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Subject:

**Summary Report for Site GP-16
McElmo Dome Unit, Southwestern Colorado**

ENVIRONMENT

Date:

August 16, 2016

Dear Mr. Hale:

Included herein is the Summary Report for site GP-16, which is part of the McElmo Dome Unit in southwestern Colorado. Arcadis U.S., Inc. (Arcadis) completed field work at site GP-16 in support of Kinder Morgan CO₂ Company, LP's (KM) efforts to evaluate how the former drill pits were reclaimed and determine if remediation is warranted, as may be required by the Colorado Oil and Gas Conservation Commission (COGCC).

Contact:

Kelli Jo Preston

Phone:

303.471.3403

Objectives

The objective of the work completed at site GP-16 (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.

Email:

kellijo.preston@arcadis.com

Our ref:

CO002055

Methodology

Soil conditions beneath the former pit location were evaluated 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 depth of 2 feet below the bottom of the former pit excavation, or an approximate depth of 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 1 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 will be 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 for analysis. Each soil sample was analyzed for the following:

- Polycyclic aromatic hydrocarbons (PAHs) by United States Environmental Protection Agency (USEPA) Method SW8270
- 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

One deep groundwater boring was advanced to 50 feet bgs at site GP-16 to evaluate groundwater conditions beneath the site. Boring material was logged in the deep groundwater boring, however, no soil

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samples were collected. Groundwater was not encountered in the GP-16 deep boring, therefore, a groundwater sample was not collected.

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 GP-16 is provided in **Attachment C**.

Detailed notes were kept during the field activities completed at site GP-16 and are provided in **Attachment D**.

Results

Analytical results received from ALS for the soil samples collected at site GP-16 are presented in **Table 1**. Laboratory reports are provided in **Attachment E**.

A total of 25 soil samples collected from eight soil borings, were submitted to ALS for site GP-16. **Table 1** provides all applicable screening levels (SLs) as provided per the COGCC Table 910-1. Analytical results that exceed the Table 910-1 SLs are highlighted in yellow. Key findings are summarized as follows:

- One EC exceedance was observed in soils shallower than 3 feet, from one boring location (boring 3; **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 identified as a SL exceedance in **Table 1**.
- Other SL exceedances include benzo(a)pyrene, DRO, and arsenic. Benzo(a)pyrene was detected at 0.035 milligrams per kilogram (mg/kg), above the SL of 0.022 mg/kg, in boring 3 at 18 to 19 feet bgs. DRO was detected above the SL of 500 mg/kg at boring 6 from 8 to 9 feet bgs (940 mg/kg) and 9 to 10 feet bgs (1,200 mg/kg).
- Arsenic was observed in multiple locations greater than SLs, with a maximum observed concentration of 6.05 mg/kg. However, 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**). No arsenic detection observed at site GP-16 exceeded 11 mg/kg; therefore, the concentrations likely fall within an acceptable background range.
- Liner material was observed at 10 feet bgs in borings 7 and 8, 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.

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Mr. Aaron Hale
August 16, 2016

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.

A handwritten signature in black ink that reads "Kelli Jo Preston". The signature is written in a cursive, flowing style.

Kelli Jo Preston
Project Manager

Tables

- 1 Soil Analytical Results for Samples Collected at McElmo Dome Site GP-16

Figures

- 1 GP-16 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

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Table 1 - Soil Analytical Results for Samples Collected at McElmo Dome Site GP-16
Kinder Morgan CO2 Company LP

[illegible]

Notes:

* concentrations in ug/kg
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 = microhmho per centimeter
NS = not specified
PAH = polycyclic aromatic hydrocarbon
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 GP-16
Kinder Morgan CO2 Company LP

			Metals											Volatiles					
Site	Sample Location	Depth (ft bgs)	Arsenic	Barium	Boron	Cadmium	Chromium	Copper	Lead	Nickel	Selenium	Silver	Zinc	Benzene	Ethylbenzene	m,p-Xylene	o-xylene	Toluene	Total Xylenes
			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
			mg/kg											mg/kg					
GP-16	Boring 1	2-3	2.60	179	4.33	<0.491	5.28	6.48	6.93	6.42	<0.491	<0.491	19.7	< 5.0E-03	< 5.0E-03	< 1.0E-02	< 5.0E-03	< 5.0E-03	< 1.0E-02
GP-16	Boring 1	11-12	3.83	175	10.20	<0.484	5.71	5.68	5.73	7.07	<0.484	<0.484	19.9	< 4.8E-03	< 4.8E-03	< 9.6E-03	< 4.8E-03	< 4.8E-03	< 9.6E-03
GP-16	Boring 2	1-2	2.96	158	7.14	<0.480	6.02	5.89	6.98	7.83	<0.480	b	22.5	< 4.8E-03	< 4.8E-03	< 9.7E-03	< 4.8E-03	< 4.8E-03	< 9.7E-03
GP-16	Boring 2	9-10	4.36	114	5.47	<0.478	3.94	4.04	5.47	6.06	<0.478	<0.955	161.0	< 5.5E-03	< 5.5E-03	< 9.9E-03	< 5.5E-03	< 5.5E-03	< 9.9E-03
GP-16	Boring 3	2-3	3.38	278	3.78	<0.489	1.89	2.65	4.36	4.36	<0.489	<0.489	10.3	< 5.0E-03	< 5.0E-03	< 1.0E-02	< 5.0E-03	< 5.0E-03	< 1.0E-02
GP-16	Boring 3	13-14	6.05	305	3.46	<0.490	2.17	3.80	4.97	6.39	<0.490	<0.490	21.2	< 4.9E-3	< 4.9E-3	< 9.8E-3	< 4.9E-3	< 4.9E-3	< 9.8E-3
GP-16	Boring 3	18-19	2.86	142	5.00	<0.457	4.72	5.05	5.40	5.95	<0.457	<0.457	16.4	< 4.8E-03	< 4.8E-03	< 9.7E-03	< 4.8E-03	< 4.8E-03	< 9.7E-03
GP-16	Boring 4	2-3	1.85	108	8.17	<0.460	6.02	4.86	5.05	5.98	<0.460	<0.460	16.7	< 4.9E-3	< 4.9E-3	< 9.8E-3	< 4.9E-3	< 4.9E-3	< 9.8E-3
GP-16	Boring 4	4-5	2.34	124	5.20	<0.454	6.47	4.72	5.52	6.70	<0.454	<0.454	18.4	< 4.8E-3	< 4.8E-3	< 9.6E-3	< 4.8E-3	< 4.8E-3	< 9.6E-3
GP-16	Boring 4	16-17	2.61	251	3.04	<0.450	1.67	1.73	2.25	2.89	<0.450	<0.450	8.9	< 4.8E-3	< 4.8E-3	< 9.5 E-3	< 4.8E-3	< 4.8E-3	< 9.5 E-3
GP-16	Boring 5	3-4	3.58	205	5.30	<0.488	6.84	7.99	8.40	8.80	<0.488	<0.488	24.8	< 4.7E-03	< 4.7E-03	< 9.4E-03	< 4.7E-03	< 4.7E-03	< 9.4E-03
GP-16	Boring 5	4-5	2.57	133	4.36	<0.495	3.99	3.58	5.26	5.43	<0.495	< 0.991	16.9	< 4.8E-03	< 4.8E-03	< 9.7E-03	< 4.8E-03	< 4.8E-03	< 9.7E-03
GP-16	Boring 5	13-14	4.14	287	2.65	<0.491	1.56	2.21	3.82	3.71	<0.491	<0.491	13.8	< 4.8E-03	< 4.8E-03	< 9.7E-03	< 4.8E-03	< 4.8E-03	< 9.7E-03
GP-16	Boring 6	3-4	3.04	209	5.02	<0.486	5.59	6.54	6.83	7.34	<0.486	<0.486	23.4	< 4.8E-03	< 4.8E-03	< 9.7E-03	< 4.8E-03	< 4.8E-03	< 9.7E-03
GP-16	Boring 6	8-9	4.13	102	16.80	<0.496	7.20	5.61	7.29	5.29	<0.496	<0.496	31.0	< 5.0E-03	< 5.0E-03	< 1.0E-02	< 5.0E-03	< 5.0E-03	< 1.0E-02
GP-16	Boring 6	9-10	<7.26	108	<12.1	<2.42	9.45	7.84	6.60	7.10	<2.42	<2.42	34.5	< 5.0E-03	< 5.0E-03	< 1.0E-02	< 5.0E-03	< 5.0E-03	< 1.0E-02
GP-16	Boring 6	13-14	5.09	313	2.74	<0.496	2.04	2.99	4.18	5.27	<0.496	<0.496	13.3	< 5.0E-03	< 5.0E-03	< 1.0E-02	< 5.0E-03	< 5.0E-03	< 1.0E-02
GP-16	Boring 7	3-4	3.17	153	4.95	<0.487	4.09	4.02	6.01	5.76	<0.487	<0.974	19.0	< 5.0E-03	< 5.0E-03	< 9.9E-03	< 5.0E-03	< 5.0E-03	< 9.9E-03
GP-16	Boring 7	8-9	1.86	147	9.97	<0.477	7.81	4.52	4.92	5.36	<0.477	<0.477	26.7	< 5.0E-03	< 5.0E-03	< 1.0E-02	< 5.0E-03	< 5.0E-03	< 1.0E-02
GP-16	Boring 7	9-10	1.99	103	8.41	<0.463	9.15	4.56	4.83	4.69	<0.463	<0.463	24.7	< 4.8E-03	< 4.8E-03	< 9.6E-03	< 4.8E-03	< 4.8E-03	< 9.6E-03
GP-16	Boring 7	14-15	2.90	332	<2.22	<0.445	1.74	2.14	2.73	4.28	<0.445	<0.445	12.7	< 4.8E-03	< 4.8E-03	< 9.7E-03	< 4.8E-03	< 4.8E-03	< 9.7E-03
GP-16	Boring 8	3-4	0.00248	0.0922	0.00529	< 4.09E-04	0.00639	0.00508	0.00462	0.00620	< 4.09E-04	< 4.09E-04	0.0292	< 5.0E-03	< 5.0E-03	< 9.9E-03	< 5.0E-03	< 5.0E-03	< 9.9E-03
GP-16	Boring 8	4-5	2.80	129	20.50	<0.449	13.90	6.20	7.19	8.13	0.75	<0.449	367.0	< 4.8E-03	< 4.8E-03	1.70E-02	5.30E-03	1.20E-02	2.20E-02
GP-16	Boring 8	9-10	3.79	148	4.22	<0.459	4.20	3.63	4.46	5.87	<0.459	<0.459	36.3	< 4.7E-03	< 4.7E-03	< 9.4E-03	< 4.7E-03	< 4.7E-03	< 9.4E-03
GP-16	Boring 8	17-18	3.28	51	2.88	<0.441	1.81	2.07	2.94	3.47	<0.441	<0.441	13.8	< 5.0E-03	< 5.0E-03	< 1.0E-02	< 5.0E-03	< 5.0E-03	< 1.0E-02

Notes:

* concentrations in ug/kg
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
PAH = polycyclic aromatic hydrocarbon
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 GP-16
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)	Calcium	Magnesium	Sodium	Cr(VI)	Cr(III)	EC@sat	GRO	DRO	Mercury	pH	SAR
			NS	NS	NS	23	120000	<4 mmhos/cm or 2x background	500		23	6-9	<12
			mg/L			mg/kg		mmhos/cm	mg/kg		mg/kg		meq/meq
GP-16	Boring 1	2-3	37.6	8.21	31.5	<2.00	5.28	0.993	<0.050	<5.1	8.89E-03	8.35	1.21
GP-16	Boring 1	11-12	22.8	8.67	31.6	<1.99	5.71	0.648	<0.050	<3.4	1.17E-02	8.29	1.43
GP-16	Boring 2	1-2	45.1	9.33	26.8	<2.00	6.02	0.947	<0.050	<3.4	1.38E-02	8.54	0.949
GP-16	Boring 2	9-10	904	<5.0	6080	<1.99	<5.00	91.0	<0.050	5.0	1.12E-02	11.20	55.7
GP-16	Boring 3	2-3	172	<4.99	36.2	<1.98	<5.00	4.53	<0.050	<1.7	1.26E-02	8.87	0.760
GP-16	Boring 3	13-14	19.6	6.39	20.7	<1.99	<5.00	0.76	<0.050	<1.7	9.56E-03	9.12	1.04
GP-16	Boring 3	18-19	34.4	5.89	18.2	<1.99	<5.00	0.655	<0.050	<5.1	1.03E-02	8.48	0.755
GP-16	Boring 4	2-3	48.1	8.02	17.4	<1.96	6.02	0.966	<0.050	<5.0	1.06E-02	8.09	0.612
GP-16	Boring 4	4-5	74.9	19.8	36.9	<1.99	6.47	1.53	<0.050	<5.0	1.29E-02	7.86	0.964
GP-16	Boring 4	16-17	14.7	<4.99	22	<1.99	<5.00	0.834	<0.050	<5.1	8.95E-03	8.62	1.58
GP-16	Boring 5	3-4	74.5	12.7	65.5	<1.98	6.84	1.83	<0.050	<1.7	1.37E-02	8.55	1.85
GP-16	Boring 5	4-5	40.5	6.95	55.6	<1.99	<5.00	1.16	<0.050	<5.0	1.19E-02	8.43	2.12
GP-16	Boring 5	13-14	17.9	<5.00	11.5	<1.98	<5.00	0.521	<0.050	<5.1	8.81E-03	8.87	0.749
GP-16	Boring 6	3-4	141	29.3	227	<1.99	5.59	4.81	<0.050	<1.7	1.33E-02	8.53	4.54
GP-16	Boring 6	8-9	481	<5.00	253	<1.96	7.20	16.8	1.4	940	7.55E-03	12.30	3.18
GP-16	Boring 6	9-10	896	<8.32	396	<1.98	9.45	12.3	1.1	1200	8.02E-03	12.30	3.64
GP-16	Boring 6	13-14	20.8	<5.00	28.1	<1.98	<5.00	0.865	0.067	4.3	6.92E-03	9.43	1.70
GP-16	Boring 7	3-4	38.7	<4.99	173	<1.99	<5.00	2.36	<0.050	<5.1	1.18E-02	9.53	7.66
GP-16	Boring 7	8-9	88.4	<4.99	683	<1.98	7.81	8.86	0.58	59	6.39E-03	11.80	20.0
GP-16	Boring 7	9-10	279	<5.00	233	<1.99	9.15	5.96	0.24	190	7.17E-03	12.00	3.84
GP-16	Boring 7	14-15	10.4	<4.99	22.5	<2.00	<5.00	0.660	<0.050	<1.7	6.32E-03	9.09	3.84
GP-16	Boring 8	3-4	326	15.1	2490	<1.99	<5.00	32.5	<0.050	<3.4	1.32E-02	8.32	36.6
GP-16	Boring 8	4-5	2150	<4.97	13900	<2.00	13.90	163	0.92	180	3.04E-02	11.40	82.6
GP-16	Boring 8	9-10	1170	<5.00	6370	<1.98	<5.00	87.9	0.12	<5.1	1.68E-02	10.80	51.3
GP-16	Boring 8	17-18	17.6	6.54	25.2	<1.98	<5.00	0.751	<0.050	<2.5	7.09E-03	8.94	1.30

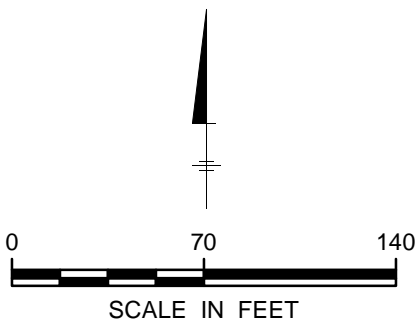
Notes:

* concentrations in ug/kg
bgs = below ground surface
Cr(III) = Trivalent Chromium
Cr(VI) = Hexavalent Chromium
DRO = Diesel Range Organics
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ft = feet
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NS = not specified
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sat = saturation
TPH= total petroleum hydrocarbons
Exceed the corresponding Table 910-1
concentration screening level.



LEGEND

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



KINDER MORGAN
CORTEZ, CO

GP-16 SITE FEATURES



FIGURE
1

ATTACHMENT A

Form 27 Application





General Scope of Work for Goodman Point (GP-16)

Kinder Morgan CO2 – McElmo Dome and Doe Canyon Units
SW Colorado

Applicable COGCC 910 Table

Current Table 910

Groundwater Anticipated

There is a water well located approximately 1,000 feet to the south of the location. Residences in this area are also connected to the local water supply system. Kinder Morgan will advance a soil boring to a depth of up to 50 feet in depth to evaluate the potential for shallow groundwater in the area.

Site Assessment

The 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 and collection of soil samples to determine constituents of the boring.
 - 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 soils below the former drilling pit.
- One soil boring to a depth of 50 feet below ground surface (or until groundwater is encountered) including soil sampling and water sampling (if encountered).
- GPS coordinates of each soil boring location.
- Summary report

Soil Boring Program:

Eight soil borings will be advanced to native soils below the former drilling pit location to assess the current conditions of the former drilling pits. Borings will not extend more than 2 feet below the bottom of the former drilling pit. Also, an additional soil borings will be advanced outside of the pit area to either 50 feet in depth or until groundwater is encountered. 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 for constituents identified on the current COGCC Table 910. 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 20 feet bgs.
 - The bottom boring sample.
 - The deeper soil boring will only have a 1 foot soil sample collected every 5 feet to the total depth of the boring. The highest chloride sample interval and the sample from the bottom of the boring will be submitted for laboratory analysis. In addition, if groundwater is encountered, a water sample will be collected and submitted for analysis by the current COGCC Table 910 constituents.
 - Please note that groundwater is not anticipated to be encountered in the shallow borings, 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 as well by the applicable COGCC Table 910 constituents.
- Collect the GPS coordinate for each boring with an accuracy of less than 1 foot.
- Backfill each boring with removed material. There may be a few locations where placing the drill cuttings on plastic will be required. If so, the cuttings will be moved from the former drilling pit location and placed on the adjacent Kinder Morgan CO2 well pad and stored in a manner acceptable to the COGCC.

Summary Report:

Upon completion of the site assessment activities, a summary report will be completed. This summary report should contain all sampling information, including sampling data from laboratory, and drawings of sampling sites.

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

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 Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

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:

Andrew Antipas

No: 970-882-5534

Fax: 970-882-5521

API Number: 05-083-06649

County: Montezuma

Facility Name: N/A

Facility Number: N/A

Well Name: Goodman Point (GP-16)

Well Number: 16

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NW 1/4, NW 1/4, Sec 33, T37N, R17W Latitude: 37.42572 N Longitude: 108.73514 W

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Potential for CO2 well drill cuttings exceeding Current 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

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

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Water well located approximately 1,000 feet south of this 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



Vegetation



Groundwater

Not yet determined



Surface Water

REMEDIALATION WORKPLAN

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

To date the only initial actions that have taken place is to conduct a water well review to identify water wells winin 1/2 mile of the location and the preparation of 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 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 teh consideration and approval of the COGCC.



REMEDIATION WORKPLAN (Cont.)

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

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, however, there is a water well located with 1/2 mile of this location. This water well is approximately 1,000 feet South of the well location. Residence in this area are connected to a municipal water system. An additional boring will be advanced to a depth of 50 feet below ground surface at the location to evaluate the potential for shallow groundwater in the area. If groundwater is present in this 50 foot boring, a water sample will be collected and submitted for analysis by the current COGCC Table 910 constituents.

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 facility will be used.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 2Q 2016 Date Site Investigation Completed: _____ Date Remediation Plan Submitted: _____
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: Andrew Antipas Signed: _____

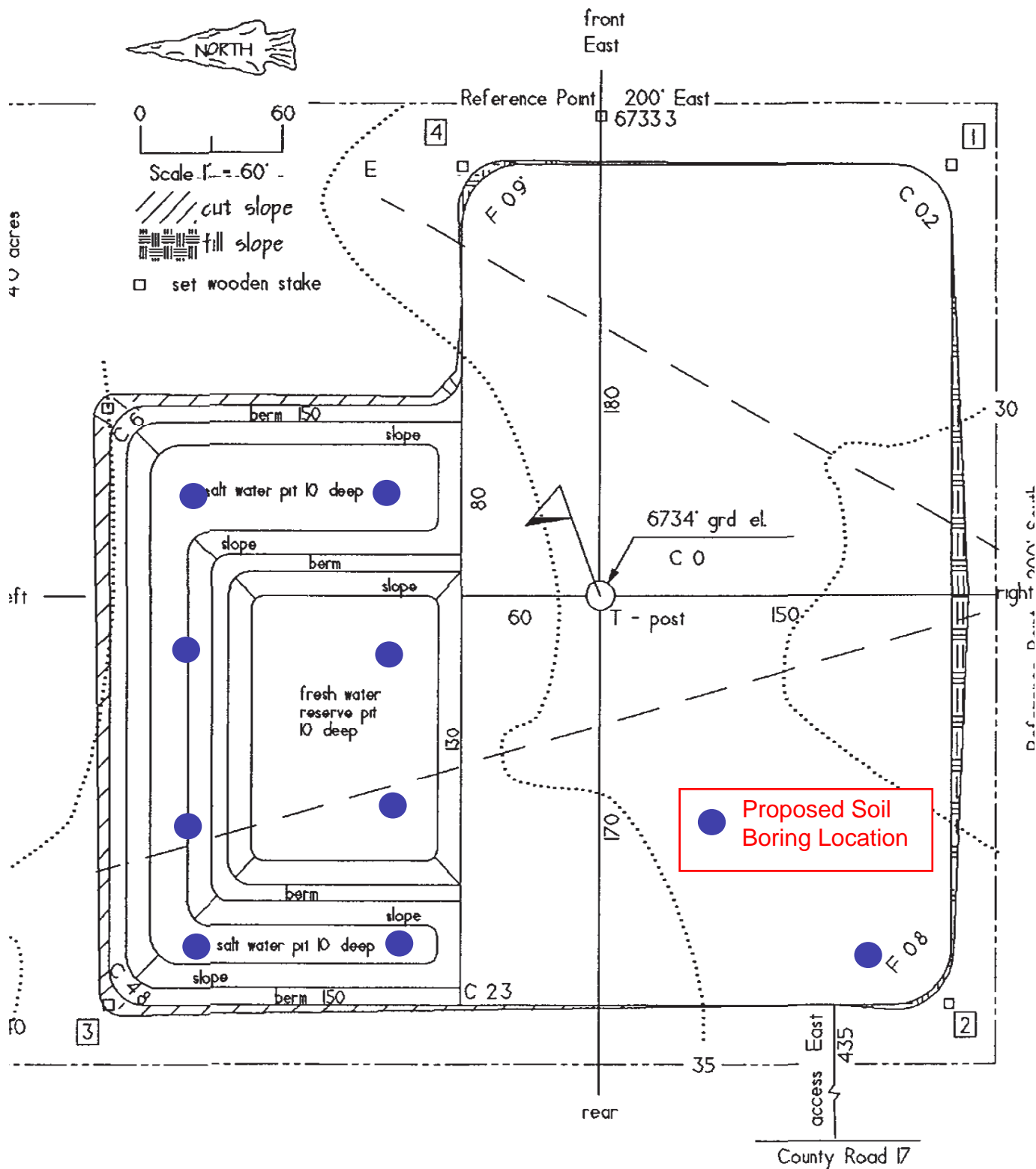
Title: Project Manager Date: 5-3-2016

OGCC Approved: _____ Title: _____ Date: _____

RECEIVED

FEB 07 200

COGCC



ATTACHMENT B

Boring Logs



GP-16

ID	Latitude	Longitude
Production Well	37.4257280	-108.7351430
16-1	37.426184	-108.735653
16-2	37.426195	-108.735548
16-3	37.426194	-108.735233
16-4	37.426195	-108.735373
16-5	37.425948	-108.735652
16-6	37.425957	-108.735454
16-7	37.425965	-108.735224
16-8	37.425972	-108.735015
16-50	37.425416	-108.735665

PROJECT NAME/NUMBER: McElmo Dome

DATE/WEATHER: 6/5/16 sunny

DRILLING FIRM/METHOD: HSA

ELEVATION:

DRILLER & HELPERS: Kelly, Carlos, Gabe

LOGGED BY: H. Stoller

BORING ID: GP-16-1

Location of Boring: GP-16-1

Lat: 37.426184
Long: -108.735653

Description: (Group Name, Color, Density, Moisture, Plasticity, Soil Sampling Method, Hourly Air Monitoring Readings, Water Levels, TD)

Well Diagram

Depth in Feet

Depth in Feet

PID (ppm)

Sp. Cond
USCS Symbol

sample
collected
Blows per
six inches

Recovery (in.)

Specific conductance not measured

1 3.2
2 8.3
3 4.5
4 2.1
5 0.4
6 3.8
7 6.3
8 3.2
9 3.2
10 3.7
11 10.9
12 10.2
13 7.6
14 4.9
15 6.5
16 6.6
17 1.1

X

X

Red brown silty sand with 40% clay, no moisture or plasticity becoming < 20% clay silty sand flakey gray clay < 20% silty sand becoming red brown silty sand no moisture.

Hard, red brown silty sand < 10% clay, very brittle, little moisture silty sand, remains red brown and very dry becoming very loose.

