us
Website: **www.colorado.gov/cdphe/hm**