Brown gray silty sand with no moisture, very loose. Hard drilling begins. moist silty sand w/ 30% clay transitions to gray silty sand, dry, no plasticity

Hard, buff to white sandstone medium grained Low moisture, Kyrek added 2 gallons water. Refusal @ 17'

PROJECT NAME/NUMBER: McElmo Dome						DATE/WEATHER: 6/5/16 Sunny	
DRILLING FIRM/METHOD: HSA						ELEVATION:	
DRILLER & HELPERS: Kelly, Gabe, Carlos						LOGGED BY: H. Stoller	
BORING ID: GP-16-2						Location of Boring: GP-16-2	
Depth in Feet	PID (ppm)	USCS Symbol	sampled collected Blows per six inches	Recovery (in.)	Description: (Group Name, Color, Density, Moisture, Plasticity, Soil Sampling Method, Hourly Air Monitoring Readings, Water Levels, TD)		
1	4.3	specific conductance not measured	X		Lat: 37.426195 Long: -108.735548		
2	1.2				Red brown silty sand with <40% clay, medium plasticity with medium moisture		
3	2.0						
4	2.7				High moisture + plasticity silty sand <40% clay.		
5	4.2						
6	4.1				Red, orange silty sand with 50% clay. High plasticity.		
7	6.1				Layer of black coarse sand with no clay.		
8	10.5		X		Transitions back to red orange silty sand with clay.		
9	12.4						
10	21				silty sand with <10% clay with no moisture or plasticity.		
11	22				fine grained gray orange silty sand <20% clay, very flaky		
12	33				boundary of hard buff sandstone added H ₂ O to hole.		
13	20				Hit refusal on the hard buff sandstone. 50 counts for 5".		
14	2.9						
15	3.6						
16	0.8						

PROJECT NAME/NUMBER: McKim Dome						DATE/WEATHER: 6/5/16 Sunny	
DRILLING FIRM/METHOD: HSA						ELEVATION:	
DRILLER & HELPERS: Kelly, Carlos, Gabe						LOGGED BY: H. Stoller	
BORING ID: GP-16-3					Location of Boring: GP-16-3		
Depth in Feet	PID (ppm)	USCS Symbol	sample collected	Blows per six inches	Recovery (in.)	Description: (Group Name, Color, Density, Moisture, Plasticity, Soil Sampling Method, Hourly Air Monitoring Readings, Water Levels, TD)	Well Diagram
1	2.5					Red brown silty sand with	
2	6.5		X			<20% clay with no moisture or plasticity	
3	3.4					Brown silty sand <20% clay to super fine grained with no	
4	0.4					moisture.	
5	4.3					Light brown silty sand with <20% clay,	
6	3.8					Dark red brown silty sand with med. moisture.	
7	7.3					transition to a smooth, dry, buff sandstone.	
8	6.9					Very loose fine silty sand <10% clay, no plasticity	
9	5.0					loose sand continuing varying from buff to light orange	
10	2.3					With no plasticity.	
11	3.5					Very hard buff colored sandstone with med. to coarse grains,	
12	3.1						
13	6.6						
14	3.2						
15	6.0						
16	3.1						
17	7.8						
18	3.7						

PROJECT NAME/NUMBER: McElmo Dome

Borehole/ Well Log Pg 1 of 1

DRILLING FIRM/METHOD: HSA

DATE/WEATHER: 6/8/16 Sunny, calm

DRILLER & HELPERS: Kelly, Gabe, Carlos

ELEVATION:

LOGGED BY: H. Stoller

BORING ID:

Location of Boring: GP-16-5

Lat: 37.425948

Long: -108.735652

Well
Diagram

Depth in Feet

Description: (Group Name, Color, Density, Moisture, Plasticity, Soil Sampling Method, Hourly Air Monitoring Readings, Water Levels, TD)

red to brown silty s.s. >20% clay - med
malleable - med moisture

med plasticity - ~20% clay silty ss

low plasticity - silty sand, <20% clay

light brown/brown <10% clay silty s.s.
low plasticity - no moisture

smoother >20% clay, silty sand, low-med
plasticity

darker red med plasticity - fine grained
silty sand ~10% clay

light - silty sand - no moisture - some ash
doesn't appear to be contamination

light ash contact - super fine grained
no moisture or plasticity

orange gray very fine grained <10% clay
silty sandstone - light colored - too
hard white-orange silty ss no moisture

Pic

Depth in Feet

PID (ppm)

sp. cond.
uses Symbol

sample
collection

Blows per
six inches

Recovery (in.)

1

1.7

0.42

2

1.4

0.52

3

3.0

0.64

X

4

1.4

0.44

X

5

1.5

0.24

6

2.6

0.36

7

2.6

0.32

8

1.5

0.06

9

5.0

0.08

10

4.2

0.07

11

2.4

0.05

12

2.6

0.08

13

7.5

0.15

X

14

15

16

17

18

19

20

PROJECT NAME/NUMBER: McElmo Dome

DATE/WEATHER: 6/8/16 sunny

DRILLING FIRM/METHOD: HSA

ELEVATION:

DRILLER & HELPERS: Kelly, Gabe, Carlos

LOGGED BY: H. Stoller

BORING ID: GP-16-b

Location of Boring: GP-16-60

[illegible]

[illegible]

PROJECT NAME/NUMBER: <u>Ma Elmo Dome</u>					DATE/WEATHER: <u>6/8/16 sunny</u>	
DRILLING FIRM/METHOD: <u>HSA</u>					ELEVATION:	
DRILLER & HELPERS: <u>Kelly, Gabe, Carlos</u>					LOGGED BY: <u>H. Staller</u>	
BORING ID: <u>GP-16-8</u>					Location of Boring: <u>GP-16-8</u>	
Depth in Feet	PID (ppm)	Sp. Cond USGS-Symbol	sample collected	Blows-per six inches	Recovery (in.)	Lat: <u>37.425972</u> Long: <u>-108.735015</u>
						Description: (Group Name, Color, Density, Moisture, Plasticity, Soil Sampling Method, Hourly Air Monitoring Readings, Water Levels, TD)
1	0.4	0.30				Red, brown silty sand with <40% clay with medium moisture / Plasticity, - contamination visible with black fly ash mixed w/orange silty sand.
2	0.4	1.03				
3	8.3	1.55	X			
4	70.5	3.30	X			
5	60.2	2.80				
6	40.4	4.72				Plastic liner visible, black, gray fly ash mixed with medium to coarse grained silty sand.
7	24.0	2.03				
8	5.2	3.64				black, brown silty sand <10% clay very brittle, no moisture
9	23.7	7.33	X			
10	3.0	2.87				contact visible from black fly ash to a very fine grained white/orange silty sand, with some clean white ash. no moisture. orange fine to medium grained silty sand, very little clay present. Light orange, hard crumbly sandstone <10% clay.
11	12.4	2.54				
12	6.0	1.86				
13	5.0	0.28				
14	3.5	0.14				
15	6.4	0.22				
16	2.8	0.18				
17	4.8	0.07	X			

PROJECT NAME/NUMBER: <u>mcelmo Dome</u>					DATE/WEATHER: <u>6/15/16 sunny</u>		
DRILLING FIRM/METHOD: <u>HSA, Air rotary</u>					ELEVATION:		
DRILLER & HELPERS: <u>Kelly, Carlos, Gabe</u>					LOGGED BY: <u>H. Stoker</u>		
BORING ID: <u>GP-16-50</u>					Location of Boring: <u>GP-16-50</u>		
Depth in Feet	PID (ppm)	USCS Symbol	Blows per six inches	Recovery (in.)	Description: (Group Name, Color, Density, Moisture, Plasticity, Soil Sampling Method, Hourly Air Monitoring Readings, Water Levels, TD)	Well Diagram	Depth in Feet
5					Dark red to brown colored silty sand / clay (40%), fine grained, some moisture present.		
10					lighter colored red, orange silty sand with less clay, fine grained.		
15					Silty sand becomes more clumpy with about 30% clay and moisture present. smooth texture		
20					Silty clay continues becoming light brown in color. Clay becomes very fine grained.		
25					Switched to air rotary method very fine buff silty sand, powdery + smooth texture		
30					very pale buff colored sandstone, becomes more coarse grained, less clay harder drilling.		

[illegible]

ATTACHMENT C

Photo Log



Project Photographs

McElmo Dome and Doe Canyon
Cortez, Colorado



Photo: 1

Date:
6/6/16

Description:
Looking east

Location:
GP-16



Photo: 2

Date:
6/6/16

Description:
Looking west

Location:
GP-16

Project Photographs

McElmo Dome and Doe Canyon
Cortez, Colorado



Photo: 3

Date:

6/6/16

Description:

Looking north

Location:

GP-16



Photo: 4

Date:

6/6/16

Description:

Looking south

Location:

GP-16

Project Photographs

McElmo Dome and Doe Canyon
Cortez, Colorado



Photo: 5

Date:

6/6/16

Description:

Boring 2, depth 9-10 feet

Location:

GP-16

ATTACHMENT D

Field Notes



GP16

6/6/16

Arrive KMEP @ 9am safety orientation
load up equip

05 min drive to GP16

tailgate safety meeting & site

GP16-1 set up 1200

1203 - pictures taken in 4 directions

1205 Jimmy left site

1210 - begin drilling

0-3' = #2" pld 8.3 - sample coll.

1220 - sample time

GP16-1-2-060616

hit refusal @ 17' (15' →) - added about 3ga
of water to boring @ (1330)

1345 - began backing out of hole

320' - 11' = 10.9 pld - sampled @ 1310

GP16-1-11-060616

1350 - out of boring

1400: break lunch

1420: Begin on GP-16-2

noticed that they did use some auger drill teeth. Not sure if that's ok but no contamination found @ 1st one

1425: began drilling

sample 1' ft taken 1430

sample 9' taken 1505

1530: began tripping out of hole after hitting refusal @ 16'.

photo taken of 16' to document the white chalky s.s. that has caused refusal on GP-16-1 + GP-16-2.

1545 - Jimmy returned

1555 GP-16-3

1650 - began tripping out of hole

GP-16-3-2 sampled 1605

GP-16-3-3 sampled 1620

sampled GP-16-3-18 (TD) @ 1650

GP-16-4

0715 met onsite w/aaron, mike, jimmy and Kylek crew
had tailgate meeting + discussed scope today.

struggled w/PID calibration

0800 - began drilling GP-16-4

0900 finished drilling and began tripping out of hole.

0915 Kylek drillers dropped a piece of equipment down hole. Began trying to retrieve it.

0945 - guy from CCSC arrived on site. Mike + aaron walked him through the situation.

1000: I finished testing all of my samples w/PID + soil EC probe.

sample GP-16-4-2-060716 @ 0810
 sample GP-16-4-4-060716 @ 0813
 sample GP-16-~~4~~-4-16-060716 @ 0855

Fired up pH probe + it only seemed
 to read in increments of 0.5,
 Every sample I read was 7.0
 or 7.5 but nothing in between
 seems to be a plant pH probe
 since temp + moisture are measured too

GP-16-8-3 @ ~~1240~~ 1230
 GP-16-8-4 @ ~~1235~~ 1235
 GP-16-8-9 @ 1245 ✓
 GP-16-8-17 @ ~~1230~~ 1300 ✓

GP-16-7-3 @ 1430
 GP-16-7-8 @ 1440
 GP-16-7-9 @ 1445
 GP-16-7-14 @ 1500

GP-16-6-3 @ 1520
 GP-16-6-8 @ 1540
 GP-16-6-9 @ 1550
 GP-16-6-13 @ 1616

16-5-13 @ 1720
 5-4 @ 1630
 4 samples - 5-3 @ 1620

ended GP-16-6 @ 415

425-began GP-16-5

COC5

6+5 blue
 1+2+3 green
 4+7+8 red

(need #7)

-except 7-3-green like in the Rain

DC-11-50'

6/15/16

begin drilling 0915
 0-5- red-brown silty sand
 5-hit gray sandstone - refusal
 cobble sized native chunks
 buff colored

-switched over to air rotary

10- dark sand silty

15- buff sandstone

-coal seam - very fine - moist

20- buff colored sandstone

25- gray (L) to dark gray-black
 sandstone

↓ gray ss.

35

40- buff gray ss. / clay silty very fine

45- black very fine clay - coal
 seam

- light gray clay silty

5- buff white hard sandstone
 very coarse chips

47'- refusal w/ 3000 lbs of pressure/force
 no water present.

EP-16-50'

6/15/16

begin drilling 1305

0-5- dark brown/red silty sand clay
 fine grained

10- red orange brown - silty sand

15- light brown, clumpy < 30% clay
 some moisture present

20- ↓

- switched to air rotary

25- pale white buff sandstone

very pale buff very fine

buff sandstone - fine grained.

30- big chunks/chips

brown very fine silty clay

35-

- air compressor overheated

43'- hard ~~sandstone~~ sandstone

45- white chalk-like sandstone

turns to almost talc like
 very fine clay

49.5'- refusal.

no water encountered

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

June 24, 2016

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

Work Order: **HS16060642**

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

Dear Aaron,

ALS Environmental received 11 sample(s) on Jun 10, 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,

A handwritten signature in black ink that reads "Sonia West".

Generated By: Dayna.Fisher
Sonia West
Project Manager

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060642

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16060642-01	GP-16-4-2-060716	Soil		07-Jun-2016 08:10	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-02	GP-16-4-4-060716	Soil		07-Jun-2016 08:13	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-03	GP-16-4-16-060716	Soil		07-Jun-2016 08:55	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-04	GP-16-8-3-060816	Soil		08-Jun-2016 12:30	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-05	GP-16-8-4-060816	Soil		08-Jun-2016 12:35	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-06	GP-16-8-9-060816	Soil		08-Jun-2016 12:45	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-07	GP-16-8-17-060816	Soil		08-Jun-2016 13:00	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-08	GP-16-7-8-060816	Soil		08-Jun-2016 14:40	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-09	GP-16-7-9-060816	Soil		08-Jun-2016 14:45	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-10	GP-16-7-14-060816	Soil		08-Jun-2016 15:00	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060642-11	Trip Blank	Water	VBLKW-053116-14	07-Jun-2016 00:00	10-Jun-2016 08:58	<input checked="" type="checkbox"/>

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060642

CASE NARRATIVE

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: 105422**

Sample ID: **GP-16-8-4-060816 (HS16060642-05)**

- Due to sample matrix interferences, the surrogate recovery was outside of the established control limits.

GC Volatiles by Method SW8015**Batch ID: R276337**

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

Batch ID: R276338

Sample ID: **GP-16-7-14-060816 (HS16060642-10)**

- The MS and/or MSD recovery was below the lower control limit.

GCMS Semivolatiles by Method SW8270**Batch ID: 105358**

Sample ID: **GP-16-7-9-060816 (HS16060642-09MS/MSD)**

- The recovery of the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference.

Sample ID: **GP-16-7-9-060816 (HS16060642-09MSD)**

- The RPD between the MS and MSD was outside of the control limit.

GCMS Volatiles by Method SW8260**Batch ID: R276350**

Sample ID: **GP-16-8-4-060816 (HS16060642-05), GP-16-7-8-060816 (HS16060642-08), GP-16-7-9-060816 (HS16060642-09)**

- Surrogates failure for HS16060642-05, 08, 09 confirmed by reanalysis as matrix effect.

Batch ID: R276168

Sample ID: **HS16060646-01**

- MSD is for an unrelated sample.

Metals by Method SW7471A**Batch ID: 105586**

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

Metals by Method Calculation**Batch ID: R276931**

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

Metals by Method La29B SAR**Batch ID: 105569A**

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060642

CASE NARRATIVE

Metals by Method La29B SAR**Batch ID: 105569A**

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

Metals by Method La29B-6020**Batch ID: 105569**

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

Metals by Method SW6020**Batch ID: 105483**

Sample ID: **GP-16-8-17-060816 (HS16060642-07BS)**

- Silver and Zinc failed in the PDS but passed in the MS/MSD.

Sample ID: **GP-16-8-17-060816 (HS16060642-07MS)**

- 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: **GP-16-8-17-060816 (HS16060642-07MSD)**

- Due to non-homogeneity of the soil sample matrix the MS/MSD recoveries and RPD were outside the control limits. Barium.

WetChemistry by Method LaDNR-29B SP**Batch ID: R276726**

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

WetChemistry by Method LaDNR-29B EC**Batch ID: R276886**

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

WetChemistry by Method SW9045B**Batch ID: R276228**

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

WetChemistry by Method SW7196**Batch ID: 105560**

- 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: GP-16-4-2-060716
 Collection Date: 07-Jun-2016 08:10

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-01
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Acenaphthylene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Benz(a)anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Benzo(a)pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Benzo(b)fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Benzo(g,h,i)perylene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Benzo(k)fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Chrysene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Dibenz(a,h)anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Fluorene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Indeno(1,2,3-cd)pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Naphthalene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Phenanthrene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
Pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 19:45
<i>Surr: 2-Fluorobiphenyl</i>	78.1		43-125	%REC	1	21-Jun-2016 19:45
<i>Surr: 4-Terphenyl-d14</i>	83.0		32-125	%REC	1	21-Jun-2016 19:45
<i>Surr: Nitrobenzene-d5</i>	110		37-125	%REC	1	21-Jun-2016 19:45
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	1.85		0.460	mg/Kg	1	21-Jun-2016 00:21
Barium	108		0.460	mg/Kg	1	21-Jun-2016 00:21
Boron	8.17		2.30	mg/Kg	1	21-Jun-2016 14:03
Cadmium	ND		0.460	mg/Kg	1	21-Jun-2016 00:21
Chromium	6.02		0.460	mg/Kg	1	21-Jun-2016 00:21
Copper	4.86		0.184	mg/Kg	1	21-Jun-2016 00:21
Lead	5.05		0.460	mg/Kg	1	21-Jun-2016 00:21
Nickel	5.98		0.460	mg/Kg	1	21-Jun-2016 00:21
Selenium	ND		0.460	mg/Kg	1	21-Jun-2016 00:21
Silver	ND		0.460	mg/Kg	1	21-Jun-2016 00:21
Zinc	16.7		0.460	mg/Kg	1	21-Jun-2016 00:21

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-4-2-060716
 Collection Date: 07-Jun-2016 08:10

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-01
 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	13-Jun-2016 15:12
Ethylbenzene	ND		4.9	ug/Kg	1	13-Jun-2016 15:12
m,p-Xylene	ND		9.8	ug/Kg	1	13-Jun-2016 15:12
o-Xylene	ND		4.9	ug/Kg	1	13-Jun-2016 15:12
Toluene	ND		4.9	ug/Kg	1	13-Jun-2016 15:12
Xylenes, Total	ND		9.8	ug/Kg	1	13-Jun-2016 15:12
Surr: 1,2-Dichloroethane-d4	77.9		70-128	%REC	1	13-Jun-2016 15:12
Surr: 4-Bromofluorobenzene	90.3		73-126	%REC	1	13-Jun-2016 15:12
Surr: Dibromofluoromethane	92.2		71-128	%REC	1	13-Jun-2016 15:12
Surr: Toluene-d8	100		73-127	%REC	1	13-Jun-2016 15:12
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	48.1		4.99	mg/L	10	23-Jun-2016 11:25
Magnesium	8.02		4.99	mg/L	10	23-Jun-2016 11:25
Sodium	17.4		4.99	mg/L	10	23-Jun-2016 11:25
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.96	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	6.02		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.966		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	0.433		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.448		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 18:28
Surr: 4-Bromofluorobenzene	86.8		70-130	%REC	1	14-Jun-2016 18:28
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	10.6		3.41	ug/Kg	1	22-Jun-2016 16:06
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.09	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.2	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.448		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	0.612		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-4-2-060716
Collection Date: 07-Jun-2016 08:10

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-01
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		5.0	mg/Kg	1	16-Jun-2016 20:44
Surr: 2-Fluorobiphenyl	74.9		60-135	%REC	1	16-Jun-2016 20:44

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-4-4-060716
 Collection Date: 07-Jun-2016 08:13

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-02
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Acenaphthylene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Anthracene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Benz(a)anthracene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Benzo(a)pyrene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Benzo(b)fluoranthene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Benzo(g,h,i)perylene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Benzo(k)fluoranthene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Chrysene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Dibenz(a,h)anthracene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Fluoranthene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Fluorene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Indeno(1,2,3-cd)pyrene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Naphthalene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Phenanthrene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
Pyrene	ND		9.8	ug/Kg	1	22-Jun-2016 14:00
<i>Surr: 2-Fluorobiphenyl</i>	64.1		43-125	%REC	1	22-Jun-2016 14:00
<i>Surr: 4-Terphenyl-d14</i>	88.2		32-125	%REC	1	22-Jun-2016 14:00
<i>Surr: Nitrobenzene-d5</i>	119		37-125	%REC	1	22-Jun-2016 14:00
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	2.34		0.454	mg/Kg	1	21-Jun-2016 00:25
Barium	124		0.454	mg/Kg	1	21-Jun-2016 00:25
Boron	5.20		2.27	mg/Kg	1	21-Jun-2016 14:16
Cadmium	ND		0.454	mg/Kg	1	21-Jun-2016 00:25
Chromium	6.47		0.454	mg/Kg	1	21-Jun-2016 00:25
Copper	4.72		0.182	mg/Kg	1	21-Jun-2016 00:25
Lead	5.52		0.454	mg/Kg	1	21-Jun-2016 00:25
Nickel	6.70		0.454	mg/Kg	1	21-Jun-2016 00:25
Selenium	ND		0.454	mg/Kg	1	21-Jun-2016 00:25
Silver	ND		0.454	mg/Kg	1	21-Jun-2016 00:25
Zinc	18.4		0.454	mg/Kg	1	21-Jun-2016 00:25

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-4-4-060716
 Collection Date: 07-Jun-2016 08:13

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-02
 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	13-Jun-2016 15:40
Ethylbenzene	ND		4.8	ug/Kg	1	13-Jun-2016 15:40
m,p-Xylene	ND		9.6	ug/Kg	1	13-Jun-2016 15:40
o-Xylene	ND		4.8	ug/Kg	1	13-Jun-2016 15:40
Toluene	ND		4.8	ug/Kg	1	13-Jun-2016 15:40
Xylenes, Total	ND		9.6	ug/Kg	1	13-Jun-2016 15:40
Surr: 1,2-Dichloroethane-d4	71.0		70-128	%REC	1	13-Jun-2016 15:40
Surr: 4-Bromofluorobenzene	80.6		73-126	%REC	1	13-Jun-2016 15:40
Surr: Dibromofluoromethane	86.1		71-128	%REC	1	13-Jun-2016 15:40
Surr: Toluene-d8	104		73-127	%REC	1	13-Jun-2016 15:40
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	74.9		5.00	mg/L	10	23-Jun-2016 11:28
Magnesium	19.8		5.00	mg/L	10	23-Jun-2016 11:28
Sodium	36.3		5.00	mg/L	10	23-Jun-2016 11:28
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	6.47		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	1.53		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	0.812		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.530		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 18:44
Surr: 4-Bromofluorobenzene	97.2		70-130	%REC	1	14-Jun-2016 18:44
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	12.9		3.60	ug/Kg	1	22-Jun-2016 16:08
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	7.86	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.3	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.530		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	0.964		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-4-4-060716
Collection Date: 07-Jun-2016 08:13

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		5.0	mg/Kg	1	16-Jun-2016 21:09
Surr: 2-Fluorobiphenyl	83.4		60-135	%REC	1	16-Jun-2016 21:09

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-4-16-060716
 Collection Date: 07-Jun-2016 08:55

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-03
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Acenaphthylene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Anthracene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Benz(a)anthracene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Benzo(a)pyrene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Benzo(b)fluoranthene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Benzo(g,h,i)perylene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Benzo(k)fluoranthene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Chrysene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Dibenz(a,h)anthracene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Fluoranthene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Fluorene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Indeno(1,2,3-cd)pyrene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Naphthalene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Phenanthrene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
Pyrene	ND		9.9	ug/Kg	1	21-Jun-2016 20:24
<i>Surr: 2-Fluorobiphenyl</i>	62.7		43-125	%REC	1	21-Jun-2016 20:24
<i>Surr: 4-Terphenyl-d14</i>	78.6		32-125	%REC	1	21-Jun-2016 20:24
<i>Surr: Nitrobenzene-d5</i>	56.9		37-125	%REC	1	21-Jun-2016 20:24
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	2.61		0.450	mg/Kg	1	21-Jun-2016 00:30
Barium	251		4.50	mg/Kg	10	21-Jun-2016 14:51
Boron	3.04		2.25	mg/Kg	1	21-Jun-2016 14:21
Cadmium	ND		0.450	mg/Kg	1	21-Jun-2016 00:30
Chromium	1.67		0.450	mg/Kg	1	21-Jun-2016 00:30
Copper	1.73		0.180	mg/Kg	1	21-Jun-2016 00:30
Lead	2.25		0.450	mg/Kg	1	21-Jun-2016 00:30
Nickel	2.89		0.450	mg/Kg	1	21-Jun-2016 00:30
Selenium	ND		0.450	mg/Kg	1	21-Jun-2016 00:30
Silver	ND		0.450	mg/Kg	1	21-Jun-2016 00:30
Zinc	8.94		0.450	mg/Kg	1	21-Jun-2016 00:30

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-4-16-060716
 Collection Date: 07-Jun-2016 08:55

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-03
 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	13-Jun-2016 16:08
Ethylbenzene	ND		4.8	ug/Kg	1	13-Jun-2016 16:08
m,p-Xylene	ND		9.5	ug/Kg	1	13-Jun-2016 16:08
o-Xylene	ND		4.8	ug/Kg	1	13-Jun-2016 16:08
Toluene	ND		4.8	ug/Kg	1	13-Jun-2016 16:08
Xylenes, Total	ND		9.5	ug/Kg	1	13-Jun-2016 16:08
Surr: 1,2-Dichloroethane-d4	77.8		70-128	%REC	1	13-Jun-2016 16:08
Surr: 4-Bromofluorobenzene	86.8		73-126	%REC	1	13-Jun-2016 16:08
Surr: Dibromofluoromethane	93.0		71-128	%REC	1	13-Jun-2016 16:08
Surr: Toluene-d8	94.7		73-127	%REC	1	13-Jun-2016 16:08
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	14.7		4.99	mg/L	10	23-Jun-2016 11:31
Magnesium	ND		4.99	mg/L	10	23-Jun-2016 11:31
Sodium	22.0		4.99	mg/L	10	23-Jun-2016 11:31
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	ND		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.834		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	0.288		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.345		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 19:01
Surr: 4-Bromofluorobenzene	89.6		70-130	%REC	1	14-Jun-2016 19:01
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	8.95		3.36	ug/Kg	1	22-Jun-2016 16:10
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.62	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.2	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.345		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	1.58		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-4-16-060716
Collection Date: 07-Jun-2016 08:55

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-03
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		5.1	mg/Kg	1	16-Jun-2016 21:33
Surr: 2-Fluorobiphenyl	67.5		60-135	%REC	1	16-Jun-2016 21:33

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-8-3-060816
 Collection Date: 08-Jun-2016 12:30

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-04
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Acenaphthylene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Anthracene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Benz(a)anthracene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Benzo(a)pyrene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Benzo(b)fluoranthene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Benzo(g,h,i)perylene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Benzo(k)fluoranthene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Chrysene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Dibenz(a,h)anthracene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Fluoranthene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Fluorene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Indeno(1,2,3-cd)pyrene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Naphthalene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Phenanthrene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
Pyrene	ND		3.3	ug/Kg	1	21-Jun-2016 20:44
<i>Surr: 2-Fluorobiphenyl</i>	73.6		43-125	%REC	1	21-Jun-2016 20:44
<i>Surr: 4-Terphenyl-d14</i>	89.1		32-125	%REC	1	21-Jun-2016 20:44
<i>Surr: Nitrobenzene-d5</i>	123		37-125	%REC	1	21-Jun-2016 20:44
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	0.00248		0.000409	mg/Kg	1	21-Jun-2016 00:34
Barium	0.0922		0.000409	mg/Kg	1	21-Jun-2016 00:34
Boron	0.00529		0.00205	mg/Kg	1	21-Jun-2016 14:25
Cadmium	ND		0.000409	mg/Kg	1	21-Jun-2016 00:34
Chromium	0.00639		0.000409	mg/Kg	1	21-Jun-2016 00:34
Copper	0.00508		0.000164	mg/Kg	1	21-Jun-2016 00:34
Lead	0.00462		0.000409	mg/Kg	1	21-Jun-2016 00:34
Nickel	0.00620		0.000409	mg/Kg	1	21-Jun-2016 00:34
Selenium	ND		0.000409	mg/Kg	1	21-Jun-2016 00:34
Silver	ND		0.000409	mg/Kg	1	21-Jun-2016 00:34
Zinc	0.0292		0.000409	mg/Kg	1	21-Jun-2016 00:34

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-8-3-060816
 Collection Date: 08-Jun-2016 12:30

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-04
 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	13-Jun-2016 16:37
Ethylbenzene	ND		5.0	ug/Kg	1	13-Jun-2016 16:37
m,p-Xylene	ND		9.9	ug/Kg	1	13-Jun-2016 16:37
o-Xylene	ND		5.0	ug/Kg	1	13-Jun-2016 16:37
Toluene	ND		5.0	ug/Kg	1	13-Jun-2016 16:37
Xylenes, Total	ND		9.9	ug/Kg	1	13-Jun-2016 16:37
Surr: 1,2-Dichloroethane-d4	78.1		70-128	%REC	1	13-Jun-2016 16:37
Surr: 4-Bromofluorobenzene	82.3		73-126	%REC	1	13-Jun-2016 16:37
Surr: Dibromofluoromethane	92.7		71-128	%REC	1	13-Jun-2016 16:37
Surr: Toluene-d8	97.0		73-127	%REC	1	13-Jun-2016 16:37
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	326		4.99	mg/L	10	23-Jun-2016 11:34
Magnesium	15.1		4.99	mg/L	10	23-Jun-2016 11:34
Sodium	2,490		49.9	mg/L	100	23-Jun-2016 12:35
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	ND		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	32.5		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	17.3		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.532		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 19:17
Surr: 4-Bromofluorobenzene	90.0		70-130	%REC	1	14-Jun-2016 19:17
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	13.2		3.63	ug/Kg	1	22-Jun-2016 16:12
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.32	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.3	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.532		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	36.6		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-8-3-060816
Collection Date: 08-Jun-2016 12:30

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-04
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		3.4	mg/Kg	1	16-Jun-2016 21:57
Surr: 2-Fluorobiphenyl	75.9		60-135	%REC	1	16-Jun-2016 21:57

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-8-4-060816
 Collection Date: 08-Jun-2016 12:35

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-05
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Acenaphthylene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Benz(a)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Benzo(a)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Benzo(b)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Benzo(g,h,i)perylene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Benzo(k)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Chrysene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Dibenz(a,h)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Fluorene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Indeno(1,2,3-cd)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Naphthalene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Phenanthrene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 22:02
Surr: 2-Fluorobiphenyl	96.1		43-125	%REC	1	21-Jun-2016 22:02
Surr: 4-Terphenyl-d14	79.8		32-125	%REC	1	21-Jun-2016 22:02
Surr: Nitrobenzene-d5	80.0		37-125	%REC	1	21-Jun-2016 22:02
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	2.80		0.449	mg/Kg	1	21-Jun-2016 00:39
Barium	129		0.449	mg/Kg	1	21-Jun-2016 00:39
Boron	20.5		11.2	mg/Kg	5	21-Jun-2016 14:30
Cadmium	ND		0.449	mg/Kg	1	21-Jun-2016 00:39
Chromium	13.9		0.449	mg/Kg	1	21-Jun-2016 00:39
Copper	6.20		0.180	mg/Kg	1	21-Jun-2016 00:39
Lead	7.19		0.449	mg/Kg	1	21-Jun-2016 00:39
Nickel	8.13		0.449	mg/Kg	1	21-Jun-2016 00:39
Selenium	0.748		0.449	mg/Kg	1	21-Jun-2016 00:39
Silver	ND		0.449	mg/Kg	1	21-Jun-2016 00:39
Zinc	367		2.24	mg/Kg	5	21-Jun-2016 14:30

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-8-4-060816
 Collection Date: 08-Jun-2016 12:35

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-05
 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	15-Jun-2016 11:58
Ethylbenzene	ND		4.8	ug/Kg	1	15-Jun-2016 11:58
m,p-Xylene	17		9.7	ug/Kg	1	15-Jun-2016 11:58
o-Xylene	5.3		4.8	ug/Kg	1	15-Jun-2016 11:58
Toluene	12		4.8	ug/Kg	1	15-Jun-2016 11:58
Xylenes, Total	22		9.7	ug/Kg	1	15-Jun-2016 11:58
Surr: 1,2-Dichloroethane-d4	75.9		70-128	%REC	1	15-Jun-2016 11:58
Surr: 4-Bromofluorobenzene	96.6		73-126	%REC	1	15-Jun-2016 11:58
Surr: Dibromofluoromethane	18.9	S	71-128	%REC	1	15-Jun-2016 11:58
Surr: Toluene-d8	95.9		73-127	%REC	1	15-Jun-2016 11:58
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	2,150		49.7	mg/L	100	23-Jun-2016 12:41
Magnesium	ND		4.97	mg/L	10	23-Jun-2016 11:45
Sodium	13,900		49.7	mg/L	100	23-Jun-2016 12:41
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		2.00	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	13.9		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	163		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	102		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.629		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	0.92		0.050	mg/Kg	1	14-Jun-2016 19:33
Surr: 4-Bromofluorobenzene	110		70-130	%REC	1	14-Jun-2016 19:33
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	30.4		3.52	ug/Kg	1	22-Jun-2016 16:13
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	11.4	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.2	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.629		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	82.6		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-8-4-060816
Collection Date: 08-Jun-2016 12:35

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-05
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	180		5.1	mg/Kg	2	24-Jun-2016 02:18
Surr: 2-Fluorobiphenyl	205	S	60-135	%REC	2	24-Jun-2016 02:18

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-8-9-060816
 Collection Date: 08-Jun-2016 12:45

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-06
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Acenaphthylene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Benz(a)anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Benzo(a)pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Benzo(b)fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Benzo(g,h,i)perylene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Benzo(k)fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Chrysene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Dibenz(a,h)anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Fluorene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Indeno(1,2,3-cd)pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Naphthalene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Phenanthrene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
Pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 21:03
<i>Surr: 2-Fluorobiphenyl</i>	63.6		43-125	%REC	1	21-Jun-2016 21:03
<i>Surr: 4-Terphenyl-d14</i>	86.3		32-125	%REC	1	21-Jun-2016 21:03
<i>Surr: Nitrobenzene-d5</i>	71.2		37-125	%REC	1	21-Jun-2016 21:03
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	3.79		0.459	mg/Kg	1	21-Jun-2016 00:43
Barium	148		0.459	mg/Kg	1	21-Jun-2016 00:43
Boron	4.22		2.30	mg/Kg	1	21-Jun-2016 14:34
Cadmium	ND		0.459	mg/Kg	1	21-Jun-2016 00:43
Chromium	4.20		0.459	mg/Kg	1	21-Jun-2016 00:43
Copper	3.63		0.184	mg/Kg	1	21-Jun-2016 00:43
Lead	4.46		0.459	mg/Kg	1	21-Jun-2016 00:43
Nickel	5.87		0.459	mg/Kg	1	21-Jun-2016 00:43
Selenium	ND		0.459	mg/Kg	1	21-Jun-2016 00:43
Silver	ND		0.459	mg/Kg	1	21-Jun-2016 00:43
Zinc	36.3		0.459	mg/Kg	1	21-Jun-2016 00:43

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-8-9-060816
 Collection Date: 08-Jun-2016 12:45

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-06
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR		
Benzene	ND		4.7	ug/Kg	1	13-Jun-2016 17:35
Ethylbenzene	ND		4.7	ug/Kg	1	13-Jun-2016 17:35
m,p-Xylene	ND		9.4	ug/Kg	1	13-Jun-2016 17:35
o-Xylene	ND		4.7	ug/Kg	1	13-Jun-2016 17:35
Toluene	ND		4.7	ug/Kg	1	13-Jun-2016 17:35
Xylenes, Total	ND		9.4	ug/Kg	1	13-Jun-2016 17:35
Surr: 1,2-Dichloroethane-d4	74.3		70-128	%REC	1	13-Jun-2016 17:35
Surr: 4-Bromofluorobenzene	91.2		73-126	%REC	1	13-Jun-2016 17:35
Surr: Dibromofluoromethane	73.4		71-128	%REC	1	13-Jun-2016 17:35
Surr: Toluene-d8	97.4		73-127	%REC	1	13-Jun-2016 17:35
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	1,170		5.00	mg/L	10	23-Jun-2016 11:48
Magnesium	ND		5.00	mg/L	10	23-Jun-2016 11:48
Sodium	6,370		50.0	mg/L	100	23-Jun-2016 12:44
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.98	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	ND		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	87.9		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	47.3		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.538		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	0.12		0.050	mg/Kg	1	14-Jun-2016 22:14
Surr: 4-Bromofluorobenzene	86.0		70-130	%REC	1	14-Jun-2016 22:14
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	16.8		3.54	ug/Kg	1	22-Jun-2016 16:18
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	10.8	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.3	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.538		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	51.3		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-8-9-060816
Collection Date: 08-Jun-2016 12:45

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-06
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		5.1	mg/Kg	1	16-Jun-2016 22:45
Surr: 2-Fluorobiphenyl	80.1		60-135	%REC	1	16-Jun-2016 22:45

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-8-17-060816
 Collection Date: 08-Jun-2016 13:00

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-07
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Acenaphthylene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Benz(a)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Benzo(a)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Benzo(b)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Benzo(g,h,i)perylene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Benzo(k)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Chrysene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Dibenz(a,h)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Fluorene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Indeno(1,2,3-cd)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Naphthalene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Phenanthrene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 21:23
Surr: 2-Fluorobiphenyl	79.8		43-125	%REC	1	21-Jun-2016 21:23
Surr: 4-Terphenyl-d14	91.2		32-125	%REC	1	21-Jun-2016 21:23
Surr: Nitrobenzene-d5	72.6		37-125	%REC	1	21-Jun-2016 21:23
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	3.28		0.441	mg/Kg	1	20-Jun-2016 23:50
Barium	51.3		0.441	mg/Kg	1	20-Jun-2016 23:50
Boron	2.88		2.20	mg/Kg	1	21-Jun-2016 13:42
Cadmium	ND		0.441	mg/Kg	1	20-Jun-2016 23:50
Chromium	1.81		0.441	mg/Kg	1	20-Jun-2016 23:50
Copper	2.07		0.176	mg/Kg	1	20-Jun-2016 23:50
Lead	2.94		0.441	mg/Kg	1	20-Jun-2016 23:50
Nickel	3.47		0.441	mg/Kg	1	20-Jun-2016 23:50
Selenium	ND		0.441	mg/Kg	1	20-Jun-2016 23:50
Silver	ND		0.441	mg/Kg	1	20-Jun-2016 23:50
Zinc	13.8		0.441	mg/Kg	1	20-Jun-2016 23:50

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-8-17-060816
 Collection Date: 08-Jun-2016 13:00

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-07
 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	13-Jun-2016 18:04
Ethylbenzene	ND		5.0	ug/Kg	1	13-Jun-2016 18:04
m,p-Xylene	ND		10	ug/Kg	1	13-Jun-2016 18:04
o-Xylene	ND		5.0	ug/Kg	1	13-Jun-2016 18:04
Toluene	ND		5.0	ug/Kg	1	13-Jun-2016 18:04
Xylenes, Total	ND		10	ug/Kg	1	13-Jun-2016 18:04
Surr: 1,2-Dichloroethane-d4	73.6		70-128	%REC	1	13-Jun-2016 18:04
Surr: 4-Bromofluorobenzene	85.2		73-126	%REC	1	13-Jun-2016 18:04
Surr: Dibromofluoromethane	85.8		71-128	%REC	1	13-Jun-2016 18:04
Surr: Toluene-d8	100		73-127	%REC	1	13-Jun-2016 18:04
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	17.6		4.99	mg/L	10	23-Jun-2016 11:51
Magnesium	6.54		4.99	mg/L	10	23-Jun-2016 11:51
Sodium	25.2		4.99	mg/L	10	23-Jun-2016 11:51
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.98	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	ND		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.751		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	0.306		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.407		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 22:30
Surr: 4-Bromofluorobenzene	86.4		70-130	%REC	1	14-Jun-2016 22:30
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	7.09		3.43	ug/Kg	1	22-Jun-2016 16:20
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.94	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.5	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.407		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	1.30		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-8-17-060816
Collection Date: 08-Jun-2016 13:00

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-07
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		2.5	mg/Kg	1	16-Jun-2016 23:09
Surr: 2-Fluorobiphenyl	75.5		60-135	%REC	1	16-Jun-2016 23:09

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-7-8-060816
 Collection Date: 08-Jun-2016 14:40

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-08
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Acenaphthylene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Anthracene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Benz(a)anthracene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Benzo(a)pyrene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Benzo(b)fluoranthene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Benzo(g,h,i)perylene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Benzo(k)fluoranthene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Chrysene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Dibenz(a,h)anthracene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Fluoranthene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Fluorene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Indeno(1,2,3-cd)pyrene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Naphthalene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Phenanthrene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
Pyrene	ND		3.3	ug/Kg	1	21-Jun-2016 22:21
<i>Surr: 2-Fluorobiphenyl</i>	87.2		43-125	%REC	1	21-Jun-2016 22:21
<i>Surr: 4-Terphenyl-d14</i>	82.6		32-125	%REC	1	21-Jun-2016 22:21
<i>Surr: Nitrobenzene-d5</i>	121		37-125	%REC	1	21-Jun-2016 22:21
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	1.86		0.477	mg/Kg	1	21-Jun-2016 00:47
Barium	147		0.477	mg/Kg	1	21-Jun-2016 00:47
Boron	9.97		2.38	mg/Kg	1	21-Jun-2016 14:38
Cadmium	ND		0.477	mg/Kg	1	21-Jun-2016 00:47
Chromium	7.81		0.477	mg/Kg	1	21-Jun-2016 00:47
Copper	4.52		0.191	mg/Kg	1	21-Jun-2016 00:47
Lead	4.92		0.477	mg/Kg	1	21-Jun-2016 00:47
Nickel	5.36		0.477	mg/Kg	1	21-Jun-2016 00:47
Selenium	ND		0.477	mg/Kg	1	21-Jun-2016 00:47
Silver	ND		0.477	mg/Kg	1	21-Jun-2016 00:47
Zinc	26.7		0.477	mg/Kg	1	21-Jun-2016 00:47

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-7-8-060816
 Collection Date: 08-Jun-2016 14:40

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-08
 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	15-Jun-2016 12:26
Ethylbenzene	ND		5.0	ug/Kg	1	15-Jun-2016 12:26
m,p-Xylene	ND		10	ug/Kg	1	15-Jun-2016 12:26
o-Xylene	ND		5.0	ug/Kg	1	15-Jun-2016 12:26
Toluene	ND		5.0	ug/Kg	1	15-Jun-2016 12:26
Xylenes, Total	ND		10	ug/Kg	1	15-Jun-2016 12:26
Surr: 1,2-Dichloroethane-d4	75.2		70-128	%REC	1	15-Jun-2016 12:26
Surr: 4-Bromofluorobenzene	97.7		73-126	%REC	1	15-Jun-2016 12:26
Surr: Dibromofluoromethane	3.88	S	71-128	%REC	1	15-Jun-2016 12:26
Surr: Toluene-d8	96.5		73-127	%REC	1	15-Jun-2016 12:26
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	88.4		4.99	mg/L	10	23-Jun-2016 11:54
Magnesium	ND		4.99	mg/L	10	23-Jun-2016 11:54
Sodium	683		4.99	mg/L	10	23-Jun-2016 11:54
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.98	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	7.81		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	8.86		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	6.08		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.686		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	0.58		0.050	mg/Kg	1	14-Jun-2016 22:46
Surr: 4-Bromofluorobenzene	114		70-130	%REC	1	14-Jun-2016 22:46
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	6.39		3.39	ug/Kg	1	22-Jun-2016 16:22
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	11.8	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.3	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.686		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	20.0		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-7-8-060816
Collection Date: 08-Jun-2016 14:40

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-08
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	59		2.5	mg/Kg	1	17-Jun-2016 00:21
Surr: 2-Fluorobiphenyl	102		60-135	%REC	1	17-Jun-2016 00:21

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-7-9-060816
 Collection Date: 08-Jun-2016 14:45

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-09
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Acenaphthylene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Anthracene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Benz(a)anthracene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Benzo(a)pyrene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Benzo(b)fluoranthene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Benzo(g,h,i)perylene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Benzo(k)fluoranthene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Chrysene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Dibenz(a,h)anthracene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Fluoranthene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Fluorene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Indeno(1,2,3-cd)pyrene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Naphthalene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Phenanthrene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
Pyrene	ND		9.7	ug/Kg	1	21-Jun-2016 15:32
<i>Surr: 2-Fluorobiphenyl</i>	89.8		43-125	%REC	1	21-Jun-2016 15:32
<i>Surr: 4-Terphenyl-d14</i>	112		32-125	%REC	1	21-Jun-2016 15:32
<i>Surr: Nitrobenzene-d5</i>	62.6		37-125	%REC	1	21-Jun-2016 15:32
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	1.99		0.463	mg/Kg	1	21-Jun-2016 00:52
Barium	103		0.463	mg/Kg	1	21-Jun-2016 00:52
Boron	8.41		2.31	mg/Kg	1	21-Jun-2016 14:43
Cadmium	ND		0.463	mg/Kg	1	21-Jun-2016 00:52
Chromium	9.15		0.463	mg/Kg	1	21-Jun-2016 00:52
Copper	4.56		0.185	mg/Kg	1	21-Jun-2016 00:52
Lead	4.83		0.463	mg/Kg	1	21-Jun-2016 00:52
Nickel	4.69		0.463	mg/Kg	1	21-Jun-2016 00:52
Selenium	ND		0.463	mg/Kg	1	21-Jun-2016 00:52
Silver	ND		0.463	mg/Kg	1	21-Jun-2016 00:52
Zinc	24.7		0.463	mg/Kg	1	21-Jun-2016 00:52

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-7-9-060816
 Collection Date: 08-Jun-2016 14:45

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-09
 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	15-Jun-2016 11:01
Ethylbenzene	ND		4.8	ug/Kg	1	15-Jun-2016 11:01
m,p-Xylene	ND		9.6	ug/Kg	1	15-Jun-2016 11:01
o-Xylene	ND		4.8	ug/Kg	1	15-Jun-2016 11:01
Toluene	ND		4.8	ug/Kg	1	15-Jun-2016 11:01
Xylenes, Total	ND		9.6	ug/Kg	1	15-Jun-2016 11:01
Surr: 1,2-Dichloroethane-d4	87.3		70-128	%REC	1	15-Jun-2016 11:01
Surr: 4-Bromofluorobenzene	98.1		73-126	%REC	1	15-Jun-2016 11:01
Surr: Dibromofluoromethane	19.6	S	71-128	%REC	1	15-Jun-2016 11:01
Surr: Toluene-d8	96.4		73-127	%REC	1	15-Jun-2016 11:01
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	279		5.00	mg/L	10	23-Jun-2016 11:57
Magnesium	ND		5.00	mg/L	10	23-Jun-2016 11:57
Sodium	233		5.00	mg/L	10	23-Jun-2016 11:57
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	9.15		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	5.96		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	3.26		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.547		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	0.24		0.050	mg/Kg	1	14-Jun-2016 23:02
Surr: 4-Bromofluorobenzene	95.1		70-130	%REC	1	14-Jun-2016 23:02
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	7.17		3.34	ug/Kg	1	22-Jun-2016 16:24
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	12.0	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.1	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.547		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	3.84		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-7-9-060816
Collection Date: 08-Jun-2016 14:45

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-09
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	190		5.0	mg/Kg	1	17-Jun-2016 00:45
Surr: 2-Fluorobiphenyl	113		60-135	%REC	1	17-Jun-2016 00:45

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-7-14-060816
 Collection Date: 08-Jun-2016 15:00

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-10
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Acenaphthylene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Benz(a)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Benzo(a)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Benzo(b)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Benzo(g,h,i)perylene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Benzo(k)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Chrysene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Dibenz(a,h)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Fluorene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Indeno(1,2,3-cd)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Naphthalene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Phenanthrene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
Pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 21:42
<i>Surr: 2-Fluorobiphenyl</i>	65.4		43-125	%REC	1	21-Jun-2016 21:42
<i>Surr: 4-Terphenyl-d14</i>	89.1		32-125	%REC	1	21-Jun-2016 21:42
<i>Surr: Nitrobenzene-d5</i>	82.6		37-125	%REC	1	21-Jun-2016 21:42
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 17-Jun-2016		Analyst: JDE
Arsenic	2.90		0.445	mg/Kg	1	21-Jun-2016 01:05
Barium	332		4.45	mg/Kg	10	21-Jun-2016 14:47
Boron	ND		2.22	mg/Kg	1	21-Jun-2016 01:05
Cadmium	ND		0.445	mg/Kg	1	21-Jun-2016 01:05
Chromium	1.74		0.445	mg/Kg	1	21-Jun-2016 01:05
Copper	2.14		0.178	mg/Kg	1	21-Jun-2016 01:05
Lead	2.73		0.445	mg/Kg	1	21-Jun-2016 01:05
Nickel	4.28		0.445	mg/Kg	1	21-Jun-2016 01:05
Selenium	ND		0.445	mg/Kg	1	21-Jun-2016 01:05
Silver	ND		0.445	mg/Kg	1	21-Jun-2016 01:05
Zinc	12.7		0.445	mg/Kg	1	21-Jun-2016 01:05

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-7-14-060816
 Collection Date: 08-Jun-2016 15:00

ANALYTICAL REPORT

WorkOrder:HS16060642
 Lab ID:HS16060642-10
 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	15-Jun-2016 11:30
Ethylbenzene	ND		4.8	ug/Kg	1	15-Jun-2016 11:30
m,p-Xylene	ND		9.7	ug/Kg	1	15-Jun-2016 11:30
o-Xylene	ND		4.8	ug/Kg	1	15-Jun-2016 11:30
Toluene	ND		4.8	ug/Kg	1	15-Jun-2016 11:30
Xylenes, Total	ND		9.7	ug/Kg	1	15-Jun-2016 11:30
Surr: 1,2-Dichloroethane-d4	74.5		70-128	%REC	1	15-Jun-2016 11:30
Surr: 4-Bromofluorobenzene	87.7		73-126	%REC	1	15-Jun-2016 11:30
Surr: Dibromofluoromethane	89.4		71-128	%REC	1	15-Jun-2016 11:30
Surr: Toluene-d8	96.4		73-127	%REC	1	15-Jun-2016 11:30
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Calcium	10.4		4.99	mg/L	10	23-Jun-2016 12:00
Magnesium	ND		4.99	mg/L	10	23-Jun-2016 12:00
Sodium	22.5		4.99	mg/L	10	23-Jun-2016 12:00
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		2.00	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	ND		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.660		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Electrical Conductivity, 1:1 aqueous	0.238		0.0100	mmhos/cm @25°C	1	23-Jun-2016 16:00
Saturation % as decimal	0.360		0	mmhos/cm @25°C	1	23-Jun-2016 16:00
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 21:26
Surr: 4-Bromofluorobenzene	88.2		70-130	%REC	1	14-Jun-2016 21:26
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	6.32		3.58	ug/Kg	1	22-Jun-2016 16:25
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	9.09	H	0.100	pH Units	1	13-Jun-2016 14:00
Temp Deg C @pH	24.4	H	0	°C	1	13-Jun-2016 14:00
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.360		0.100	SP as fraction	1	21-Jun-2016 12:30
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 21-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	3.84		0.0100	meq/meq	1	24-Jun-2016 06:15

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-7-14-060816
Collection Date: 08-Jun-2016 15:00

ANALYTICAL REPORT

WorkOrder:HS16060642
Lab ID:HS16060642-10
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	17-Jun-2016 01:10
Surr: 2-Fluorobiphenyl	63.5		60-135	%REC	1	17-Jun-2016 01:10

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

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

Batch ID: 1043 **Method:** VOLATILES BY SW8260C

SamplID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS16060642-01	1	5.111 (g)	5 (mL)	0.98	Bulk (5030B)
HS16060642-02	1	5.194 (g)	5 (mL)	0.96	Bulk (5030B)
HS16060642-03	1	5.267 (g)	5 (mL)	0.95	Bulk (5030B)
HS16060642-04	1	5.068 (g)	5 (mL)	0.99	Bulk (5030B)
HS16060642-05	1	5.141 (g)	5 (mL)	0.97	Bulk (5030B)
HS16060642-06	1	5.339 (g)	5 (mL)	0.94	Bulk (5030B)
HS16060642-07	1	4.967 (g)	5 (mL)	1.01	Bulk (5030B)
HS16060642-08	1	5.021 (g)	5 (mL)	1	Bulk (5030B)
HS16060642-09	1	5.194 (g)	5 (mL)	0.96	Bulk (5030B)
HS16060642-10	1	5.147 (g)	5 (mL)	0.97	Bulk (5030B)

Batch ID: 105358 **Method:** LOW-LEVEL PAHS **Prep:** 3541_B_LOW

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060642-01	1	10.14	1 (mL)	0.09862
HS16060642-02	1	10.1	1 (mL)	0.09901
HS16060642-03	1	10.04	1 (mL)	0.0996
HS16060642-04	1	30.14	1 (mL)	0.03318
HS16060642-05	1	15.12	1 (mL)	0.06614
HS16060642-06	1	10.06	1 (mL)	0.0994
HS16060642-07	1	15.17	1 (mL)	0.06592
HS16060642-08	1	30.07	1 (mL)	0.03326
HS16060642-09	1	10.17	1 (mL)	0.09833
HS16060642-10	1	15.12	1 (mL)	0.06614

Batch ID: 105422 **Method:** TPH DRO/ORO BY SW8015C **Prep:** 8015SPR_LL

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060642-01	1	10.12	1 (mL)	0.09881
HS16060642-02	1	10.1	1 (mL)	0.09901
HS16060642-03	1	10.05	1 (mL)	0.0995
HS16060642-04	1	15.19	1 (mL)	0.06583
HS16060642-05	1	20.14	1 (mL)	0.04965
HS16060642-06	1	10.04	1 (mL)	0.0996
HS16060642-07	1	20.2	1 (mL)	0.0495
HS16060642-08	1	20.14	1 (mL)	0.04965
HS16060642-09	1	10.17	1 (mL)	0.09833
HS16060642-10	1	30.13	1 (mL)	0.03319

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

Batch ID: 105483 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060642-01	1	0.543	50 (mL)	92.08
HS16060642-02	1	0.5509	50 (mL)	90.76
HS16060642-03	1	0.5561	50 (mL)	89.91
HS16060642-04	1	610.5384	50 (mL)	0.08189
HS16060642-05	1	0.557	50 (mL)	89.77
HS16060642-06	1	0.5444	50 (mL)	91.84
HS16060642-07	1	0.5669	50 (mL)	88.2
HS16060642-08	1	0.5246	50 (mL)	95.31
HS16060642-09	1	0.5401	50 (mL)	92.58
HS16060642-10	1	0.5618	50 (mL)	89

Batch ID: 105560 **Method:** HEXAVALENT CHROMIUM BY SW7196A **Prep:** CR6_S_PR3060A

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060642-01	1	2.5506	100 (mL)	39.21
HS16060642-02	1	2.5171	100 (mL)	39.73
HS16060642-03	1	2.5086	100 (mL)	39.86
HS16060642-04	1	2.5167	100 (mL)	39.73
HS16060642-05	1	2.5041	100 (mL)	39.93
HS16060642-06	1	2.5221	100 (mL)	39.65
HS16060642-07	1	2.522	100 (mL)	39.65
HS16060642-08	1	2.521	100 (mL)	39.67
HS16060642-09	1	2.5082	100 (mL)	39.87
HS16060642-10	1	2.5034	100 (mL)	39.95

Batch ID: 105569 **Method:** LA 29B - 1:1 SOLUBLE CATIONS FOR SAR **Prep:** LA29B SAR CATPR

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060642-01	1	60.1365	60 (mL)	0.9977
HS16060642-02	1	60.0008	60 (mL)	1
HS16060642-03	1	100.1109	100 (mL)	0.9989
HS16060642-04	1	100.1081	100 (mL)	0.9989
HS16060642-05	1	30.1933	30 (mL)	0.9936
HS16060642-06	1	100.0023	100 (mL)	1
HS16060642-07	1	100.1447	100 (mL)	0.9986
HS16060642-08	1	100.2511	100 (mL)	0.9975
HS16060642-09	1	80.0541	80 (mL)	0.9993
HS16060642-10	1	100.1011	100 (mL)	0.999

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

Batch ID: 105586 **Method:** MERCURY BY SW7471B **Prep:** HG_S_LOWPR

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060642-01	1	0.5854	40 (mL)	68.33
HS16060642-02	1	0.5535	40 (mL)	72.27
HS16060642-03	1	0.5941	40 (mL)	67.33
HS16060642-04	1	0.5503	40 (mL)	72.69
HS16060642-05	1	0.5662	40 (mL)	70.65
HS16060642-06	1	0.5636	40 (mL)	70.97
HS16060642-07	1	0.5814	40 (mL)	68.8
HS16060642-08	1	0.5884	40 (mL)	67.98
HS16060642-09	1	0.5966	40 (mL)	67.05
HS16060642-10	1	0.5573	40 (mL)	71.77

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 105358 Test Name : LOW-LEVEL PAHS Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10		14 Jun 2016 15:17	21 Jun 2016 19:45	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13		14 Jun 2016 15:17	22 Jun 2016 14:00	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55		14 Jun 2016 15:17	21 Jun 2016 20:24	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30		14 Jun 2016 15:17	21 Jun 2016 20:44	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35		14 Jun 2016 15:17	21 Jun 2016 22:02	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45		14 Jun 2016 15:17	21 Jun 2016 21:03	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00		14 Jun 2016 15:17	21 Jun 2016 21:23	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40		14 Jun 2016 15:17	21 Jun 2016 22:21	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45		14 Jun 2016 15:17	21 Jun 2016 15:32	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00		14 Jun 2016 15:17	21 Jun 2016 21:42	1
Batch ID 105422 Test Name : TPH DRO/ORO BY SW8015C Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10		16 Jun 2016 09:42	16 Jun 2016 20:44	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13		16 Jun 2016 09:42	16 Jun 2016 21:09	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55		16 Jun 2016 09:42	16 Jun 2016 21:33	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30		16 Jun 2016 09:42	16 Jun 2016 21:57	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35		16 Jun 2016 09:42	24 Jun 2016 02:18	2
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45		16 Jun 2016 09:42	16 Jun 2016 22:45	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00		16 Jun 2016 09:42	16 Jun 2016 23:09	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40		16 Jun 2016 09:42	17 Jun 2016 00:21	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45		16 Jun 2016 09:42	17 Jun 2016 00:45	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00		16 Jun 2016 09:42	17 Jun 2016 01:10	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 105483	Test Name : METALS BY SW6020A			Matrix: Soil		
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10		17 Jun 2016 15:26	21 Jun 2016 14:03	1
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10		17 Jun 2016 15:26	21 Jun 2016 00:21	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13		17 Jun 2016 15:26	21 Jun 2016 14:16	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13		17 Jun 2016 15:26	21 Jun 2016 00:25	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55		17 Jun 2016 15:26	21 Jun 2016 14:51	10
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55		17 Jun 2016 15:26	21 Jun 2016 14:21	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55		17 Jun 2016 15:26	21 Jun 2016 00:30	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30		17 Jun 2016 15:26	21 Jun 2016 14:25	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30		17 Jun 2016 15:26	21 Jun 2016 00:34	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35		17 Jun 2016 15:26	21 Jun 2016 14:30	5
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35		17 Jun 2016 15:26	21 Jun 2016 00:39	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45		17 Jun 2016 15:26	21 Jun 2016 14:34	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45		17 Jun 2016 15:26	21 Jun 2016 00:43	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00		17 Jun 2016 15:26	21 Jun 2016 13:42	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00		17 Jun 2016 15:26	20 Jun 2016 23:50	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40		17 Jun 2016 15:26	21 Jun 2016 14:38	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40		17 Jun 2016 15:26	21 Jun 2016 00:47	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45		17 Jun 2016 15:26	21 Jun 2016 14:43	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45		17 Jun 2016 15:26	21 Jun 2016 00:52	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00		17 Jun 2016 15:26	21 Jun 2016 14:47	10
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00		17 Jun 2016 15:26	21 Jun 2016 01:05	1
Batch ID 105560	Test Name : HEXAVALENT CHROMIUM BY SW7196A			Matrix: Soil		
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00		22 Jun 2016 14:49	23 Jun 2016 14:53	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 105569 Test Name : LA 29B - 1:1 SOLUBLE CATIONS FOR SAR Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10		21 Jun 2016 16:04	23 Jun 2016 11:25	10
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13		21 Jun 2016 16:04	23 Jun 2016 11:28	10
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55		21 Jun 2016 16:04	23 Jun 2016 11:31	10
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30		21 Jun 2016 16:04	23 Jun 2016 12:35	100
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30		21 Jun 2016 16:04	23 Jun 2016 11:34	10
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35		21 Jun 2016 16:04	23 Jun 2016 12:41	100
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35		21 Jun 2016 16:04	23 Jun 2016 11:45	10
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45		21 Jun 2016 16:04	23 Jun 2016 12:44	100
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45		21 Jun 2016 16:04	23 Jun 2016 11:48	10
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00		21 Jun 2016 16:04	23 Jun 2016 11:51	10
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40		21 Jun 2016 16:04	23 Jun 2016 11:54	10
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45		21 Jun 2016 16:04	23 Jun 2016 11:57	10
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00		21 Jun 2016 16:04	23 Jun 2016 12:00	10
Batch ID 105569A Test Name : LA29B SODIUM ADSORPTION RATIO Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10		21 Jun 2016 16:04	24 Jun 2016 06:15	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13		21 Jun 2016 16:04	24 Jun 2016 06:15	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55		21 Jun 2016 16:04	24 Jun 2016 06:15	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30		21 Jun 2016 16:04	24 Jun 2016 06:15	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35		21 Jun 2016 16:04	24 Jun 2016 06:15	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45		21 Jun 2016 16:04	24 Jun 2016 06:15	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00		21 Jun 2016 16:04	24 Jun 2016 06:15	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40		21 Jun 2016 16:04	24 Jun 2016 06:15	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45		21 Jun 2016 16:04	24 Jun 2016 06:15	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00		21 Jun 2016 16:04	24 Jun 2016 06:15	1
Batch ID 105586 Test Name : MERCURY BY SW7471B Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10		22 Jun 2016 08:53	22 Jun 2016 16:06	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13		22 Jun 2016 08:53	22 Jun 2016 16:08	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55		22 Jun 2016 08:53	22 Jun 2016 16:10	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30		22 Jun 2016 08:53	22 Jun 2016 16:12	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35		22 Jun 2016 08:53	22 Jun 2016 16:13	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45		22 Jun 2016 08:53	22 Jun 2016 16:18	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00		22 Jun 2016 08:53	22 Jun 2016 16:20	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40		22 Jun 2016 08:53	22 Jun 2016 16:22	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45		22 Jun 2016 08:53	22 Jun 2016 16:24	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00		22 Jun 2016 08:53	22 Jun 2016 16:25	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R276168 Test Name : VOLATILES BY SW8260C Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10			13 Jun 2016 15:12	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13			13 Jun 2016 15:40	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55			13 Jun 2016 16:08	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30			13 Jun 2016 16:37	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45			13 Jun 2016 17:35	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00			13 Jun 2016 18:04	1
Batch ID R276228 Test Name : PH SOIL BY SW9045D Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10			13 Jun 2016 14:00	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13			13 Jun 2016 14:00	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55			13 Jun 2016 14:00	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30			13 Jun 2016 14:00	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35			13 Jun 2016 14:00	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45			13 Jun 2016 14:00	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00			13 Jun 2016 14:00	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40			13 Jun 2016 14:00	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45			13 Jun 2016 14:00	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00			13 Jun 2016 14:00	1
Batch ID R276337 Test Name : GASOLINE RANGE ORGANICS BY SW8015C Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10			14 Jun 2016 18:28	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13			14 Jun 2016 18:44	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55			14 Jun 2016 19:01	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30			14 Jun 2016 19:17	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35			14 Jun 2016 19:33	1
Batch ID R276338 Test Name : GASOLINE RANGE ORGANICS BY SW8015C Matrix: Soil						
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45			14 Jun 2016 22:14	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00			14 Jun 2016 22:30	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40			14 Jun 2016 22:46	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45			14 Jun 2016 23:02	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00			14 Jun 2016 21:26	1
Batch ID R276350 Test Name : VOLATILES BY SW8260C Matrix: Soil						
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35			15 Jun 2016 11:58	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40			15 Jun 2016 12:26	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45			15 Jun 2016 11:01	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00			15 Jun 2016 11:30	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R276726 Test Name : LA29B SATURATION POINT (AS FRACTION) Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10			21 Jun 2016 12:30	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13			21 Jun 2016 12:30	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55			21 Jun 2016 12:30	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30			21 Jun 2016 12:30	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35			21 Jun 2016 12:30	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45			21 Jun 2016 12:30	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00			21 Jun 2016 12:30	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40			21 Jun 2016 12:30	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45			21 Jun 2016 12:30	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00			21 Jun 2016 12:30	1
Batch ID R276886 Test Name : LA29B ELECTRICAL CONDUCTIVITY Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10			23 Jun 2016 16:00	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13			23 Jun 2016 16:00	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55			23 Jun 2016 16:00	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30			23 Jun 2016 16:00	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35			23 Jun 2016 16:00	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45			23 Jun 2016 16:00	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00			23 Jun 2016 16:00	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40			23 Jun 2016 16:00	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45			23 Jun 2016 16:00	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00			23 Jun 2016 16:00	1
Batch ID R276931 Test Name : TRIVALENT CHROMIUM Matrix: Soil						
HS16060642-01	GP-16-4-2-060716	07 Jun 2016 08:10			24 Jun 2016 09:23	1
HS16060642-02	GP-16-4-4-060716	07 Jun 2016 08:13			24 Jun 2016 09:23	1
HS16060642-03	GP-16-4-16-060716	07 Jun 2016 08:55			24 Jun 2016 09:23	1
HS16060642-04	GP-16-8-3-060816	08 Jun 2016 12:30			24 Jun 2016 09:23	1
HS16060642-05	GP-16-8-4-060816	08 Jun 2016 12:35			24 Jun 2016 09:23	1
HS16060642-06	GP-16-8-9-060816	08 Jun 2016 12:45			24 Jun 2016 09:23	1
HS16060642-07	GP-16-8-17-060816	08 Jun 2016 13:00			24 Jun 2016 09:23	1
HS16060642-08	GP-16-7-8-060816	08 Jun 2016 14:40			24 Jun 2016 09:23	1
HS16060642-09	GP-16-7-9-060816	08 Jun 2016 14:45			24 Jun 2016 09:23	1
HS16060642-10	GP-16-7-14-060816	08 Jun 2016 15:00			24 Jun 2016 09:23	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105422		Instrument: FID-8		Method: SW8015M					
MBLK	Sample ID: MBLK-105422	Units: mg/Kg		Analysis Date: 16-Jun-2016 19:56					
Client ID:	Run ID: FID-8_276844		SeqNo: 3735266		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

TPH (Diesel Range)	ND	1.7							
Surr: 2-Fluorobiphenyl	2.785	0.10	3.33	0	83.6	60 - 135			

LCS	Sample ID: LCS-105422	Units: mg/Kg		Analysis Date: 16-Jun-2016 20:20					
Client ID:	Run ID: FID-8_276844		SeqNo: 3735267		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

TPH (Diesel Range)	31.52	1.7	33.33	0	94.6	70 - 130			
Surr: 2-Fluorobiphenyl	2.88	0.10	3.33	0	86.5	60 - 135			

MS	Sample ID: HS16060643-08MS	Units: mg/Kg		Analysis Date: 17-Jun-2016 04:47					
Client ID:	Run ID: FID-8_276844		SeqNo: 3735287		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

TPH (Diesel Range)	105.1	5.1	99.1	3.859	102	70 - 130			
Surr: 2-Fluorobiphenyl	8.097	0.30	9.901	0	81.8	60 - 135			

MSD	Sample ID: HS16060643-08MSD	Units: mg/Kg		Analysis Date: 17-Jun-2016 05:11					
Client ID:	Run ID: FID-8_276844		SeqNo: 3735288		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual

TPH (Diesel Range)	91.22	5.1	99.2	3.859	88.1	70 - 130	105.1	14.1	30
Surr: 2-Fluorobiphenyl	7.379	0.30	9.911	0	74.5	60 - 135	8.097	9.29	30

The following samples were analyzed in this batch:

HS16060642-01	HS16060642-02	HS16060642-03	HS16060642-04
HS16060642-05	HS16060642-06	HS16060642-07	HS16060642-08
HS16060642-09	HS16060642-10		

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: R276337		Instrument: FID-14		Method: SW8015						
MBLK	Sample ID: GBLK-160614	Units: mg/Kg			Analysis Date: 14-Jun-2016 12:20					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724135			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	0.08142	0.0050	0.1	0	81.4	70 - 130				
LCS	Sample ID: GLCS-160614	Units: mg/Kg			Analysis Date: 14-Jun-2016 11:48					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724134			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.026	0.050	1	0	103	70 - 130				
Surr: 4-Bromofluorobenzene	0.09682	0.0050	0.1	0	96.8	70 - 130				
MS	Sample ID: HS16060643-06MS	Units: mg/Kg			Analysis Date: 14-Jun-2016 13:07					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724137			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.097	0.050	1	0	110	70 - 130				
Surr: 4-Bromofluorobenzene	0.09963	0.0050	0.1	0	99.6	70 - 130				
MSD	Sample ID: HS16060643-06MSD	Units: mg/Kg			Analysis Date: 14-Jun-2016 13:23					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724138			PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.069	0.050	1	0	107	70 - 130	1.097	2.53	30	
Surr: 4-Bromofluorobenzene	0.09555	0.0050	0.1	0	95.6	70 - 130	0.09963	4.18	30	
The following samples were analyzed in this batch:										
HS16060642-01		HS16060642-02		HS16060642-03		HS16060642-04				
HS16060642-05										

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: R276338		Instrument: FID-14		Method: SW8015					
MBLK	Sample ID: GBLK-160614	Units: mg/Kg		Analysis Date: 14-Jun-2016 21:10					
Client ID:	Run ID: FID-14_276338	SeqNo: 3724191		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	0.08109	0.0050	0.1	0	81.1	70 - 130			
LCS	Sample ID: GLCS-160614	Units: mg/Kg		Analysis Date: 14-Jun-2016 20:37					
Client ID:	Run ID: FID-14_276338	SeqNo: 3724190		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Gasoline Range Organics	1.018	0.050	1	0	102	70 - 130			
Surr: 4-Bromofluorobenzene	0.1033	0.0050	0.1	0	103	70 - 130			
MS	Sample ID: HS16060642-10MS	Units: mg/Kg		Analysis Date: 14-Jun-2016 21:42					
Client ID: GP-16-7-14-060816	Run ID: FID-14_276338	SeqNo: 3724247		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Gasoline Range Organics	0.7882	0.050	1	0	78.8	70 - 130			
Surr: 4-Bromofluorobenzene	0.06635	0.0050	0.1	0	66.3	70 - 130			S
MSD	Sample ID: HS16060642-10MSD	Units: mg/Kg		Analysis Date: 14-Jun-2016 21:58					
Client ID: GP-16-7-14-060816	Run ID: FID-14_276338	SeqNo: 3724248		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Gasoline Range Organics	0.8929	0.050	1	0	89.3	70 - 130	0.7882	12.5	30
Surr: 4-Bromofluorobenzene	0.07076	0.0050	0.1	0	70.8	70 - 130	0.06635	6.43	30
The following samples were analyzed in this batch:									
<div> <div>HS16060642-06</div> <div>HS16060642-07</div> <div>HS16060642-08</div> <div>HS16060642-09</div> </div> <div>HS16060642-10</div>									

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105483											Instrument: ICPMS04			Method: SW6020		
MBLK		Sample ID: MBLK-105483			Units: mg/Kg			Analysis Date: 20-Jun-2016 23:37								
Client ID:			Run ID: ICPMS04_276606			SeqNo: 3731169		PrepDate: 17-Jun-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								
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-105483		Units: mg/Kg		Analysis Date: 21-Jun-2016 13:26					
Client ID:	Run ID: ICPMS04_276680		SeqNo: 3731946		PrepDate: 17-Jun-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								
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LCS	Sample ID: LCS-105483	Units: mg/Kg			Analysis Date: 20-Jun-2016 23:42					
Client ID:		Run ID: ICPMS04_276606	SeqNo: 3731170		PrepDate: 17-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic	8.48	0.500	10	0	84.8	80 - 120				
Barium	8.498	0.500	10	0	85.0	80 - 120				
Cadmium	8.602	0.500	10	0	86.0	80 - 120				
Chromium	8.55	0.500	10	0	85.5	80 - 120				
Copper	8.568	0.200	10	0	85.7	80 - 120				
Lead	8.097	0.500	10	0	81.0	80 - 120				
Nickel	8.589	0.500	10	0	85.9	80 - 120				
Selenium	8.507	0.500	10	0	85.1	80 - 120				
Silver	8.65	0.500	10	0	86.5	80 - 120				
Zinc	8.292	0.500	10	0	82.9	80 - 120				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105483		Instrument: ICPMS04		Method: SW6020						
LCS	Sample ID: LCS-105483	Units: mg/Kg			Analysis Date: 21-Jun-2016 13:37					
Client ID:		Run ID: ICPMS04_276680	SeqNo: 3731947		PrepDate: 17-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	52.56	2.50	50	0	105	80 - 120				
MS	Sample ID: HS16060642-07MS	Units: mg/Kg			Analysis Date: 20-Jun-2016 23:59					
Client ID: GP-16-8-17-060816		Run ID: ICPMS04_276606	SeqNo: 3731174		PrepDate: 17-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.2	0.465	9.292	3.275	85.3	75 - 125				
Barium	63.52	0.465	9.292	51.31	131	75 - 125				
Cadmium	7.766	0.465	9.292	0.01923	83.4	75 - 125				
Chromium	11.75	0.465	9.292	1.813	107	75 - 125				
Copper	9.58	0.186	9.292	2.065	80.9	75 - 125				
Lead	11.27	0.465	9.292	2.943	89.6	75 - 125				
Nickel	11.18	0.465	9.292	3.467	83.0	75 - 125				
Selenium	8.289	0.465	9.292	0.2969	86.0	75 - 125				
Silver	7.75	0.465	9.292	0.003793	83.4	75 - 125				
Zinc	22.31	0.465	9.292	13.85	91.1	75 - 125				
MS	Sample ID: HS16060642-07MS	Units: mg/Kg			Analysis Date: 21-Jun-2016 13:50					
Client ID: GP-16-8-17-060816		Run ID: ICPMS04_276680	SeqNo: 3731950		PrepDate: 17-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	50.51	2.32	46.46	2.881	103	75 - 125				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105483		Instrument: ICPMS04		Method: SW6020					
MSD		Sample ID: HS16060642-07MSD		Units: mg/Kg		Analysis Date: 21-Jun-2016 00:03			
Client ID: GP-16-8-17-060816		Run ID: ICPMS04_276606		SeqNo: 3731175		PrepDate: 17-Jun-2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	11.06	0.457	9.142	3.275	85.1	75 - 125	11.2	1.25	20
Barium	93.19	0.457	9.142	51.31	458	75 - 125	63.52	37.9	20 SRO
Cadmium	7.443	0.457	9.142	0.01923	81.2	75 - 125	7.766	4.24	20
Chromium	11.57	0.457	9.142	1.813	107	75 - 125	11.75	1.54	20
Copper	9.539	0.183	9.142	2.065	81.8	75 - 125	9.58	0.426	20
Lead	10.75	0.457	9.142	2.943	85.4	75 - 125	11.27	4.74	20
Nickel	11.16	0.457	9.142	3.467	84.1	75 - 125	11.18	0.224	20
Selenium	7.884	0.457	9.142	0.2969	83.0	75 - 125	8.289	5	20
Silver	7.449	0.457	9.142	0.003793	81.4	75 - 125	7.75	3.97	20
Zinc	22.58	0.457	9.142	13.85	95.5	75 - 125	22.31	1.19	20

MSD		Sample ID: HS16060642-07MSD		Units: mg/Kg		Analysis Date: 21-Jun-2016 13:55			
Client ID: GP-16-8-17-060816		Run ID: ICPMS04_276680		SeqNo: 3731951		PrepDate: 17-Jun-2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Boron	51.17	2.29	45.71	2.881	106	75 - 125	50.51	1.31	20

PDS		Sample ID: HS16060642-07BS		Units: mg/Kg		Analysis Date: 21-Jun-2016 00:08			
Client ID: GP-16-8-17-060816		Run ID: ICPMS04_276606		SeqNo: 3731176		PrepDate: 17-Jun-2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	10.35	0.441	8.82	3.275	80.2	75 - 125			
Barium	59	0.441	8.82	51.31	87.2	75 - 125			O
Boron	74.98	2.20	88.2	2.044	82.7	75 - 125			
Cadmium	6.999	0.441	8.82	0.01923	79.1	75 - 125			
Chromium	8.84	0.441	8.82	1.813	79.7	75 - 125			
Copper	8.804	0.176	8.82	2.065	76.4	75 - 125			
Lead	9.695	0.441	8.82	2.943	76.6	75 - 125			
Nickel	10.31	0.441	8.82	3.467	77.6	75 - 125			
Selenium	7.558	0.441	8.82	0.2969	82.3	75 - 125			
Silver	5.895	0.441	8.82	0.003793	66.8	75 - 125			S
Zinc	20.27	0.441	8.82	13.85	72.8	75 - 125			S

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105483		Instrument: ICPMS04		Method: SW6020					
PDS		Sample ID: HS16060642-07BS		Units: mg/Kg		Analysis Date: 21-Jun-2016 13:59			
Client ID: GP-16-8-17-060816		Run ID: ICPMS04_276680		SeqNo: 3731952		PrepDate: 17-Jun-2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Boron 84.39 2.20 88.2 2.881 92.4 75 - 125

SD	Sample ID: HS16060642-07 DIL SX		Units: mg/Kg		Analysis Date: 20-Jun-2016 23:55				
Client ID:	Run ID: ICPMS04_276606		SeqNo: 3731173		PrepDate: 17-Jun-2016		DF: 5		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual

Arsenic	3.367	2.20					3.275	2.81	10	
Barium	51.44	2.20					51.31	0.252	10	
Cadmium	ND	2.20					0.01923	0	10	
Chromium	1.832	2.20					1.813	0	10	J
Copper	2.189	0.882					2.065	5.98	10	
Lead	3.032	2.20					2.943	3.02	10	
Nickel	3.715	2.20					3.467	7.14	10	
Selenium	ND	2.20					0.2969	0	10	
Silver	ND	2.20					0.003793	0	10	
Zinc	13.71	2.20					13.85	1.01	10	

SD	Sample ID: HS16060642-07 DIL SX		Units: mg/Kg		Analysis Date: 21-Jun-2016 13:46				
Client ID:	Run ID: ICPMS04_276680		SeqNo: 3731949		PrepDate: 17-Jun-2016		DF: 5		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual

Boron ND 11.0 2.881 0 10

The following samples were analyzed in this batch:

HS16060642-01	HS16060642-02	HS16060642-03	HS16060642-04
HS16060642-05	HS16060642-06	HS16060642-07	HS16060642-08
HS16060642-09	HS16060642-10		

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105569		Instrument: ICPMS05		Method: La29B-6020						
MBLK	Sample ID: MBLK-105569	Units: mg/L			Analysis Date: 23-Jun-2016 11:22					
Client ID:	Run ID: ICPMS05_276816	SeqNo: 3735316			PrepDate: 21-Jun-2016		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	ND	5.00								
Magnesium	ND	5.00								
Sodium	ND	5.00								

DUP	Sample ID: HS16060642-04DUP	Units: mg/L			Analysis Date: 23-Jun-2016 11:36					
Client ID:	Run ID: ICPMS05_276816	SeqNo: 3735321			PrepDate: 21-Jun-2016		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	338.6	4.99					326	3.81	30	
Magnesium	15.17	4.99					15.13	0.247	30	

DUP	Sample ID: HS16060642-04DUP	Units: mg/L			Analysis Date: 23-Jun-2016 12:38					
Client ID:	Run ID: ICPMS05_276816	SeqNo: 3735549			PrepDate: 21-Jun-2016		DF: 100			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	2408	49.9					2494	3.51	30	

The following samples were analyzed in this batch:	HS16060642-01	HS16060642-02	HS16060642-03	HS16060642-04
	HS16060642-05	HS16060642-06	HS16060642-07	HS16060642-08
	HS16060642-09	HS16060642-10		

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105569A		Instrument: MISC-Metals		Method: La29B SAR	
DUP	Sample ID: HS16060642-04DUP	Units: meq/meq		Analysis Date: 24-Jun-2016 06:15	
Client ID:	Run ID: MISC-Metals_276902	SeqNo: 3736453		PrepDate: 21-Jun-2016	DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value %REC	Control Limit RPD Ref Value %RPD RPD Limit Qual

Sodium Adsorption Ratio	34.78	0.0100			36.6	5.1	30
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The following samples were analyzed in this batch:

HS16060642-01	HS16060642-02	HS16060642-03	HS16060642-04
HS16060642-05	HS16060642-06	HS16060642-07	HS16060642-08
HS16060642-09	HS16060642-10		

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105586		Instrument: HG03		Method: SW7471A					
MBLK	Sample ID: MBLK-105586	Units: ug/Kg		Analysis Date: 22-Jun-2016 16:02					
Client ID:	Run ID: HG03_276785	SeqNo: 3734042		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	ND	3.44							
LCS	Sample ID: LCS-105586	Units: ug/Kg		Analysis Date: 22-Jun-2016 16:05					
Client ID:	Run ID: HG03_276785	SeqNo: 3734043		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	340.3	3.46	346.5	0	98.2	85 - 115			
MS	Sample ID: HS16060938-02MS	Units: ug/Kg		Analysis Date: 22-Jun-2016 16:50					
Client ID:	Run ID: HG03_276785	SeqNo: 3734154		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	352.5	3.57	358.2	2.759	97.6	85 - 115			
MSD	Sample ID: HS16060938-02MSD	Units: ug/Kg		Analysis Date: 22-Jun-2016 16:51					
Client ID:	Run ID: HG03_276785	SeqNo: 3734155		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	354.3	3.59	360.1	2.759	97.6	85 - 115	352.5	0.521	20
The following samples were analyzed in this batch:									
HS16060642-01		HS16060642-02		HS16060642-03		HS16060642-04			
HS16060642-05		HS16060642-06		HS16060642-07		HS16060642-08			
HS16060642-09		HS16060642-10							

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105358		Instrument: SV-6		Method: SW8270						
MBLK	Sample ID: MBLK-105358	Units: ug/Kg		Analysis Date: 21-Jun-2016 11:36						
Client ID:	Run ID: SV-6_276858	SeqNo: 3735493		PrepDate: 14-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	3.3								
Acenaphthylene	ND	3.3								
Anthracene	ND	3.3								
Benz(a)anthracene	ND	3.3								
Benzo(a)pyrene	ND	3.3								
Benzo(b)fluoranthene	ND	3.3								
Benzo(g,h,i)perylene	ND	3.3								
Benzo(k)fluoranthene	ND	3.3								
Chrysene	ND	3.3								
Dibenz(a,h)anthracene	ND	3.3								
Fluoranthene	ND	3.3								
Fluorene	ND	3.3								
Indeno(1,2,3-cd)pyrene	ND	3.3								
Naphthalene	ND	3.3								
Phenanthrene	ND	3.3								
Pyrene	ND	3.3								
Surr: 2-Fluorobiphenyl	96.67	0	167	0	57.9	43 - 125				
Surr: 4-Terphenyl-d14	133.2	0	167	0	79.8	32 - 125				
Surr: Nitrobenzene-d5	109.8	0	167	0	65.7	37 - 125				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105358		Instrument: SV-6		Method: SW8270						
LCS		Sample ID: LCS-105358		Units: ug/Kg		Analysis Date: 21-Jun-2016 15:13				
Client ID:		Run ID: SV-6_276858		SeqNo: 3735525		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	154.7	3.3	167	0	92.6	50 - 120				
Acenaphthylene	155.3	3.3	167	0	93.0	50 - 120				
Anthracene	149.5	3.3	167	0	89.5	50 - 123				
Benz(a)anthracene	156.2	3.3	167	0	93.5	50 - 131				
Benzo(a)pyrene	170.6	3.3	167	0	102	50 - 130				
Benzo(b)fluoranthene	187.9	3.3	167	0	113	50 - 137				
Benzo(g,h,i)perylene	173.4	3.3	167	0	104	50 - 130				
Benzo(k)fluoranthene	186	3.3	167	0	111	50 - 143				
Chrysene	174.4	3.3	167	0	104	50 - 130				
Dibenz(a,h)anthracene	173.5	3.3	167	0	104	50 - 130				
Fluoranthene	160.3	3.3	167	0	96.0	50 - 131				
Fluorene	157.2	3.3	167	0	94.1	50 - 125				
Indeno(1,2,3-cd)pyrene	161.9	3.3	167	0	96.9	45 - 139				
Naphthalene	153.4	3.3	167	0	91.8	50 - 125				
Phenanthrene	154.9	3.3	167	0	92.7	50 - 125				
Pyrene	159.1	3.3	167	0	95.2	45 - 130				
Surr: 2-Fluorobiphenyl	132.3	0	167	0	79.2	43 - 125				
Surr: 4-Terphenyl-d14	195.6	0	167	0	117	32 - 125				
Surr: Nitrobenzene-d5	87.17	0	167	0	52.2	37 - 125				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105358		Instrument: SV-6		Method: SW8270					
MS		Sample ID: HS16060642-09MS		Units: ug/Kg		Analysis Date: 21-Jun-2016 15:52			
Client ID: GP-16-7-9-060816		Run ID: SV-6_276858		SeqNo: 3735495		PrepDate: 14-Jun-2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Acenaphthene	448.6	9.7	491.7	0	91.2	50 - 120			
Acenaphthylene	448.1	9.7	491.7	0	91.1	50 - 120			
Anthracene	436.3	9.7	491.7	0	88.7	50 - 123			
Benz(a)anthracene	449.3	9.7	491.7	0	91.4	50 - 131			
Benzo(a)pyrene	480.6	9.7	491.7	0	97.8	50 - 130			
Benzo(b)fluoranthene	467	9.7	491.7	0	95.0	50 - 137			
Benzo(g,h,i)perylene	469.7	9.7	491.7	0	95.5	50 - 130			
Benzo(k)fluoranthene	512.3	9.7	491.7	0	104	50 - 143			
Chrysene	444.6	9.7	491.7	0	90.4	50 - 130			
Dibenz(a,h)anthracene	454.6	9.7	491.7	0	92.5	50 - 130			
Fluoranthene	456.3	9.7	491.7	0	92.8	50 - 131			
Fluorene	450	9.7	491.7	0	91.5	50 - 125			
Indeno(1,2,3-cd)pyrene	439.3	9.7	491.7	0	89.4	45 - 139			
Naphthalene	666.9	9.7	491.7	6.369	134	50 - 125			S
Phenanthrene	438.9	9.7	491.7	0	89.3	50 - 125			
Pyrene	431.2	9.7	491.7	0	87.7	45 - 130			
Surr: 2-Fluorobiphenyl	394.8	0	491.7	0	80.3	43 - 125			
Surr: 4-Terphenyl-d14	380.8	0	491.7	0	77.4	32 - 125			
Surr: Nitrobenzene-d5	396.3	0	491.7	0	80.6	37 - 125			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105358		Instrument: SV-6		Method: SW8270					
MSD		Sample ID: HS16060642-09MSD		Units: ug/Kg		Analysis Date: 21-Jun-2016 16:11			
Client ID: GP-16-7-9-060816		Run ID: SV-6_276858		SeqNo: 3735496		PrepDate: 14-Jun-2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Acenaphthene	423.4	9.7	492.6	0	85.9	50 - 120	448.6	5.78	30
Acenaphthylene	442.3	9.7	492.6	0	89.8	50 - 120	448.1	1.29	30
Anthracene	401.6	9.7	492.6	0	81.5	50 - 123	436.3	8.28	30
Benz(a)anthracene	402.3	9.7	492.6	0	81.7	50 - 131	449.3	11	30
Benzo(a)pyrene	451.5	9.7	492.6	0	91.6	50 - 130	480.6	6.25	30
Benzo(b)fluoranthene	461.8	9.7	492.6	0	93.7	50 - 137	467	1.11	30
Benzo(g,h,i)perylene	683.2	9.7	492.6	0	139	50 - 130	469.7	37	30 SR
Benzo(k)fluoranthene	459.2	9.7	492.6	0	93.2	50 - 143	512.3	10.9	30
Chrysene	449.5	9.7	492.6	0	91.2	50 - 130	444.6	1.1	30
Dibenz(a,h)anthracene	572.1	9.7	492.6	0	116	50 - 130	454.6	22.9	30
Fluoranthene	448.7	9.7	492.6	0	91.1	50 - 131	456.3	1.67	30
Fluorene	345.3	9.7	492.6	0	70.1	50 - 125	450	26.3	30
Indeno(1,2,3-cd)pyrene	511.7	9.7	492.6	0	104	45 - 139	439.3	15.2	30
Naphthalene	420.6	9.7	492.6	6.369	84.1	50 - 125	666.9	45.3	30 R
Phenanthrene	410.3	9.7	492.6	0	83.3	50 - 125	438.9	6.72	30
Pyrene	384	9.7	492.6	0	78.0	45 - 130	431.2	11.6	30
Surr: 2-Fluorobiphenyl	337.9	0	492.6	0	68.6	43 - 125	394.8	15.5	30
Surr: 4-Terphenyl-d14	405.1	0	492.6	0	82.2	32 - 125	380.8	6.19	30
Surr: Nitrobenzene-d5	452.6	0	492.6	0	91.9	37 - 125	396.3	13.3	30
The following samples were analyzed in this batch:									
HS16060642-01			HS16060642-02		HS16060642-03		HS16060642-04		
HS16060642-05			HS16060642-06		HS16060642-07		HS16060642-08		
HS16060642-09			HS16060642-10						

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: R276168		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: VBLKS1-061316	Units: ug/Kg		Analysis Date: 13-Jun-2016 09:02					
Client ID:	Run ID: VOA8_276168	SeqNo: 3720660		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	43.33	0	50	0	86.7	70 - 128			
Surr: 4-Bromofluorobenzene	44.39	0	50	0	88.8	73 - 126			
Surr: Dibromofluoromethane	48.04	0	50	0	96.1	71 - 128			
Surr: Toluene-d8	49.34	0	50	0	98.7	73 - 127			

LCS	Sample ID: VLCSS1-061316	Units: ug/Kg		Analysis Date: 13-Jun-2016 08:07					
Client ID:	Run ID: VOA8_276168	SeqNo: 3720659		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	40.64	5.0	50	0	81.3	79 - 122			
Ethylbenzene	51.59	5.0	50	0	103	80 - 122			
m,p-Xylene	105.8	10	100	0	106	79 - 122			
o-Xylene	52.09	5.0	50	0	104	80 - 123			
Toluene	44.42	5.0	50	0	88.8	79 - 120			
Xylenes, Total	157.9	10	150	0	105	80 - 120			
Surr: 1,2-Dichloroethane-d4	45.69	0	50	0	91.4	70 - 128			
Surr: 4-Bromofluorobenzene	48.99	0	50	0	98.0	73 - 126			
Surr: Dibromofluoromethane	46.26	0	50	0	92.5	71 - 128			
Surr: Toluene-d8	47.1	0	50	0	94.2	73 - 127			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: R276168		Instrument: VOA8		Method: SW8260						
MS		Sample ID: HS16060646-01MS		Units: ug/Kg		Analysis Date: 13-Jun-2016 10:26				
Client ID:		Run ID: VOA8_276168		SeqNo: 3720663		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	43.28	4.9	49	0	88.3	79 - 122				
Ethylbenzene	52.03	4.9	49	0	106	80 - 122				
m,p-Xylene	105.9	9.8	98	0	108	79 - 122				
o-Xylene	53.3	4.9	49	0	109	80 - 123				
Toluene	46.13	4.9	49	0	94.1	79 - 120				
Xylenes, Total	159.2	9.8	147	0	108	80 - 120				
Surr: 1,2-Dichloroethane-d4	45.61	0	49	0	93.1	70 - 128				
Surr: 4-Bromofluorobenzene	49.15	0	49	0	100	73 - 126				
Surr: Dibromofluoromethane	46.53	0	49	0	95.0	71 - 128				
Surr: Toluene-d8	46.23	0	49	0	94.3	73 - 127				

MSD		Sample ID: HS16060646-01MSD		Units: ug/Kg		Analysis Date: 13-Jun-2016 10:53				
Client ID:		Run ID: VOA8_276168		SeqNo: 3720664		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	36.07	4.9	49	0	73.6	79 - 122	43.28	18.2	30	S
Ethylbenzene	42.36	4.9	49	0	86.4	80 - 122	52.03	20.5	30	
m,p-Xylene	86.29	9.8	98	0	88.0	79 - 122	105.9	20.4	30	
o-Xylene	42.52	4.9	49	0	86.8	80 - 123	53.3	22.5	30	
Toluene	37.21	4.9	49	0	75.9	79 - 120	46.13	21.4	30	S
Xylenes, Total	128.8	9.8	147	0	87.6	80 - 120	159.2	21.1	30	
Surr: 1,2-Dichloroethane-d4	45.56	0	49	0	93.0	70 - 128	45.61	0.115	30	
Surr: 4-Bromofluorobenzene	49.34	0	49	0	101	73 - 126	49.15	0.398	30	
Surr: Dibromofluoromethane	45.85	0	49	0	93.6	71 - 128	46.53	1.48	30	
Surr: Toluene-d8	46.05	0	49	0	94.0	73 - 127	46.23	0.387	30	

The following samples were analyzed in this batch:

HS16060642-01	HS16060642-02	HS16060642-03	HS16060642-04
HS16060642-06	HS16060642-07		

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: R276350		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: VBLKS1-061516	Units: ug/Kg		Analysis Date: 15-Jun-2016 08:30					
Client ID:	Run ID: VOA8_276350	SeqNo: 3724491		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	36.42	0	50	0	72.8	70 - 128			
Surr: 4-Bromofluorobenzene	41.45	0	50	0	82.9	73 - 126			
Surr: Dibromofluoromethane	44.02	0	50	0	88.0	71 - 128			
Surr: Toluene-d8	50.48	0	50	0	101	73 - 127			

LCS	Sample ID: VLCSS1-061516	Units: ug/Kg		Analysis Date: 15-Jun-2016 10:23					
Client ID:	Run ID: VOA8_276350	SeqNo: 3724493		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	49.07	5.0	50	0	98.1	79 - 122			
Ethylbenzene	58.24	5.0	50	0	116	80 - 122			
m,p-Xylene	116.8	10	100	0	117	79 - 122			
o-Xylene	57.09	5.0	50	0	114	80 - 123			
Toluene	51.5	5.0	50	0	103	79 - 120			
Xylenes, Total	173.9	10	150	0	116	80 - 120			
Surr: 1,2-Dichloroethane-d4	39.03	0	50	0	78.1	70 - 128			
Surr: 4-Bromofluorobenzene	50.43	0	50	0	101	73 - 126			
Surr: Dibromofluoromethane	44.19	0	50	0	88.4	71 - 128			
Surr: Toluene-d8	47.59	0	50	0	95.2	73 - 127			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: R276350		Instrument: VOA8		Method: SW8260						
MS		Sample ID: HS16060642-10MS		Units: ug/Kg		Analysis Date: 15-Jun-2016 14:20				
Client ID: GP-16-7-14-060816		Run ID: VOA8_276350		SeqNo: 3724918		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	45.32	5.0	50	0	90.6	79 - 122				
Ethylbenzene	53.05	5.0	50	0	106	80 - 122				
m,p-Xylene	107.1	10	100	0	107	79 - 122				
o-Xylene	53.52	5.0	50	0	107	80 - 123				
Toluene	47.4	5.0	50	0	94.8	79 - 120				
Xylenes, Total	160.6	10	150	0	107	80 - 120				
Surr: 1,2-Dichloroethane-d4	41.9	0	50	0	83.8	70 - 128				
Surr: 4-Bromofluorobenzene	50	0	50	0	100	73 - 126				
Surr: Dibromofluoromethane	44.39	0	50	0	88.8	71 - 128				
Surr: Toluene-d8	48.26	0	50	0	96.5	73 - 127				

MSD		Sample ID: HS16060642-10MSD		Units: ug/Kg		Analysis Date: 15-Jun-2016 14:48				
Client ID: GP-16-7-14-060816		Run ID: VOA8_276350		SeqNo: 3724919		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	46.15	5.0	50	0	92.3	79 - 122	45.32	1.81	30	
Ethylbenzene	52.42	5.0	50	0	105	80 - 122	53.05	1.18	30	
m,p-Xylene	107.2	10	100	0	107	79 - 122	107.1	0.09	30	
o-Xylene	52.96	5.0	50	0	106	80 - 123	53.52	1.05	30	
Toluene	48.04	5.0	50	0	96.1	79 - 120	47.4	1.33	30	
Xylenes, Total	160.1	10	150	0	107	80 - 120	160.6	0.288	30	
Surr: 1,2-Dichloroethane-d4	42.98	0	50	0	86.0	70 - 128	41.9	2.54	30	
Surr: 4-Bromofluorobenzene	49.6	0	50	0	99.2	73 - 126	50	0.812	30	
Surr: Dibromofluoromethane	45	0	50	0	90.0	71 - 128	44.39	1.38	30	
Surr: Toluene-d8	47.19	0	50	0	94.4	73 - 127	48.26	2.25	30	

The following samples were analyzed in this batch:

HS16060642-05	HS16060642-08	HS16060642-09	HS16060642-10
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Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: 105560		Instrument: UV-2450		Method: SW7196						
MBLK	Sample ID: MBLK-105560	Units: mg/kg			Analysis Date: 23-Jun-2016 14:53					
Client ID:	Run ID: UV-2450_276909	SeqNo: 3736585		PrepDate: 22-Jun-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-105560	Units: mg/kg			Analysis Date: 23-Jun-2016 14:53					
Client ID:	Run ID: UV-2450_276909	SeqNo: 3736584		PrepDate: 22-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	8.76	2.00	10	0	87.6	80 - 120				
MS	Sample ID: HS16060646-07MS	Units: mg/kg			Analysis Date: 23-Jun-2016 14:53					
Client ID:	Run ID: UV-2450_276909	SeqNo: 3736582		PrepDate: 22-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.519	1.97	9.834	0.0794	96.0	75 - 125				
MSD	Sample ID: HS16060646-07MSD	Units: mg/kg			Analysis Date: 23-Jun-2016 14:53					
Client ID:	Run ID: UV-2450_276909	SeqNo: 3736583		PrepDate: 22-Jun-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	1.97	9.837	0.0794	97.2	75 - 125	9.519	1.26	20	
The following samples were analyzed in this batch:										
HS16060642-01		HS16060642-02		HS16060642-03		HS16060642-04				
HS16060642-05		HS16060642-06		HS16060642-07		HS16060642-08				
HS16060642-09		HS16060642-10								

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: R276228		Instrument: WetChem_HS		Method: SW9045B	
DUP	Sample ID: HS16060642-03DUP	Units: pH Units		Analysis Date: 13-Jun-2016 14:00	
Client ID:	Run ID: WetChem_HS_276228	SeqNo: 3721899		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			8.62 0.232 10
Temp Deg C @pH	24.2	0			24.2 0 10
The following samples were analyzed in this batch:					
HS16060642-01		HS16060642-02		HS16060642-03	
HS16060642-05		HS16060642-06		HS16060642-07	
HS16060642-09		HS16060642-10		HS16060642-08	

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: R276726		Instrument: Balance1		Method: LaDNR-29B SP					
DUP	Sample ID: HS16060642-04DUP	Units: SP as fraction		Analysis Date: 21-Jun-2016 12:30					
Client ID:	Run ID: Balance1_276726	SeqNo: 3732681		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Saturation Point	0.541	0.100					0.532	1.68	30
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The following samples were analyzed in this batch:

HS16060642-01	HS16060642-02	HS16060642-03	HS16060642-04
HS16060642-05	HS16060642-06	HS16060642-07	HS16060642-08
HS16060642-09	HS16060642-10		

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

QC BATCH REPORT

Batch ID: R276886		Instrument: WetChem_HS		Method: LaDNR-29B EC						
DUP	Sample ID: HS16060642-04DUP		Units: mmhos/cm @25°C		Analysis Date: 23-Jun-2016 16:00					
Client ID:		Run ID: WetChem_HS_276886		SeqNo: 3736146		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	32.14	0.0100					32.49	1.08	20	
Electrical Conductivity, 1:1 aqueous	17.4	0.0100					17.3	0.576	20	
Saturation % as decimal	0.541	0					0.532	1.68	20	
The following samples were analyzed in this batch:										
			HS16060642-01	HS16060642-02	HS16060642-03	HS16060642-04				
			HS16060642-05	HS16060642-06	HS16060642-07	HS16060642-08				
			HS16060642-09	HS16060642-10						

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060642

**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 Quantitation 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	16-022-0	27-Mar-2017
California	2919	31-Jul-2016
Kansas	E-10352 2014-2015	31-Jul-2016
Kentucky	96 2016-2017	30-Apr-2017
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R193 2016-2017	30-Apr-2017
Oklahoma	2015-047	31-Aug-2016
Texas	TX104704231-16-17	30-Apr-2017

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060642

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16060642-01	GP-16-4-2-060716	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-01	GP-16-4-2-060716	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-01	GP-16-4-2-060716	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-01	GP-16-4-2-060716	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-02	GP-16-4-4-060716	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-02	GP-16-4-4-060716	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-02	GP-16-4-4-060716	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-02	GP-16-4-4-060716	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-03	GP-16-4-16-060716	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-03	GP-16-4-16-060716	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-03	GP-16-4-16-060716	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-03	GP-16-4-16-060716	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-04	GP-16-8-3-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-04	GP-16-8-3-060816	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-04	GP-16-8-3-060816	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-04	GP-16-8-3-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-05	GP-16-8-4-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-05	GP-16-8-4-060816	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-05	GP-16-8-4-060816	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-05	GP-16-8-4-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-06	GP-16-8-9-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-06	GP-16-8-9-060816	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-06	GP-16-8-9-060816	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-06	GP-16-8-9-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-07	GP-16-8-17-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-07	GP-16-8-17-060816	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-07	GP-16-8-17-060816	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-07	GP-16-8-17-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-08	GP-16-7-8-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-08	GP-16-7-8-060816	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-08	GP-16-7-8-060816	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-08	GP-16-7-8-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-09	GP-16-7-9-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-09	GP-16-7-9-060816	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-09	GP-16-7-9-060816	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-09	GP-16-7-9-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-10	GP-16-7-14-060816	Login	6/10/2016 7:04:02 PM	CGG	19D
HS16060642-10	GP-16-7-14-060816	Login	6/10/2016 7:04:02 PM	CGG	VW-2
HS16060642-10	GP-16-7-14-060816	Login	6/10/2016 7:04:02 PM	CGG	BTEX B1
HS16060642-10	GP-16-7-14-060816	Login	6/10/2016 7:04:02 PM	CGG	19D

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060642

SAMPLE TRACKING

HS16060642-01	GP-16-4-2-060716	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-02	GP-16-4-4-060716	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-03	GP-16-4-16-060716	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-04	GP-16-8-3-060816	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-05	GP-16-8-4-060816	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-06	GP-16-8-9-060816	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-07	GP-16-8-17-060816	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-08	GP-16-7-8-060816	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-09	GP-16-7-9-060816	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-10	GP-16-7-14-060816	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060642-01	GP-16-4-2-060716	Return	6/22/2016 8:55:17 AM	JCJ	19D
HS16060642-02	GP-16-4-4-060716	Return	6/22/2016 8:55:17 AM	JCJ	19D
HS16060642-03	GP-16-4-16-060716	Return	6/22/2016 8:55:17 AM	JCJ	19D
HS16060642-04	GP-16-8-3-060816	Return	6/22/2016 8:55:17 AM	JCJ	19D
HS16060642-05	GP-16-8-4-060816	Return	6/22/2016 8:55:17 AM	JCJ	19D
HS16060642-06	GP-16-8-9-060816	Return	6/22/2016 8:55:17 AM	JCJ	19D
HS16060642-07	GP-16-8-17-060816	Return	6/22/2016 8:55:17 AM	JCJ	19D
HS16060642-08	GP-16-7-8-060816	Return	6/22/2016 8:55:17 AM	JCJ	19D
HS16060642-09	GP-16-7-9-060816	Return	6/22/2016 8:55:17 AM	JCJ	19D
HS16060642-10	GP-16-7-14-060816	Return	6/22/2016 8:55:17 AM	JCJ	19D

Sample Receipt Checklist

Client Name: Kinder Morgan
Work Order: HS16060642

Date/Time Received: **10-Jun-2016 08:58**
Received by: **NDR**

Checklist completed by: Corey Grandits 10-Jun-2016
eSignature Date
Reviewed by: Sonia West 15-Jun-2016
eSignature Date

Matrices: **Soil/Water**Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
TX1005 solids received in hermetically sealed vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Temperature(s)/Thermometer(s): 1.3c/1.9c uc/c IR#5

Cooler(s)/Kit(s): 24888

Date/Time sample(s) sent to storage: 06/10/2016 19:15

Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes: Trip Blank received, not on Chain of Custody, placed on hold. Chain of Custody states 3 containers per sample, lab received 4.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



Environmental

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Chain of Custody Form

Page ____ of ____

COC ID: 142432

HS16060642

Kinder Morgan

McElmo Dome + Doe Canyon




Customer Information						ALS Project Manager:															
Project Information																					
Purchase Order						Project Name	McElmo Dome + Doe Canyon					A	BTEX 8260								
Work Order						Project Number						B	TPH GRO 8015								
Company Name	Kinder Morgan					Bill To Company	Kinder Morgan					C	TPH DRO 8015								
Send Report To	Aaron Hale					Invoice Attn						D	PAH 8270								
Address	1001 Louisiana Street Suite 740D					Address	1001 Louisiana Street Suite 740D					E	SAR & EC								
City/State/Zip	Houston					City/State/Zip	Houston					F	pH								
Phone						Phone	(713) 369-9193					G	Metals 6020 & Mercury 7471								
Fax						Fax	(713) 495-2835					H	Cr+6 & Cr+3								
e-Mail Address	aaron_hale@kindermorgan.com					e-Mail Address						I	Moisture								
												J									

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	GP-16-4-2-060716	060716	0810	Soil	N/A	3	X	X	X	X	X	X	X	X			
2	GP-16-4-4-060716	060716	0813	Soil	N/A	3	X	X	X	X	X	X	X	X			
3	GP-16-4-16-060716	060716	0855	Soil	N/A	3	X	X	X	X	X	X	X	X			
4	GP-16-8-3-060816	060816	1230	Soil	N/A	3	X	X	X	X	X	X	X	X			
5	GP-16-8-4-060816	060816	1235	Soil	N/A	3	X	X	X	X	X	X	X	X			
6	GP-16-8-9-060816	060816	1245	Soil	N/A	3	X	X	X	X	X	X	X	X			
7	GP-16-8-17-060816	060816	1300	Soil	N/A	3	X	X	X	X	X	X	X	X			
8	GP-16-7-8-060816	060816	1440	Soil	N/A	3	X	X	X	X	X	X	X	X			
9	GP-16-7-9-060816	060816	1445	Soil	N/A	3	X	X	X	X	X	X	X	X			
10	GP-16-7-14-060816	060816	1500	Soil	N/A	3	X	X	X	X	X	X	X	X			

Sampler(s) Please Print & Sign <i>H. Stoller</i>		Shipment Method		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> Std 10 WK days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour				Results Due Date:	
Relinquished by:	Date:	Time:	Received by:		Notes: Soil Samples				
Relinquished by:	Date:	Time:	Received by (Laboratory):		Cooler ID				
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		Cooler Temp.				
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035					QC Package: (Check One Box Below) <input checked="" type="checkbox"/> Level 2 Std QC <input type="checkbox"/> Level 3 Std QC/Row da <input type="checkbox"/> Level 4 SW846/CLP <input type="checkbox"/> Other/EDD				

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.
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June 24, 2016

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

Work Order: **HS16060643**

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

Dear Aaron,

ALS Environmental received 9 sample(s) on Jun 10, 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,

A handwritten signature in cursive script that reads "Sonia West".

Generated By: Dayna.Fisher
Sonia West
Project Manager

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060643

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16060643-01	GP-16-1-2-060616	Soil		06-Jun-2016 12:20	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060643-02	GP-16-1-11-060616	Soil		06-Jun-2016 13:10	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060643-03	GP-16-2-1-060616	Soil		06-Jun-2016 14:30	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060643-04	GP-16-2-9-060616	Soil		06-Jun-2016 15:05	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060643-05	GP-16-3-2-060616	Soil		06-Jun-2016 16:05	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060643-06	GP-16-3-13-060616	Soil		06-Jun-2016 16:20	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060643-07	GP-16-3-18-060616	Soil		06-Jun-2016 16:50	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060643-08	GP-16-7-3-060816	Soil		08-Jun-2016 14:30	10-Jun-2016 08:58	<input type="checkbox"/>
HS16060643-09	Trip Blank - VBLKW-053116-18	Water		06-Jun-2016 00:00	10-Jun-2016 08:58	<input checked="" type="checkbox"/>

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060643

CASE NARRATIVE

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: 105422**

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

GC Volatiles by Method SW8015**Batch ID: R276337**

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

GCMS Semivolatiles by Method SW8270**Batch ID: 105338**

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

GCMS Volatiles by Method SW8260**Batch ID: R276149,R276150**

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

Metals by Method SW7471A**Batch ID: 105586**

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

Metals by Method Calculation**Batch ID: R276697**

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

Metals by Method La29B SAR**Batch ID: 105433A**

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

Metals by Method La29B-6020**Batch ID: 105433**

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

Metals by Method SW6020**Batch ID: 105430**

- Sample ID: **GP-16-1-2-060616 (HS16060643-01MS)**
- Zinc failed in the MS but passed in the MSD and PDS.

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060643

CASE NARRATIVE

Metals by Method SW6020**Batch ID: 105351**

Sample ID: **GP-16-1-2-060616 (HS16060643-01BS)**

- The Bench Spike recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount for Barium.

Sample ID: **GP-16-1-2-060616 (HS16060643-01MS)**

- Silver failed in the MS but passed in the MSD and PDS.

Sample ID: **GP-16-1-2-060616 (HS16060643-01MS)**

- 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: **GP-16-1-2-060616 (HS16060643-01MSD)**

- Boron failed in the MSD but passed in the MS and PDS.

Sample ID: **GP-16-2-9-060616 (HS16060643-04)**

Sample ID: **GP-16-7-3-060816 (HS16060643-08)**

- Sample ran at a 2x due to internal standard 72 one (Silver) failure at a 1x.

WetChemistry by Method LaDNR-29B SP**Batch ID: R276612**

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

WetChemistry by Method LaDNR-29B EC**Batch ID: R276732**

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

WetChemistry by Method SW9045B**Batch ID: R276224**

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

WetChemistry by Method SW7196**Batch ID: 105391**

Sample ID: **HS16060688-01MS**

- MS and MSD are for an unrelated sample

Sample ID: **HS16060688-01MSD**

- MSD is for an unrelated sample

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-1-2-060616
 Collection Date: 06-Jun-2016 12:20

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-01
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Acenaphthylene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Anthracene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Benz(a)anthracene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Benzo(a)pyrene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Benzo(b)fluoranthene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Benzo(g,h,i)perylene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Benzo(k)fluoranthene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Chrysene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Dibenz(a,h)anthracene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Fluoranthene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Fluorene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Indeno(1,2,3-cd)pyrene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Naphthalene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Phenanthrene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
Pyrene	ND		9.8	ug/Kg	1	16-Jun-2016 22:22
<i>Surr: 2-Fluorobiphenyl</i>	67.0		43-125	%REC	1	16-Jun-2016 22:22
<i>Surr: 4-Terphenyl-d14</i>	86.6		32-125	%REC	1	16-Jun-2016 22:22
<i>Surr: Nitrobenzene-d5</i>	81.4		37-125	%REC	1	16-Jun-2016 22:22
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	2.60		1.47	mg/Kg	1	15-Jun-2016 19:58
Barium	179		2.45	mg/Kg	5	16-Jun-2016 14:23
Boron	4.33		2.45	mg/Kg	1	16-Jun-2016 13:52
Cadmium	ND		0.491	mg/Kg	1	15-Jun-2016 19:58
Chromium	5.28		0.491	mg/Kg	1	15-Jun-2016 19:58
Copper	6.48		0.196	mg/Kg	1	15-Jun-2016 19:58
Lead	6.93		0.491	mg/Kg	1	15-Jun-2016 19:58
Nickel	6.42		0.491	mg/Kg	1	15-Jun-2016 19:58
Selenium	ND		0.491	mg/Kg	1	15-Jun-2016 19:58
Silver	ND		0.491	mg/Kg	1	15-Jun-2016 19:58
Zinc	19.7		0.478	mg/Kg	1	17-Jun-2016 14:59

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-1-2-060616
 Collection Date: 06-Jun-2016 12:20

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-01
 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	11-Jun-2016 20:34
Ethylbenzene	ND		5.0	ug/Kg	1	11-Jun-2016 20:34
m,p-Xylene	ND		10	ug/Kg	1	11-Jun-2016 20:34
o-Xylene	ND		5.0	ug/Kg	1	11-Jun-2016 20:34
Toluene	ND		5.0	ug/Kg	1	11-Jun-2016 20:34
Xylenes, Total	ND		10	ug/Kg	1	11-Jun-2016 20:34
Surr: 1,2-Dichloroethane-d4	77.3		70-128	%REC	1	11-Jun-2016 20:34
Surr: 4-Bromofluorobenzene	83.5		73-126	%REC	1	11-Jun-2016 20:34
Surr: Dibromofluoromethane	94.4		71-128	%REC	1	11-Jun-2016 20:34
Surr: Toluene-d8	97.0		73-127	%REC	1	11-Jun-2016 20:34
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	37.6		4.99	mg/L	10	20-Jun-2016 16:12
Magnesium	8.21		4.99	mg/L	10	20-Jun-2016 16:12
Sodium	31.5		4.99	mg/L	10	20-Jun-2016 16:12
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 16-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		2.00	mg/kg	1	17-Jun-2016 16:20
TRIVALENT CHROMIUM		Method:Calculation		Analyst: DQ		
Chromium, Trivalent	5.28		5.00	mg/Kg	1	21-Jun-2016 13:37
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.993		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	0.449		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.452		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 13:39
Surr: 4-Bromofluorobenzene	82.2		70-130	%REC	1	14-Jun-2016 13:39
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	8.89		3.55	ug/Kg	1	22-Jun-2016 16:27
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.35	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.1	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.452		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	1.21		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-1-2-060616
Collection Date: 06-Jun-2016 12:20

ANALYTICAL REPORT

WorkOrder:HS16060643
Lab ID:HS16060643-01
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		5.1	mg/Kg	1	17-Jun-2016 01:34
Surr: 2-Fluorobiphenyl	81.7		60-135	%REC	1	17-Jun-2016 01:34

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-1-11-060616
 Collection Date: 06-Jun-2016 13:10

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-02
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Acenaphthylene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Anthracene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Benz(a)anthracene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Benzo(a)pyrene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Benzo(b)fluoranthene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Benzo(g,h,i)perylene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Benzo(k)fluoranthene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Chrysene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Dibenz(a,h)anthracene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Fluoranthene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Fluorene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Indeno(1,2,3-cd)pyrene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Naphthalene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Phenanthrene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
Pyrene	ND		6.5	ug/Kg	1	17-Jun-2016 23:49
<i>Surr: 2-Fluorobiphenyl</i>	70.9		43-125	%REC	1	17-Jun-2016 23:49
<i>Surr: 4-Terphenyl-d14</i>	83.8		32-125	%REC	1	17-Jun-2016 23:49
<i>Surr: Nitrobenzene-d5</i>	90.5		37-125	%REC	1	17-Jun-2016 23:49
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	3.83		1.45	mg/Kg	1	15-Jun-2016 20:31
Barium	175		4.84	mg/Kg	10	16-Jun-2016 12:22
Boron	10.2		2.42	mg/Kg	1	16-Jun-2016 14:13
Cadmium	ND		0.484	mg/Kg	1	15-Jun-2016 20:31
Chromium	5.71		0.484	mg/Kg	1	15-Jun-2016 20:31
Copper	5.68		0.193	mg/Kg	1	15-Jun-2016 20:31
Lead	5.73		0.484	mg/Kg	1	15-Jun-2016 20:31
Nickel	7.07		0.484	mg/Kg	1	15-Jun-2016 20:31
Selenium	ND		0.484	mg/Kg	1	15-Jun-2016 20:31
Silver	ND		0.484	mg/Kg	1	15-Jun-2016 20:31
Zinc	19.9		0.436	mg/Kg	1	17-Jun-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: GP-16-1-11-060616
 Collection Date: 06-Jun-2016 13:10

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-02
 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	11-Jun-2016 21:02
Ethylbenzene	ND		4.8	ug/Kg	1	11-Jun-2016 21:02
m,p-Xylene	ND		9.6	ug/Kg	1	11-Jun-2016 21:02
o-Xylene	ND		4.8	ug/Kg	1	11-Jun-2016 21:02
Toluene	ND		4.8	ug/Kg	1	11-Jun-2016 21:02
Xylenes, Total	ND		9.6	ug/Kg	1	11-Jun-2016 21:02
Surr: 1,2-Dichloroethane-d4	73.0		70-128	%REC	1	11-Jun-2016 21:02
Surr: 4-Bromofluorobenzene	84.3		73-126	%REC	1	11-Jun-2016 21:02
Surr: Dibromofluoromethane	97.7		71-128	%REC	1	11-Jun-2016 21:02
Surr: Toluene-d8	99.1		73-127	%REC	1	11-Jun-2016 21:02
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	22.8		4.99	mg/L	10	20-Jun-2016 16:15
Magnesium	8.67		4.99	mg/L	10	20-Jun-2016 16:15
Sodium	31.6		4.99	mg/L	10	20-Jun-2016 16:15
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 16-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	17-Jun-2016 16:20
TRIVALENT CHROMIUM		Method:Calculation		Analyst: DQ		
Chromium, Trivalent	5.71		5.00	mg/Kg	1	21-Jun-2016 13:37
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.648		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	0.367		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.566		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 13:55
Surr: 4-Bromofluorobenzene	94.2		70-130	%REC	1	14-Jun-2016 13:55
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	11.7		3.50	ug/Kg	1	22-Jun-2016 16:29
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.29	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.0	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.566		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	1.43		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-1-11-060616
Collection Date: 06-Jun-2016 13:10

ANALYTICAL REPORT

WorkOrder:HS16060643
Lab ID:HS16060643-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		3.4	mg/Kg	1	17-Jun-2016 01:58
Surr: 2-Fluorobiphenyl	75.5		60-135	%REC	1	17-Jun-2016 01:58

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-2-1-060616
 Collection Date: 06-Jun-2016 14:30

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-03
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Acenaphthylene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Anthracene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Benz(a)anthracene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Benzo(a)pyrene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Benzo(b)fluoranthene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Benzo(g,h,i)perylene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Benzo(k)fluoranthene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Chrysene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Dibenz(a,h)anthracene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Fluoranthene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Fluorene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Indeno(1,2,3-cd)pyrene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Naphthalene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Phenanthrene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
Pyrene	ND		6.6	ug/Kg	1	16-Jun-2016 23:01
<i>Surr: 2-Fluorobiphenyl</i>	71.6		43-125	%REC	1	16-Jun-2016 23:01
<i>Surr: 4-Terphenyl-d14</i>	86.8		32-125	%REC	1	16-Jun-2016 23:01
<i>Surr: Nitrobenzene-d5</i>	93.8		37-125	%REC	1	16-Jun-2016 23:01
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	2.96		1.44	mg/Kg	1	15-Jun-2016 20:36
Barium	158		0.480	mg/Kg	1	15-Jun-2016 20:36
Boron	7.14		2.40	mg/Kg	1	16-Jun-2016 14:18
Cadmium	ND		0.480	mg/Kg	1	15-Jun-2016 20:36
Chromium	6.02		0.480	mg/Kg	1	15-Jun-2016 20:36
Copper	5.89		0.192	mg/Kg	1	15-Jun-2016 20:36
Lead	6.98		0.480	mg/Kg	1	15-Jun-2016 20:36
Nickel	7.83		0.480	mg/Kg	1	15-Jun-2016 20:36
Selenium	ND		0.480	mg/Kg	1	15-Jun-2016 20:36
Silver	ND		0.480	mg/Kg	1	15-Jun-2016 20:36
Zinc	22.5		0.490	mg/Kg	1	17-Jun-2016 15:34

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-2-1-060616
 Collection Date: 06-Jun-2016 14:30

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-03
 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	11-Jun-2016 12:06
Ethylbenzene	ND		4.8	ug/Kg	1	11-Jun-2016 12:06
m,p-Xylene	ND		9.7	ug/Kg	1	11-Jun-2016 12:06
o-Xylene	ND		4.8	ug/Kg	1	11-Jun-2016 12:06
Toluene	ND		4.8	ug/Kg	1	11-Jun-2016 12:06
Xylenes, Total	ND		9.7	ug/Kg	1	11-Jun-2016 12:06
Surr: 1,2-Dichloroethane-d4	86.6		70-128	%REC	1	11-Jun-2016 12:06
Surr: 4-Bromofluorobenzene	95.9		73-126	%REC	1	11-Jun-2016 12:06
Surr: Dibromofluoromethane	102		71-128	%REC	1	11-Jun-2016 12:06
Surr: Toluene-d8	101		73-127	%REC	1	11-Jun-2016 12:06
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	45.1		4.99	mg/L	10	20-Jun-2016 16:18
Magnesium	9.33		4.99	mg/L	10	20-Jun-2016 16:18
Sodium	26.8		4.99	mg/L	10	20-Jun-2016 16:18
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 16-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		2.00	mg/kg	1	17-Jun-2016 16:20
TRIVALENT CHROMIUM		Method:Calculation		Analyst: DQ		
Chromium, Trivalent	6.02		5.00	mg/Kg	1	21-Jun-2016 13:37
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.947		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	0.483		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.510		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 14:11
Surr: 4-Bromofluorobenzene	89.9		70-130	%REC	1	14-Jun-2016 14:11
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	13.8		3.38	ug/Kg	1	22-Jun-2016 16:30
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.54	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.1	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.510		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	0.949		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-2-1-060616
Collection Date: 06-Jun-2016 14:30

ANALYTICAL REPORT

WorkOrder:HS16060643
Lab ID:HS16060643-03
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		3.4	mg/Kg	1	17-Jun-2016 02:22
Surr: 2-Fluorobiphenyl	72.4		60-135	%REC	1	17-Jun-2016 02:22

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-2-9-060616
 Collection Date: 06-Jun-2016 15:05

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-04
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Acenaphthylene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Anthracene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Benz(a)anthracene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Benzo(a)pyrene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Benzo(b)fluoranthene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Benzo(g,h,i)perylene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Benzo(k)fluoranthene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Chrysene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Dibenz(a,h)anthracene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Fluoranthene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Fluorene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Indeno(1,2,3-cd)pyrene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Naphthalene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Phenanthrene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
Pyrene	ND		6.5	ug/Kg	1	16-Jun-2016 23:21
<i>Surr: 2-Fluorobiphenyl</i>	49.3		43-125	%REC	1	16-Jun-2016 23:21
<i>Surr: 4-Terphenyl-d14</i>	86.9		32-125	%REC	1	16-Jun-2016 23:21
<i>Surr: Nitrobenzene-d5</i>	68.5		37-125	%REC	1	16-Jun-2016 23:21
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	4.36		1.43	mg/Kg	1	15-Jun-2016 20:41
Barium	114		0.478	mg/Kg	1	15-Jun-2016 20:41
Boron	5.47		4.78	mg/Kg	2	16-Jun-2016 13:24
Cadmium	ND		0.478	mg/Kg	1	15-Jun-2016 20:41
Chromium	3.94		0.478	mg/Kg	1	15-Jun-2016 20:41
Copper	4.04		0.191	mg/Kg	1	15-Jun-2016 20:41
Lead	5.47		0.478	mg/Kg	1	15-Jun-2016 20:41
Nickel	6.06		0.478	mg/Kg	1	15-Jun-2016 20:41
Selenium	ND		0.478	mg/Kg	1	15-Jun-2016 20:41
Silver	ND		0.955	mg/Kg	2	16-Jun-2016 13:24
Zinc	161		0.463	mg/Kg	1	17-Jun-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: GP-16-2-9-060616
 Collection Date: 06-Jun-2016 15:05

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-04
 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	11-Jun-2016 16:23
Ethylbenzene	ND		5.0	ug/Kg	1	11-Jun-2016 16:23
m,p-Xylene	ND		9.9	ug/Kg	1	11-Jun-2016 16:23
o-Xylene	ND		5.0	ug/Kg	1	11-Jun-2016 16:23
Toluene	ND		5.0	ug/Kg	1	11-Jun-2016 16:23
Xylenes, Total	ND		9.9	ug/Kg	1	11-Jun-2016 16:23
Surr: 1,2-Dichloroethane-d4	87.3		70-128	%REC	1	11-Jun-2016 16:23
Surr: 4-Bromofluorobenzene	96.9		73-126	%REC	1	11-Jun-2016 16:23
Surr: Dibromofluoromethane	99.9		71-128	%REC	1	11-Jun-2016 16:23
Surr: Toluene-d8	99.8		73-127	%REC	1	11-Jun-2016 16:23
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	904		5.00	mg/L	10	20-Jun-2016 16:26
Magnesium	ND		5.00	mg/L	10	20-Jun-2016 16:26
Sodium	6,080		50.0	mg/L	100	21-Jun-2016 10:12
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 16-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	17-Jun-2016 16:20
TRIVALENT CHROMIUM		Method:Calculation		Analyst: DQ		
Chromium, Trivalent	ND		5.00	mg/Kg	1	21-Jun-2016 13:37
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	91.0		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	43.5		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.478		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 14:27
Surr: 4-Bromofluorobenzene	86.2		70-130	%REC	1	14-Jun-2016 14:27
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	11.2		3.50	ug/Kg	1	22-Jun-2016 16:32
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	11.2	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.0	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.478		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	55.7		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-2-9-060616
Collection Date: 06-Jun-2016 15:05

ANALYTICAL REPORT

WorkOrder:HS16060643
Lab ID:HS16060643-04
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	5.0		3.4	mg/Kg	1	17-Jun-2016 02:46
Surr: 2-Fluorobiphenyl	82.3		60-135	%REC	1	17-Jun-2016 02:46

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-3-2-060616
 Collection Date: 06-Jun-2016 16:05

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-05
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Acenaphthylene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Anthracene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Benz(a)anthracene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Benzo(a)pyrene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Benzo(b)fluoranthene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Benzo(g,h,i)perylene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Benzo(k)fluoranthene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Chrysene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Dibenz(a,h)anthracene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Fluoranthene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Fluorene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Indeno(1,2,3-cd)pyrene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Naphthalene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Phenanthrene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
Pyrene	ND		6.5	ug/Kg	1	16-Jun-2016 23:41
<i>Surr: 2-Fluorobiphenyl</i>	72.6		43-125	%REC	1	16-Jun-2016 23:41
<i>Surr: 4-Terphenyl-d14</i>	71.7		32-125	%REC	1	16-Jun-2016 23:41
<i>Surr: Nitrobenzene-d5</i>	80.9		37-125	%REC	1	16-Jun-2016 23:41
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	3.38		1.47	mg/Kg	1	15-Jun-2016 20:46
Barium	278		4.89	mg/Kg	10	16-Jun-2016 12:27
Boron	3.78		2.44	mg/Kg	1	16-Jun-2016 14:50
Cadmium	ND		0.489	mg/Kg	1	15-Jun-2016 20:46
Chromium	1.89		0.489	mg/Kg	1	15-Jun-2016 20:46
Copper	2.65		0.195	mg/Kg	1	15-Jun-2016 20:46
Lead	4.36		0.489	mg/Kg	1	15-Jun-2016 20:46
Nickel	4.36		0.489	mg/Kg	1	15-Jun-2016 20:46
Selenium	ND		0.489	mg/Kg	1	15-Jun-2016 20:46
Silver	ND		0.489	mg/Kg	1	15-Jun-2016 20:46
Zinc	10.3		0.479	mg/Kg	1	17-Jun-2016 15:43

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-3-2-060616
 Collection Date: 06-Jun-2016 16:05

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-05
 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	11-Jun-2016 16:46
Ethylbenzene	ND		5.0	ug/Kg	1	11-Jun-2016 16:46
m,p-Xylene	ND		10	ug/Kg	1	11-Jun-2016 16:46
o-Xylene	ND		5.0	ug/Kg	1	11-Jun-2016 16:46
Toluene	ND		5.0	ug/Kg	1	11-Jun-2016 16:46
Xylenes, Total	ND		10	ug/Kg	1	11-Jun-2016 16:46
Surr: 1,2-Dichloroethane-d4	95.0		70-128	%REC	1	11-Jun-2016 16:46
Surr: 4-Bromofluorobenzene	97.1		73-126	%REC	1	11-Jun-2016 16:46
Surr: Dibromofluoromethane	109		71-128	%REC	1	11-Jun-2016 16:46
Surr: Toluene-d8	100		73-127	%REC	1	11-Jun-2016 16:46
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	172		4.99	mg/L	10	20-Jun-2016 16:29
Magnesium	ND		4.99	mg/L	10	20-Jun-2016 16:29
Sodium	36.2		4.99	mg/L	10	20-Jun-2016 16:29
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 16-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.98	mg/kg	1	17-Jun-2016 16:20
TRIVALENT CHROMIUM		Method:Calculation		Analyst: DQ		
Chromium, Trivalent	ND		5.00	mg/Kg	1	21-Jun-2016 13:37
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	4.53		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	1.97		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.436		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 15:16
Surr: 4-Bromofluorobenzene	83.5		70-130	%REC	1	14-Jun-2016 15:16
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	12.6		3.46	ug/Kg	1	22-Jun-2016 16:36
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.87	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.0	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.436		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	0.760		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-3-2-060616
Collection Date: 06-Jun-2016 16:05

ANALYTICAL REPORT

WorkOrder:HS16060643
Lab ID:HS16060643-05
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	17-Jun-2016 03:10
Surr: 2-Fluorobiphenyl	82.7		60-135	%REC	1	17-Jun-2016 03:10

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-3-13-060616
 Collection Date: 06-Jun-2016 16:20

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-06
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Acenaphthylene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Anthracene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Benz(a)anthracene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Benzo(a)pyrene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Benzo(b)fluoranthene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Benzo(g,h,i)perylene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Benzo(k)fluoranthene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Chrysene	7.3		3.3	ug/Kg	1	17-Jun-2016 00:00
Dibenz(a,h)anthracene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Fluoranthene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Fluorene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Indeno(1,2,3-cd)pyrene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Naphthalene	ND		3.3	ug/Kg	1	17-Jun-2016 00:00
Phenanthrene	4.7		3.3	ug/Kg	1	17-Jun-2016 00:00
Pyrene	3.9		3.3	ug/Kg	1	17-Jun-2016 00:00
<i>Surr: 2-Fluorobiphenyl</i>	70.6		43-125	%REC	1	17-Jun-2016 00:00
<i>Surr: 4-Terphenyl-d14</i>	84.5		32-125	%REC	1	17-Jun-2016 00:00
<i>Surr: Nitrobenzene-d5</i>	76.7		37-125	%REC	1	17-Jun-2016 00:00
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	6.05		1.47	mg/Kg	1	15-Jun-2016 20:50
Barium	305		4.90	mg/Kg	10	16-Jun-2016 12:31
Boron	3.46		2.45	mg/Kg	1	16-Jun-2016 14:54
Cadmium	ND		0.490	mg/Kg	1	15-Jun-2016 20:50
Chromium	2.17		0.490	mg/Kg	1	15-Jun-2016 20:50
Copper	3.80		0.196	mg/Kg	1	15-Jun-2016 20:50
Lead	4.97		0.490	mg/Kg	1	15-Jun-2016 20:50
Nickel	6.39		0.490	mg/Kg	1	15-Jun-2016 20:50
Selenium	ND		0.490	mg/Kg	1	15-Jun-2016 20:50
Silver	ND		0.490	mg/Kg	1	15-Jun-2016 20:50
Zinc	21.2		0.485	mg/Kg	1	17-Jun-2016 15:47

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-3-13-060616
 Collection Date: 06-Jun-2016 16:20

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-06
 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	11-Jun-2016 17:09
Ethylbenzene	ND		4.9	ug/Kg	1	11-Jun-2016 17:09
m,p-Xylene	ND		9.8	ug/Kg	1	11-Jun-2016 17:09
o-Xylene	ND		4.9	ug/Kg	1	11-Jun-2016 17:09
Toluene	ND		4.9	ug/Kg	1	11-Jun-2016 17:09
Xylenes, Total	ND		9.8	ug/Kg	1	11-Jun-2016 17:09
Surr: 1,2-Dichloroethane-d4	87.3		70-128	%REC	1	11-Jun-2016 17:09
Surr: 4-Bromofluorobenzene	94.7		73-126	%REC	1	11-Jun-2016 17:09
Surr: Dibromofluoromethane	105		71-128	%REC	1	11-Jun-2016 17:09
Surr: Toluene-d8	99.8		73-127	%REC	1	11-Jun-2016 17:09
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	19.6		5.00	mg/L	10	20-Jun-2016 16:35
Magnesium	6.39		5.00	mg/L	10	20-Jun-2016 16:35
Sodium	20.7		5.00	mg/L	10	20-Jun-2016 16:35
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 16-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	17-Jun-2016 16:20
TRIVALENT CHROMIUM		Method:Calculation		Analyst: DQ		
Chromium, Trivalent	ND		5.00	mg/Kg	1	21-Jun-2016 13:37
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.760		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	0.289		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.381		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 12:51
Surr: 4-Bromofluorobenzene	90.4		70-130	%REC	1	14-Jun-2016 12:51
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	9.56		3.59	ug/Kg	1	22-Jun-2016 16:41
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	9.12	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	23.9	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.381		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	1.04		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-3-13-060616
Collection Date: 06-Jun-2016 16:20

ANALYTICAL REPORT

WorkOrder:HS16060643
Lab ID:HS16060643-06
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	17-Jun-2016 03:34
Surr: 2-Fluorobiphenyl	70.8		60-135	%REC	1	17-Jun-2016 03:34

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-3-18-060616
 Collection Date: 06-Jun-2016 16:50

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-07
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.8	ug/Kg	1	17-Jun-2016 00:20
Acenaphthylene	ND		9.8	ug/Kg	1	17-Jun-2016 00:20
Anthracene	17		9.8	ug/Kg	1	17-Jun-2016 00:20
Benz(a)anthracene	50		9.8	ug/Kg	1	17-Jun-2016 00:20
Benzo(a)pyrene	35		9.8	ug/Kg	1	17-Jun-2016 00:20
Benzo(b)fluoranthene	22		9.8	ug/Kg	1	17-Jun-2016 00:20
Benzo(g,h,i)perylene	32		9.8	ug/Kg	1	17-Jun-2016 00:20
Benzo(k)fluoranthene	15		9.8	ug/Kg	1	17-Jun-2016 00:20
Chrysene	170		9.8	ug/Kg	1	17-Jun-2016 00:20
Dibenz(a,h)anthracene	18		9.8	ug/Kg	1	17-Jun-2016 00:20
Fluoranthene	29		9.8	ug/Kg	1	17-Jun-2016 00:20
Fluorene	ND		9.8	ug/Kg	1	17-Jun-2016 00:20
Indeno(1,2,3-cd)pyrene	21		9.8	ug/Kg	1	17-Jun-2016 00:20
Naphthalene	ND		9.8	ug/Kg	1	17-Jun-2016 00:20
Phenanthrene	170		9.8	ug/Kg	1	17-Jun-2016 00:20
Pyrene	120		9.8	ug/Kg	1	17-Jun-2016 00:20
<i>Surr: 2-Fluorobiphenyl</i>	<i>51.1</i>		<i>43-125</i>	<i>%REC</i>	<i>1</i>	<i>17-Jun-2016 00:20</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>98.9</i>		<i>32-125</i>	<i>%REC</i>	<i>1</i>	<i>17-Jun-2016 00:20</i>
<i>Surr: Nitrobenzene-d5</i>	<i>67.4</i>		<i>37-125</i>	<i>%REC</i>	<i>1</i>	<i>17-Jun-2016 00:20</i>
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	2.86		1.37	mg/Kg	1	15-Jun-2016 20:55
Barium	142		0.457	mg/Kg	1	15-Jun-2016 20:55
Boron	5.00		2.29	mg/Kg	1	16-Jun-2016 14:58
Cadmium	ND		0.457	mg/Kg	1	15-Jun-2016 20:55
Chromium	4.72		0.457	mg/Kg	1	15-Jun-2016 20:55
Copper	5.05		0.183	mg/Kg	1	15-Jun-2016 20:55
Lead	5.40		0.457	mg/Kg	1	15-Jun-2016 20:55
Nickel	5.95		0.457	mg/Kg	1	15-Jun-2016 20:55
Selenium	ND		0.457	mg/Kg	1	15-Jun-2016 20:55
Silver	ND		0.457	mg/Kg	1	15-Jun-2016 20:55
Zinc	16.4		0.498	mg/Kg	1	17-Jun-2016 15:52

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-3-18-060616
 Collection Date: 06-Jun-2016 16:50

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-07
 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	11-Jun-2016 17:32
Ethylbenzene	ND		4.8	ug/Kg	1	11-Jun-2016 17:32
m,p-Xylene	ND		9.7	ug/Kg	1	11-Jun-2016 17:32
o-Xylene	ND		4.8	ug/Kg	1	11-Jun-2016 17:32
Toluene	ND		4.8	ug/Kg	1	11-Jun-2016 17:32
Xylenes, Total	ND		9.7	ug/Kg	1	11-Jun-2016 17:32
Surr: 1,2-Dichloroethane-d4	89.2		70-128	%REC	1	11-Jun-2016 17:32
Surr: 4-Bromofluorobenzene	95.4		73-126	%REC	1	11-Jun-2016 17:32
Surr: Dibromofluoromethane	102		71-128	%REC	1	11-Jun-2016 17:32
Surr: Toluene-d8	97.5		73-127	%REC	1	11-Jun-2016 17:32
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	34.4		4.97	mg/L	10	20-Jun-2016 16:38
Magnesium	5.89		4.97	mg/L	10	20-Jun-2016 16:38
Sodium	18.2		4.97	mg/L	10	20-Jun-2016 16:38
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 16-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	17-Jun-2016 16:20
TRIVALENT CHROMIUM		Method:Calculation		Analyst: DQ		
Chromium, Trivalent	ND		5.00	mg/Kg	1	21-Jun-2016 13:37
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.655		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	0.338		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.516		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 15:32
Surr: 4-Bromofluorobenzene	93.2		70-130	%REC	1	14-Jun-2016 15:32
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	10.3		3.35	ug/Kg	1	22-Jun-2016 16:43
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.48	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.1	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.516		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	0.755		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-3-18-060616
Collection Date: 06-Jun-2016 16:50

ANALYTICAL REPORT

WorkOrder:HS16060643
Lab ID:HS16060643-07
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		5.1	mg/Kg	1	17-Jun-2016 03:58
Surr: 2-Fluorobiphenyl	77.1		60-135	%REC	1	17-Jun-2016 03:58

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-7-3-060816
 Collection Date: 08-Jun-2016 14:30

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-08
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.8	ug/Kg	1	17-Jun-2016 00:39
Acenaphthylene	ND		9.8	ug/Kg	1	17-Jun-2016 00:39
Anthracene	13		9.8	ug/Kg	1	17-Jun-2016 00:39
Benz(a)anthracene	24		9.8	ug/Kg	1	17-Jun-2016 00:39
Benzo(a)pyrene	21		9.8	ug/Kg	1	17-Jun-2016 00:39
Benzo(b)fluoranthene	14		9.8	ug/Kg	1	17-Jun-2016 00:39
Benzo(g,h,i)perylene	23		9.8	ug/Kg	1	17-Jun-2016 00:39
Benzo(k)fluoranthene	12		9.8	ug/Kg	1	17-Jun-2016 00:39
Chrysene	65		9.8	ug/Kg	1	17-Jun-2016 00:39
Dibenz(a,h)anthracene	10		9.8	ug/Kg	1	17-Jun-2016 00:39
Fluoranthene	13		9.8	ug/Kg	1	17-Jun-2016 00:39
Fluorene	ND		9.8	ug/Kg	1	17-Jun-2016 00:39
Indeno(1,2,3-cd)pyrene	ND		9.8	ug/Kg	1	17-Jun-2016 00:39
Naphthalene	ND		9.8	ug/Kg	1	17-Jun-2016 00:39
Phenanthrene	81		9.8	ug/Kg	1	17-Jun-2016 00:39
Pyrene	26		9.8	ug/Kg	1	17-Jun-2016 00:39
<i>Surr: 2-Fluorobiphenyl</i>	<i>98.8</i>		<i>43-125</i>	<i>%REC</i>	<i>1</i>	<i>17-Jun-2016 00:39</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>71.0</i>		<i>32-125</i>	<i>%REC</i>	<i>1</i>	<i>17-Jun-2016 00:39</i>
<i>Surr: Nitrobenzene-d5</i>	<i>84.7</i>		<i>37-125</i>	<i>%REC</i>	<i>1</i>	<i>17-Jun-2016 00:39</i>
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	3.17		1.46	mg/Kg	1	15-Jun-2016 21:00
Barium	153		0.487	mg/Kg	1	15-Jun-2016 21:00
Boron	4.95		2.44	mg/Kg	1	16-Jun-2016 15:25
Cadmium	ND		0.487	mg/Kg	1	15-Jun-2016 21:00
Chromium	4.09		0.487	mg/Kg	1	15-Jun-2016 21:00
Copper	4.02		0.195	mg/Kg	1	15-Jun-2016 21:00
Lead	6.01		0.487	mg/Kg	1	15-Jun-2016 21:00
Nickel	5.76		0.487	mg/Kg	1	15-Jun-2016 21:00
Selenium	ND		0.487	mg/Kg	1	15-Jun-2016 21:00
Silver	ND		0.974	mg/Kg	2	16-Jun-2016 13:28
Zinc	19.0		0.479	mg/Kg	1	17-Jun-2016 15:56

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-7-3-060816
 Collection Date: 08-Jun-2016 14:30

ANALYTICAL REPORT

WorkOrder:HS16060643
 Lab ID:HS16060643-08
 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	11-Jun-2016 17:56
Ethylbenzene	ND		5.0	ug/Kg	1	11-Jun-2016 17:56
m,p-Xylene	ND		9.9	ug/Kg	1	11-Jun-2016 17:56
o-Xylene	ND		5.0	ug/Kg	1	11-Jun-2016 17:56
Toluene	ND		5.0	ug/Kg	1	11-Jun-2016 17:56
Xylenes, Total	ND		9.9	ug/Kg	1	11-Jun-2016 17:56
Surr: 1,2-Dichloroethane-d4	88.4		70-128	%REC	1	11-Jun-2016 17:56
Surr: 4-Bromofluorobenzene	96.5		73-126	%REC	1	11-Jun-2016 17:56
Surr: Dibromofluoromethane	104		71-128	%REC	1	11-Jun-2016 17:56
Surr: Toluene-d8	99.2		73-127	%REC	1	11-Jun-2016 17:56
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	38.7		4.99	mg/L	10	20-Jun-2016 16:41
Magnesium	ND		4.99	mg/L	10	20-Jun-2016 16:41
Sodium	173		4.99	mg/L	10	20-Jun-2016 16:41
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 16-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	17-Jun-2016 16:20
TRIVALENT CHROMIUM		Method:Calculation		Analyst: DQ		
Chromium, Trivalent	ND		5.00	mg/Kg	1	21-Jun-2016 13:37
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	2.36		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	1.21		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.513		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 15:48
Surr: 4-Bromofluorobenzene	87.1		70-130	%REC	1	14-Jun-2016 15:48
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	11.8		3.49	ug/Kg	1	22-Jun-2016 16:44
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	9.53	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.1	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.513		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	7.66		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-7-3-060816
Collection Date: 08-Jun-2016 14:30

ANALYTICAL REPORT

WorkOrder:HS16060643
Lab ID:HS16060643-08
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		5.1	mg/Kg	1	17-Jun-2016 04:23
Surr: 2-Fluorobiphenyl	70.2		60-135	%REC	1	17-Jun-2016 04:23

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

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

Batch ID: 1043 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS16060643-01	1	5.001 (g)	5 (mL)	1	Bulk (5030B)
HS16060643-02	1	5.212 (g)	5 (mL)	0.96	Bulk (5030B)
HS16060643-03	1	5.18 (g)	5 (mL)	0.97	Bulk (5030B)
HS16060643-04	1	5.037 (g)	5 (mL)	0.99	Bulk (5030B)
HS16060643-05	1	5.023 (g)	5 (mL)	1	Bulk (5030B)
HS16060643-06	1	5.11 (g)	5 (mL)	0.98	Bulk (5030B)
HS16060643-07	1	5.144 (g)	5 (mL)	0.97	Bulk (5030B)
HS16060643-08	1	5.053 (g)	5 (mL)	0.99	Bulk (5030B)

Batch ID: 105338 **Method:** LOW-LEVEL PAHS **Prep:** 3541_B_LOW

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060643-01	1	10.1	1 (mL)	0.09901
HS16060643-02	1	15.19	1 (mL)	0.06583
HS16060643-03	1	15.11	1 (mL)	0.06618
HS16060643-04	1	15.13	1 (mL)	0.06609
HS16060643-05	1	15.16	1 (mL)	0.06596
HS16060643-06	1	30.13	1 (mL)	0.03319
HS16060643-07	1	10.06	1 (mL)	0.0994
HS16060643-08	1	10.08	1 (mL)	0.09921

Batch ID: 105351 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060643-01	1	0.5094	50 (mL)	98.15
HS16060643-02	1	0.5168	50 (mL)	96.75
HS16060643-03	1	0.5207	50 (mL)	96.02
HS16060643-04	1	0.5235	50 (mL)	95.51
HS16060643-05	1	0.5116	50 (mL)	97.73
HS16060643-06	1	0.5107	50 (mL)	97.9
HS16060643-07	1	0.5468	50 (mL)	91.44
HS16060643-08	1	0.5132	50 (mL)	97.43

Batch ID: 105391 **Method:** HEXAVALENT CHROMIUM BY SW7196A **Prep:** CR6_S_PR3060A

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060643-01	1	2.506	100 (mL)	39.9
HS16060643-02	1	2.5138	100 (mL)	39.78
HS16060643-03	1	2.5013	100 (mL)	39.98
HS16060643-04	1	2.5069	100 (mL)	39.89
HS16060643-05	1	2.5205	100 (mL)	39.67
HS16060643-06	1	2.5122	100 (mL)	39.81
HS16060643-07	1	2.5151	100 (mL)	39.76
HS16060643-08	1	2.517	100 (mL)	39.73

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

Batch ID: 105422 **Method:** TPH DRO/ORO BY SW8015C **Prep:** 8015SPR_LL

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060643-01	1	10.04	1 (mL)	0.0996
HS16060643-02	1	15.17	1 (mL)	0.06592
HS16060643-03	1	15.06	1 (mL)	0.0664
HS16060643-04	1	15.12	1 (mL)	0.06614
HS16060643-05	1	30.12	1 (mL)	0.0332
HS16060643-06	1	30.04	1 (mL)	0.03329
HS16060643-07	1	10.07	1 (mL)	0.0993
HS16060643-08	1	10.07	1 (mL)	0.0993

Batch ID: 105430 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060643-01	1	0.5225	50 (mL)	95.69
HS16060643-02	1	0.5735	50 (mL)	87.18
HS16060643-03	1	0.5103	50 (mL)	97.98
HS16060643-04	1	0.5399	50 (mL)	92.61
HS16060643-05	1	0.5223	50 (mL)	95.73
HS16060643-06	1	0.5152	50 (mL)	97.05
HS16060643-07	1	0.5021	50 (mL)	99.58
HS16060643-08	1	0.5214	50 (mL)	95.9

Batch ID: 105433 **Method:** LA 29B - 1:1 SOLUBLE CATIONS FOR SAR **Prep:** LA29B SAR CATPR

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060643-01	1	80.1814	80 (mL)	0.9977
HS16060643-02	1	60.1207	60 (mL)	0.998
HS16060643-03	1	70.1899	70 (mL)	0.9973
HS16060643-04	1	100.0523	100 (mL)	0.9995
HS16060643-05	1	100.1201	100 (mL)	0.9988
HS16060643-06	1	100.0684	100 (mL)	0.9993
HS16060643-07	1	40.2129	40 (mL)	0.9947
HS16060643-08	1	100.1053	100 (mL)	0.9989

Batch ID: 105586 **Method:** MERCURY BY SW7471B **Prep:** HG_S_LOWPR

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060643-01	1	0.5625	40 (mL)	71.11
HS16060643-02	1	0.5697	40 (mL)	70.21
HS16060643-03	1	0.5895	40 (mL)	67.85
HS16060643-04	1	0.5699	40 (mL)	70.19
HS16060643-05	1	0.5758	40 (mL)	69.47
HS16060643-06	1	0.5564	40 (mL)	71.89
HS16060643-07	1	0.5954	40 (mL)	67.18
HS16060643-08	1	0.5716	40 (mL)	69.98

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 105338 Test Name : LOW-LEVEL PAHS Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		14 Jun 2016 09:23	16 Jun 2016 22:22	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		14 Jun 2016 09:23	17 Jun 2016 23:49	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30		14 Jun 2016 09:23	16 Jun 2016 23:01	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		14 Jun 2016 09:23	16 Jun 2016 23:21	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		14 Jun 2016 09:23	16 Jun 2016 23:41	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		14 Jun 2016 09:23	17 Jun 2016 00:00	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50		14 Jun 2016 09:23	17 Jun 2016 00:20	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		14 Jun 2016 09:23	17 Jun 2016 00:39	1
Batch ID 105351 Test Name : METALS BY SW6020A Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		14 Jun 2016 15:23	16 Jun 2016 14:23	5
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		14 Jun 2016 15:23	16 Jun 2016 13:52	1
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		14 Jun 2016 15:23	15 Jun 2016 19:58	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		14 Jun 2016 15:23	16 Jun 2016 14:13	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		14 Jun 2016 15:23	16 Jun 2016 12:22	10
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		14 Jun 2016 15:23	15 Jun 2016 20:31	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30		14 Jun 2016 15:23	16 Jun 2016 14:18	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30		14 Jun 2016 15:23	15 Jun 2016 20:36	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		14 Jun 2016 15:23	16 Jun 2016 13:24	2
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		14 Jun 2016 15:23	15 Jun 2016 20:41	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		14 Jun 2016 15:23	16 Jun 2016 14:50	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		14 Jun 2016 15:23	16 Jun 2016 12:27	10
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		14 Jun 2016 15:23	15 Jun 2016 20:46	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		14 Jun 2016 15:23	16 Jun 2016 14:54	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		14 Jun 2016 15:23	16 Jun 2016 12:31	10
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		14 Jun 2016 15:23	15 Jun 2016 20:50	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50		14 Jun 2016 15:23	16 Jun 2016 14:58	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50		14 Jun 2016 15:23	15 Jun 2016 20:55	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		14 Jun 2016 15:23	16 Jun 2016 15:25	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		14 Jun 2016 15:23	16 Jun 2016 13:28	2
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		14 Jun 2016 15:23	15 Jun 2016 21:00	1
Batch ID 105391 Test Name : HEXAVALENT CHROMIUM BY SW7196A Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		16 Jun 2016 10:37	17 Jun 2016 16:20	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		16 Jun 2016 10:37	17 Jun 2016 16:20	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30		16 Jun 2016 10:37	17 Jun 2016 16:20	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		16 Jun 2016 10:37	17 Jun 2016 16:20	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		16 Jun 2016 10:37	17 Jun 2016 16:20	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		16 Jun 2016 10:37	17 Jun 2016 16:20	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50		16 Jun 2016 10:37	17 Jun 2016 16:20	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		16 Jun 2016 10:37	17 Jun 2016 16:20	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 105422 Test Name : TPH DRO/ORO BY SW8015C Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		16 Jun 2016 09:42	17 Jun 2016 01:34	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		16 Jun 2016 09:42	17 Jun 2016 01:58	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30		16 Jun 2016 09:42	17 Jun 2016 02:22	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		16 Jun 2016 09:42	17 Jun 2016 02:46	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		16 Jun 2016 09:42	17 Jun 2016 03:10	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		16 Jun 2016 09:42	17 Jun 2016 03:34	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50		16 Jun 2016 09:42	17 Jun 2016 03:58	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		16 Jun 2016 09:42	17 Jun 2016 04:23	1
Batch ID 105430 Test Name : METALS BY SW6020A Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		16 Jun 2016 13:30	17 Jun 2016 14:59	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		16 Jun 2016 13:30	17 Jun 2016 15:30	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30		16 Jun 2016 13:30	17 Jun 2016 15:34	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		16 Jun 2016 13:30	17 Jun 2016 15:39	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		16 Jun 2016 13:30	17 Jun 2016 15:43	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		16 Jun 2016 13:30	17 Jun 2016 15:47	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50		16 Jun 2016 13:30	17 Jun 2016 15:52	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		16 Jun 2016 13:30	17 Jun 2016 15:56	1
Batch ID 105433 Test Name : LA 29B - 1:1 SOLUBLE CATIONS FOR SAR Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		16 Jun 2016 12:56	20 Jun 2016 16:12	10
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		16 Jun 2016 12:56	20 Jun 2016 16:15	10
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30		16 Jun 2016 12:56	20 Jun 2016 16:18	10
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		16 Jun 2016 12:56	21 Jun 2016 10:12	100
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		16 Jun 2016 12:56	20 Jun 2016 16:26	10
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		16 Jun 2016 12:56	20 Jun 2016 16:29	10
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		16 Jun 2016 12:56	20 Jun 2016 16:35	10
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50		16 Jun 2016 12:56	20 Jun 2016 16:38	10
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		16 Jun 2016 12:56	20 Jun 2016 16:41	10
Batch ID 105433A Test Name : LA29B SODIUM ADSORPTION RATIO Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		16 Jun 2016 12:56	23 Jun 2016 11:22	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 105586 Test Name : MERCURY BY SW7471B Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20		22 Jun 2016 08:53	22 Jun 2016 16:27	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10		22 Jun 2016 08:53	22 Jun 2016 16:29	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30		22 Jun 2016 08:53	22 Jun 2016 16:30	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05		22 Jun 2016 08:53	22 Jun 2016 16:32	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05		22 Jun 2016 08:53	22 Jun 2016 16:36	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20		22 Jun 2016 08:53	22 Jun 2016 16:41	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50		22 Jun 2016 08:53	22 Jun 2016 16:43	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30		22 Jun 2016 08:53	22 Jun 2016 16:44	1
Batch ID R276149 Test Name : VOLATILES BY SW8260C Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20			11 Jun 2016 20:34	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10			11 Jun 2016 21:02	1
Batch ID R276150 Test Name : VOLATILES BY SW8260C Matrix: Soil						
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30			11 Jun 2016 12:06	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05			11 Jun 2016 16:23	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05			11 Jun 2016 16:46	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20			11 Jun 2016 17:09	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50			11 Jun 2016 17:32	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30			11 Jun 2016 17:56	1
Batch ID R276224 Test Name : PH SOIL BY SW9045D Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20			13 Jun 2016 12:30	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10			13 Jun 2016 12:30	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30			13 Jun 2016 12:30	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05			13 Jun 2016 12:30	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05			13 Jun 2016 12:30	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20			13 Jun 2016 12:30	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50			13 Jun 2016 12:30	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30			13 Jun 2016 12:30	1
Batch ID R276337 Test Name : GASOLINE RANGE ORGANICS BY SW8015C Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20			14 Jun 2016 13:39	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10			14 Jun 2016 13:55	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30			14 Jun 2016 14:11	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05			14 Jun 2016 14:27	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05			14 Jun 2016 15:16	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20			14 Jun 2016 12:51	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50			14 Jun 2016 15:32	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30			14 Jun 2016 15:48	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R276612 Test Name : LA29B SATURATION POINT (AS FRACTION) Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20			17 Jun 2016 12:10	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10			17 Jun 2016 12:10	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30			17 Jun 2016 12:10	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05			17 Jun 2016 12:10	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05			17 Jun 2016 12:10	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20			17 Jun 2016 12:10	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50			17 Jun 2016 12:10	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30			17 Jun 2016 12:10	1
Batch ID R276697 Test Name : TRIVALENT CHROMIUM Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20			21 Jun 2016 13:37	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10			21 Jun 2016 13:37	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30			21 Jun 2016 13:37	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05			21 Jun 2016 13:37	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05			21 Jun 2016 13:37	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20			21 Jun 2016 13:37	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50			21 Jun 2016 13:37	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30			21 Jun 2016 13:37	1
Batch ID R276732 Test Name : LA29B ELECTRICAL CONDUCTIVITY Matrix: Soil						
HS16060643-01	GP-16-1-2-060616	06 Jun 2016 12:20			21 Jun 2016 12:30	1
HS16060643-02	GP-16-1-11-060616	06 Jun 2016 13:10			21 Jun 2016 12:30	1
HS16060643-03	GP-16-2-1-060616	06 Jun 2016 14:30			21 Jun 2016 12:30	1
HS16060643-04	GP-16-2-9-060616	06 Jun 2016 15:05			21 Jun 2016 12:30	1
HS16060643-05	GP-16-3-2-060616	06 Jun 2016 16:05			21 Jun 2016 12:30	1
HS16060643-06	GP-16-3-13-060616	06 Jun 2016 16:20			21 Jun 2016 12:30	1
HS16060643-07	GP-16-3-18-060616	06 Jun 2016 16:50			21 Jun 2016 12:30	1
HS16060643-08	GP-16-7-3-060816	08 Jun 2016 14:30			21 Jun 2016 12:30	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105422		Instrument: FID-8		Method: SW8015M					
MBLK	Sample ID: MBLK-105422	Units: mg/Kg		Analysis Date: 16-Jun-2016 19:56					
Client ID:	Run ID: FID-8_276844	SeqNo: 3735266		PrepDate: 16-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	ND	1.7							
Surr: 2-Fluorobiphenyl	2.785	0.10	3.33	0	83.6	60 - 135			
LCS	Sample ID: LCS-105422	Units: mg/Kg		Analysis Date: 16-Jun-2016 20:20					
Client ID:	Run ID: FID-8_276844	SeqNo: 3735267		PrepDate: 16-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	31.52	1.7	33.33	0	94.6	70 - 130			
Surr: 2-Fluorobiphenyl	2.88	0.10	3.33	0	86.5	60 - 135			
MS	Sample ID: HS16060643-08MS	Units: mg/Kg		Analysis Date: 17-Jun-2016 04:47					
Client ID: GP-16-7-3-060816	Run ID: FID-8_276844	SeqNo: 3735287		PrepDate: 16-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	105.1	5.1	99.1	3.859	102	70 - 130			
Surr: 2-Fluorobiphenyl	8.097	0.30	9.901	0	81.8	60 - 135			
MSD	Sample ID: HS16060643-08MSD	Units: mg/Kg		Analysis Date: 17-Jun-2016 05:11					
Client ID: GP-16-7-3-060816	Run ID: FID-8_276844	SeqNo: 3735288		PrepDate: 16-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	91.22	5.1	99.2	3.859	88.1	70 - 130	105.1	14.1	30
Surr: 2-Fluorobiphenyl	7.379	0.30	9.911	0	74.5	60 - 135	8.097	9.29	30
The following samples were analyzed in this batch:									
HS16060643-01		HS16060643-02		HS16060643-03		HS16060643-04			
HS16060643-05		HS16060643-06		HS16060643-07		HS16060643-08			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: R276337		Instrument: FID-14		Method: SW8015					
MBLK	Sample ID: GBLK-160614	Units: mg/Kg		Analysis Date: 14-Jun-2016 12:20					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724135		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Gasoline Range Organics	ND	0.050							
Surr: 4-Bromofluorobenzene	0.08142	0.0050	0.1	0	81.4	70 - 130			
LCS	Sample ID: GLCS-160614	Units: mg/Kg		Analysis Date: 14-Jun-2016 11:48					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724134		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Gasoline Range Organics	1.026	0.050	1	0	103	70 - 130			
Surr: 4-Bromofluorobenzene	0.09682	0.0050	0.1	0	96.8	70 - 130			
MS	Sample ID: HS16060643-06MS	Units: mg/Kg		Analysis Date: 14-Jun-2016 13:07					
Client ID: GP-16-3-13-060616	Run ID: FID-14_276337	SeqNo: 3724137		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Gasoline Range Organics	1.097	0.050	1	0	110	70 - 130			
Surr: 4-Bromofluorobenzene	0.09963	0.0050	0.1	0	99.6	70 - 130			
MSD	Sample ID: HS16060643-06MSD	Units: mg/Kg		Analysis Date: 14-Jun-2016 13:23					
Client ID: GP-16-3-13-060616	Run ID: FID-14_276337	SeqNo: 3724138		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Gasoline Range Organics	1.069	0.050	1	0	107	70 - 130	1.097	2.53	30
Surr: 4-Bromofluorobenzene	0.09555	0.0050	0.1	0	95.6	70 - 130	0.09963	4.18	30
The following samples were analyzed in this batch:									
HS16060643-01		HS16060643-02		HS16060643-03		HS16060643-04			
HS16060643-05		HS16060643-06		HS16060643-07		HS16060643-08			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105351		Instrument: ICPMS04		Method: SW6020						
MBLK	Sample ID: MBLK-105351	Units: mg/Kg			Analysis Date: 15-Jun-2016 19:44					
Client ID:	Run ID: ICPMS04_276334	SeqNo: 3725752		PrepDate: 14-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic	ND	1.50								
Barium	ND	0.500								
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								

MBLK	Sample ID: MBLK-105351	Units: mg/Kg			Analysis Date: 16-Jun-2016 12:14					
Client ID:		Run ID: ICPMS04_276424	SeqNo: 3726276		PrepDate: 14-Jun-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								
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LCS	Sample ID: LCS-105351	Units: mg/Kg			Analysis Date: 15-Jun-2016 19:49					
Client ID:		Run ID: ICPMS04_276334	SeqNo: 3725753		PrepDate: 14-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic	9.669	1.50	10	0	96.7	80 - 120				
Barium	9.979	0.500	10	0	99.8	80 - 120				
Cadmium	9.25	0.500	10	0	92.5	80 - 120				
Chromium	9.345	0.500	10	0	93.4	80 - 120				
Copper	9.893	0.200	10	0	98.9	80 - 120				
Lead	9.125	0.500	10	0	91.3	80 - 120				
Nickel	9.726	0.500	10	0	97.3	80 - 120				
Selenium	9.23	0.500	10	0	92.3	80 - 120				
Silver	8.121	0.500	10	0	81.2	80 - 120				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105351		Instrument: ICPMS04		Method: SW6020					
LCS	Sample ID: LCS-105351	Units: mg/Kg			Analysis Date: 16-Jun-2016 12:18				
Client ID:		Run ID: ICPMS04_276424	SeqNo: 3726277		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Boron	53.06	2.50	50	0	106	80 - 120			
MS	Sample ID: HS16060643-01MS	Units: mg/Kg			Analysis Date: 15-Jun-2016 20:08				
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276334	SeqNo: 3725757		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	11.86	1.47	9.781	2.604	94.6	75 - 125			
Barium	172	0.489	9.781	167.1	50.2	75 - 125			SO
Cadmium	9.364	0.489	9.781	0.08039	94.9	75 - 125			
Chromium	14.37	0.489	9.781	5.276	93.0	75 - 125			
Copper	15.22	0.196	9.781	6.477	89.3	75 - 125			
Lead	15.89	0.489	9.781	6.931	91.6	75 - 125			
Nickel	15.81	0.489	9.781	6.42	96.0	75 - 125			
Selenium	8.549	0.489	9.781	0.01168	87.3	75 - 125			
MS	Sample ID: HS16060643-01MS	Units: mg/Kg			Analysis Date: 16-Jun-2016 14:01				
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276424	SeqNo: 3726695		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Boron	64.8	2.45	48.9	4.331	124	75 - 125			
Silver	6.814	0.489	9.781	0.02896	69.4	75 - 125			S
MSD	Sample ID: HS16060643-01MSD	Units: mg/Kg			Analysis Date: 15-Jun-2016 20:12				
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276334	SeqNo: 3725758		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	11.96	1.47	9.768	2.604	95.8	75 - 125	11.86	0.879	20
Barium	175.5	0.488	9.768	167.1	86.7	75 - 125	172	2.05	20
Cadmium	9.537	0.488	9.768	0.08039	96.8	75 - 125	9.364	1.84	20
Chromium	14.03	0.488	9.768	5.276	89.6	75 - 125	14.37	2.41	20
Copper	15.28	0.195	9.768	6.477	90.1	75 - 125	15.22	0.389	20
Lead	16.13	0.488	9.768	6.931	94.2	75 - 125	15.89	1.52	20
Nickel	15.69	0.488	9.768	6.42	94.9	75 - 125	15.81	0.756	20
Selenium	8.691	0.488	9.768	0.01168	88.9	75 - 125	8.549	1.64	20

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105351		Instrument: ICPMS04		Method: SW6020						
MSD		Sample ID: HS16060643-01MSD		Units: mg/Kg		Analysis Date: 16-Jun-2016 14:05				
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276424		SeqNo: 3726696		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	68.76	2.44	48.84	4.331	132	75 - 125	64.8	5.93	20	S
Silver	7.412	0.488	9.768	0.02896	75.6	75 - 125	6.814	8.41	20	
PDS		Sample ID: HS16060643-01BS		Units: mg/Kg		Analysis Date: 15-Jun-2016 20:17				
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276334		SeqNo: 3725759		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.95	1.47	9.815	2.604	85.0	75 - 125				
Cadmium	9.229	0.491	9.815	0.08039	93.2	75 - 125				
Chromium	13.27	0.491	9.815	5.276	81.4	75 - 125				
Copper	14.74	0.196	9.815	6.477	84.2	75 - 125				
Lead	16.38	0.491	9.815	6.931	96.3	75 - 125				
Nickel	14.64	0.491	9.815	6.42	83.7	75 - 125				
Selenium	8.443	0.491	9.815	0.01168	85.9	75 - 125				
PDS		Sample ID: HS16060643-01BS		Units: mg/Kg		Analysis Date: 16-Jun-2016 13:11				
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276424		SeqNo: 3726438		PrepDate: 14-Jun-2016		DF: 5		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	212.1	2.45	49.08	179.2	66.9	75 - 125				S
PDS		Sample ID: HS16060643-01BS		Units: mg/Kg		Analysis Date: 16-Jun-2016 14:09				
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276424		SeqNo: 3726697		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	104	2.45	98.15	4.331	102	75 - 125				
Silver	7.824	0.491	9.815	0.02896	79.4	75 - 125				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105351		Instrument: ICPMS04		Method: SW6020						
SD	Sample ID: HS16060643-01 DIL SX	Units: mg/Kg		Analysis Date: 15-Jun-2016 20:03						
Client ID:	Run ID: ICPMS04_276334	SeqNo: 3725756		PrepDate: 14-Jun-2016	DF: 5					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	3.334	7.36					2.604	0	10	J
Cadmium	ND	2.45					0.08039	0	10	
Lead	7.197	2.45					6.931	3.84	10	
Selenium	ND	2.45					0.01168	0	10	
Silver	ND	2.45					0.0211	0	10	

SD	Sample ID: HS16060643-01 DIL SX	Units: mg/Kg		Analysis Date: 16-Jun-2016 14:36						
Client ID:	Run ID: ICPMS04_276424	SeqNo: 3726702		PrepDate: 14-Jun-2016	DF: 25					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	167.5	12.3					179.2	6.58	10	

SD	Sample ID: HS16060643-01 DIL SX	Units: mg/Kg		Analysis Date: 16-Jun-2016 13:56						
Client ID:	Run ID: ICPMS04_276424	SeqNo: 3726694		PrepDate: 14-Jun-2016	DF: 5					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Boron	ND	12.3					4.331	0	10	
Chromium	5.923	2.45					5.609	5.59	10	
Copper	7.625	0.982					7.004	8.86	10	
Nickel	7.37	2.45					6.763	8.98	10	

The following samples were analyzed in this batch:	HS16060643-01	HS16060643-02	HS16060643-03	HS16060643-04
	HS16060643-05	HS16060643-06	HS16060643-07	HS16060643-08

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105430		Instrument: ICPMS04		Method: SW6020						
MBLK	Sample ID: MBLK-105430	Units: mg/Kg		Analysis Date: 17-Jun-2016 14:42						
Client ID:		Run ID: ICPMS04_276513	SeqNo: 3728625	PrepDate: 16-Jun-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								
Lead	ND	0.500								
Zinc	ND	0.500								

LCS	Sample ID: LCS-105430	Units: mg/Kg		Analysis Date: 17-Jun-2016 14:46						
Client ID:		Run ID: ICPMS04_276513	SeqNo: 3728626	PrepDate: 16-Jun-2016	DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.265	0.500	10	0	92.7	80 - 120				
Lead	8.963	0.500	10	0	89.6	80 - 120				
Zinc	9.378	0.500	10	0	93.8	80 - 120				

MS	Sample ID: HS16060643-01MS	Units: mg/Kg		Analysis Date: 17-Jun-2016 15:08						
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276513	SeqNo: 3728631	PrepDate: 16-Jun-2016	DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.06	0.483	9.653	2.004	93.9	75 - 125				
Lead	14.65	0.483	9.653	5.417	95.6	75 - 125				
Zinc	32.58	0.483	9.653	19.68	134	75 - 125				S

MSD	Sample ID: HS16060643-01MSD	Units: mg/Kg		Analysis Date: 17-Jun-2016 15:12						
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276513	SeqNo: 3728632	PrepDate: 16-Jun-2016	DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.36	0.453	9.055	2.004	92.2	75 - 125	11.06	6.6	20	
Lead	14.12	0.453	9.055	5.417	96.2	75 - 125	14.65	3.63	20	
Zinc	29.76	0.453	9.055	19.68	111	75 - 125	32.58	9.05	20	

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105430		Instrument: ICPMS04		Method: SW6020						
PDS		Sample ID: HS16060643-01BS		Units: mg/Kg		Analysis Date: 17-Jun-2016 15:17				
Client ID: GP-16-1-2-060616		Run ID: ICPMS04_276513		SeqNo: 3728633		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.69	0.478	9.569	2.004	90.7	75 - 125				
Lead	14.26	0.478	9.569	5.417	92.4	75 - 125				
Zinc	28.17	0.478	9.569	19.68	88.7	75 - 125				

SD		Sample ID: HS16060643-01 DIL SX		Units: mg/Kg		Analysis Date: 17-Jun-2016 15:04				
Client ID:		Run ID: ICPMS04_276513		SeqNo: 3728630		PrepDate: 16-Jun-2016		DF: 5		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	RPD Limit	Qual
Arsenic	2.163	2.39					2.004	0	10	J
Lead	5.935	2.39					5.417	9.55	10	
Zinc	21.1	2.39					19.68	7.2	10	

The following samples were analyzed in this batch:

HS16060643-01	HS16060643-02	HS16060643-03	HS16060643-04
HS16060643-05	HS16060643-06	HS16060643-07	HS16060643-08

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105433		Instrument: ICPMS05		Method: La29B-6020						
MBLK	Sample ID: MBLK-105433	Units: mg/L			Analysis Date: 20-Jun-2016 16:09					
Client ID:	Run ID: ICPMS05_276596	SeqNo: 3730870		PrepDate: 16-Jun-2016		DF: 10				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Calcium	ND	5.00								
Magnesium	ND	5.00								
Sodium	ND	5.00								
DUP	Sample ID: HS16060643-05DUP	Units: mg/L			Analysis Date: 20-Jun-2016 16:32					
Client ID:	Run ID: ICPMS05_276596	SeqNo: 3730878		PrepDate: 16-Jun-2016		DF: 10				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Calcium	172.7	4.99					172.1	0.338	30	
Magnesium	ND	4.99					0.01806	0	30	
Sodium	34.63	4.99					36.21	4.47	30	
The following samples were analyzed in this batch:		HS16060643-01 HS16060643-05		HS16060643-02 HS16060643-06		HS16060643-03 HS16060643-07		HS16060643-04 HS16060643-08		

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105433A		Instrument: MISC-Metals		Method: La29B SAR	
DUP	Sample ID: HS16060643-05DUP	Units: meq/meq		Analysis Date: 23-Jun-2016 11:22	
Client ID:	Run ID: MISC-Metals_276860	SeqNo: 3735547		PrepDate: 16-Jun-2016	DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value %REC	Control Limit RPD Ref Value %RPD RPD Limit Qual

Sodium Adsorption Ratio	0.724	0.0100			0.76	4.85	30
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The following samples were analyzed in this batch:

HS16060643-01	HS16060643-02	HS16060643-03	HS16060643-04
HS16060643-05	HS16060643-06	HS16060643-07	HS16060643-08

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105586		Instrument: HG03		Method: SW7471A					
MBLK	Sample ID: MBLK-105586	Units: ug/Kg		Analysis Date: 22-Jun-2016 16:02					
Client ID:	Run ID: HG03_276785	SeqNo: 3734042		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	ND	3.44							
LCS	Sample ID: LCS-105586	Units: ug/Kg		Analysis Date: 22-Jun-2016 16:05					
Client ID:	Run ID: HG03_276785	SeqNo: 3734043		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	340.3	3.46	346.5	0	98.2	85 - 115			
MS	Sample ID: HS16060938-02MS	Units: ug/Kg		Analysis Date: 22-Jun-2016 16:50					
Client ID:	Run ID: HG03_276785	SeqNo: 3734154		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	352.5	3.57	358.2	2.759	97.6	85 - 115			
MSD	Sample ID: HS16060938-02MSD	Units: ug/Kg		Analysis Date: 22-Jun-2016 16:51					
Client ID:	Run ID: HG03_276785	SeqNo: 3734155		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	354.3	3.59	360.1	2.759	97.6	85 - 115	352.5	0.521	20
The following samples were analyzed in this batch:									
HS16060643-01		HS16060643-02		HS16060643-03		HS16060643-04			
HS16060643-05		HS16060643-06		HS16060643-07		HS16060643-08			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105338		Instrument: SV-6		Method: SW8270					
MBLK	Sample ID: MBLK-105338	Units: ug/Kg		Analysis Date: 16-Jun-2016 14:41					
Client ID:	Run ID: SV-6_276520	SeqNo: 3728169		PrepDate: 14-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Acenaphthene	ND	3.3							
Acenaphthylene	ND	3.3							
Anthracene	ND	3.3							
Benz(a)anthracene	ND	3.3							
Benzo(a)pyrene	ND	3.3							
Benzo(b)fluoranthene	ND	3.3							
Benzo(g,h,i)perylene	ND	3.3							
Benzo(k)fluoranthene	ND	3.3							
Chrysene	ND	3.3							
Dibenz(a,h)anthracene	ND	3.3							
Fluoranthene	ND	3.3							
Fluorene	ND	3.3							
Indeno(1,2,3-cd)pyrene	ND	3.3							
Naphthalene	ND	3.3							
Phenanthrene	ND	3.3							
Pyrene	ND	3.3							
Surr: 2-Fluorobiphenyl	85.77	0	167	0	51.4	43 - 125			
Surr: 4-Terphenyl-d14	170.2	0	167	0	102	32 - 125			
Surr: Nitrobenzene-d5	93.79	0	167	0	56.2	37 - 125			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105338		Instrument: SV-6		Method: SW8270						
LCS		Sample ID: LCS-105338		Units: ug/Kg		Analysis Date: 17-Jun-2016 17:10				
Client ID:		Run ID: SV-6_276520		SeqNo: 3728889		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	129.7	3.3	167	0	77.7	50 - 120				
Acenaphthylene	118.9	3.3	167	0	71.2	50 - 120				
Anthracene	144.2	3.3	167	0	86.4	50 - 123				
Benz(a)anthracene	177.4	3.3	167	0	106	50 - 131				
Benzo(a)pyrene	118.1	3.3	167	0	70.7	50 - 130				
Benzo(b)fluoranthene	172.2	3.3	167	0	103	50 - 137				
Benzo(g,h,i)perylene	135.4	3.3	167	0	81.1	50 - 130				
Benzo(k)fluoranthene	152	3.3	167	0	91.0	50 - 143				
Chrysene	143.3	3.3	167	0	85.8	50 - 130				
Dibenz(a,h)anthracene	162.3	3.3	167	0	97.2	50 - 130				
Fluoranthene	152.4	3.3	167	0	91.2	50 - 131				
Fluorene	130	3.3	167	0	77.8	50 - 125				
Indeno(1,2,3-cd)pyrene	133.3	3.3	167	0	79.8	45 - 139				
Naphthalene	126.5	3.3	167	0	75.7	50 - 125				
Phenanthrene	143.1	3.3	167	0	85.7	50 - 125				
Pyrene	165.1	3.3	167	0	98.9	45 - 130				
Surr: 2-Fluorobiphenyl	111.9	0	167	0	67.0	43 - 125				
Surr: 4-Terphenyl-d14	162.7	0	167	0	97.4	32 - 125				
Surr: Nitrobenzene-d5	127.5	0	167	0	76.4	37 - 125				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105338		Instrument: SV-6		Method: SW8270						
MS		Sample ID: HS16060688-01MS		Units: ug/Kg		Analysis Date: 16-Jun-2016 18:07				
Client ID:		Run ID: SV-6_276520		SeqNo: 3728171		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	161.9	3.3	166.7	0	97.2	50 - 120				
Acenaphthylene	147.5	3.3	166.7	0	88.5	50 - 120				
Anthracene	158.4	3.3	166.7	0	95.0	50 - 123				
Benz(a)anthracene	184.5	3.3	166.7	0	111	50 - 131				
Benzo(a)pyrene	181.8	3.3	166.7	0	109	50 - 130				
Benzo(b)fluoranthene	176.1	3.3	166.7	0	106	50 - 137				
Benzo(g,h,i)perylene	182.4	3.3	166.7	0	109	50 - 130				
Benzo(k)fluoranthene	194.2	3.3	166.7	0	117	50 - 143				
Chrysene	201.8	3.3	166.7	0	121	50 - 130				
Dibenz(a,h)anthracene	171.9	3.3	166.7	0	103	50 - 130				
Fluoranthene	159.7	3.3	166.7	0	95.8	50 - 131				
Fluorene	149.1	3.3	166.7	0	89.4	50 - 125				
Indeno(1,2,3-cd)pyrene	156.5	3.3	166.7	0	93.9	45 - 139				
Naphthalene	143.6	3.3	166.7	0	86.1	50 - 125				
Phenanthrene	145.5	3.3	166.7	0	87.3	50 - 125				
Pyrene	191.6	3.3	166.7	0	115	45 - 130				
Surr: 2-Fluorobiphenyl	133.2	0	166.7	0	79.9	43 - 125				
Surr: 4-Terphenyl-d14	168.8	0	166.7	0	101	32 - 125				
Surr: Nitrobenzene-d5	131.5	0	166.7	0	78.9	37 - 125				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105338		Instrument: SV-6		Method: SW8270					
MSD		Sample ID: HS16060688-01MSD		Units: ug/Kg		Analysis Date: 16-Jun-2016 18:27			
Client ID:		Run ID: SV-6_276520		SeqNo: 3728172		PrepDate: 14-Jun-2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Acenaphthene	142.4	3.3	166.6	0	85.5	50 - 120	161.9	12.8	30
Acenaphthylene	129.1	3.3	166.6	0	77.5	50 - 120	147.5	13.3	30
Anthracene	147.8	3.3	166.6	0	88.7	50 - 123	158.4	6.94	30
Benz(a)anthracene	167	3.3	166.6	0	100	50 - 131	184.5	9.96	30
Benzo(a)pyrene	154.4	3.3	166.6	0	92.7	50 - 130	181.8	16.3	30
Benzo(b)fluoranthene	147.1	3.3	166.6	0	88.3	50 - 137	176.1	18	30
Benzo(g,h,i)perylene	147.5	3.3	166.6	0	88.6	50 - 130	182.4	21.2	30
Benzo(k)fluoranthene	175.2	3.3	166.6	0	105	50 - 143	194.2	10.3	30
Chrysene	195.2	3.3	166.6	0	117	50 - 130	201.8	3.32	30
Dibenz(a,h)anthracene	158.5	3.3	166.6	0	95.2	50 - 130	171.9	8.13	30
Fluoranthene	152.4	3.3	166.6	0	91.5	50 - 131	159.7	4.68	30
Fluorene	132.3	3.3	166.6	0	79.4	50 - 125	149.1	11.9	30
Indeno(1,2,3-cd)pyrene	133.1	3.3	166.6	0	79.9	45 - 139	156.5	16.1	30
Naphthalene	141.4	3.3	166.6	0	84.9	50 - 125	143.6	1.5	30
Phenanthrene	135.5	3.3	166.6	0	81.3	50 - 125	145.5	7.17	30
Pyrene	172.6	3.3	166.6	0	104	45 - 130	191.6	10.4	30
Surr: 2-Fluorobiphenyl	115.3	0	166.6	0	69.2	43 - 125	133.2	14.4	30
Surr: 4-Terphenyl-d14	160.1	0	166.6	0	96.1	32 - 125	168.8	5.26	30
Surr: Nitrobenzene-d5	131.7	0	166.6	0	79.1	37 - 125	131.5	0.162	30
The following samples were analyzed in this batch:									
HS16060643-01		HS16060643-02		HS16060643-03		HS16060643-04			
HS16060643-05		HS16060643-06		HS16060643-07		HS16060643-08			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: R276149		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: VBLKS1-061116	Units: ug/Kg		Analysis Date: 11-Jun-2016 12:09					
Client ID:	Run ID: VOA8_276149	SeqNo: 3719600		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	42.65	0	50	0	85.3	70 - 128			
Surr: 4-Bromofluorobenzene	46.01	0	50	0	92.0	73 - 126			
Surr: Dibromofluoromethane	48.38	0	50	0	96.8	71 - 128			
Surr: Toluene-d8	48.79	0	50	0	97.6	73 - 127			

LCS	Sample ID: VLCSS1-061116	Units: ug/Kg		Analysis Date: 11-Jun-2016 11:41					
Client ID:	Run ID: VOA8_276149	SeqNo: 3719599		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	41.8	5.0	50	0	83.6	79 - 122			
Ethylbenzene	55.5	5.0	50	0	111	80 - 122			
m,p-Xylene	116.7	10	100	0	117	79 - 122			
o-Xylene	56.81	5.0	50	0	114	80 - 123			
Toluene	46.69	5.0	50	0	93.4	79 - 120			
Xylenes, Total	173.5	10	150	0	116	80 - 120			
Surr: 1,2-Dichloroethane-d4	45.6	0	50	0	91.2	70 - 128			
Surr: 4-Bromofluorobenzene	50.18	0	50	0	100	73 - 126			
Surr: Dibromofluoromethane	46.95	0	50	0	93.9	71 - 128			
Surr: Toluene-d8	48.39	0	50	0	96.8	73 - 127			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: R276149		Instrument: VOA8		Method: SW8260						
MS		Sample ID: HS16060660-01MS		Units: ug/Kg		Analysis Date: 11-Jun-2016 13:05				
Client ID:		Run ID: VOA8_276149		SeqNo: 3719602		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	45.41	4.8	48	0	94.6	79 - 122				
Ethylbenzene	55.56	4.8	48	0	116	80 - 122				
m,p-Xylene	114.2	9.6	96	0	119	79 - 122				
o-Xylene	56.43	4.8	48	0	118	80 - 123				
Toluene	47.85	4.8	48	0	99.7	79 - 120				
Xylenes, Total	170.6	9.6	144	0	118	80 - 120				
Surr: 1,2-Dichloroethane-d4	43.71	0	48	0	91.1	70 - 128				
Surr: 4-Bromofluorobenzene	46.77	0	48	0	97.4	73 - 126				
Surr: Dibromofluoromethane	46.11	0	48	0	96.1	71 - 128				
Surr: Toluene-d8	45.54	0	48	0	94.9	73 - 127				

MSD		Sample ID: HS16060660-01MSD		Units: ug/Kg		Analysis Date: 11-Jun-2016 13:33				
Client ID:		Run ID: VOA8_276149		SeqNo: 3719603		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	41.97	4.9	49	0	85.7	79 - 122	45.41	7.87	30	
Ethylbenzene	51.49	4.9	49	0	105	80 - 122	55.56	7.59	30	
m,p-Xylene	105	9.8	98	0	107	79 - 122	114.2	8.32	30	
o-Xylene	50.62	4.9	49	0	103	80 - 123	56.43	10.8	30	
Toluene	44.58	4.9	49	0	91.0	79 - 120	47.85	7.09	30	
Xylenes, Total	155.7	9.8	147	0	106	80 - 120	170.6	9.15	30	
Surr: 1,2-Dichloroethane-d4	44.19	0	49	0	90.2	70 - 128	43.71	1.1	30	
Surr: 4-Bromofluorobenzene	47.29	0	49	0	96.5	73 - 126	46.77	1.12	30	
Surr: Dibromofluoromethane	46.64	0	49	0	95.2	71 - 128	46.11	1.15	30	
Surr: Toluene-d8	47.03	0	49	0	96.0	73 - 127	45.54	3.21	30	

The following samples were analyzed in this batch: HS16060643-01 HS16060643-02

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: R276150		Instrument: VOA5		Method: SW8260					
MBLK	Sample ID: VBLKS1-061116	Units: ug/Kg		Analysis Date: 11-Jun-2016 11:19					
Client ID:	Run ID: VOA5_276150	SeqNo: 3719622		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	45.65	0	50	0	91.3	70 - 128			
Surr: 4-Bromofluorobenzene	48.48	0	50	0	97.0	73 - 126			
Surr: Dibromofluoromethane	52.98	0	50	0	106	71 - 128			
Surr: Toluene-d8	50.17	0	50	0	100	73 - 127			

LCS	Sample ID: VLCSS1-061116	Units: ug/Kg		Analysis Date: 11-Jun-2016 10:32					
Client ID:	Run ID: VOA5_276150	SeqNo: 3719621		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	49.26	5.0	50	0	98.5	79 - 122			
Ethylbenzene	52.53	5.0	50	0	105	80 - 122			
m,p-Xylene	107.5	10	100	0	108	79 - 122			
o-Xylene	53.23	5.0	50	0	106	80 - 123			
Toluene	49.69	5.0	50	0	99.4	79 - 120			
Xylenes, Total	160.8	10	150	0	107	80 - 120			
Surr: 1,2-Dichloroethane-d4	47.7	0	50	0	95.4	70 - 128			
Surr: 4-Bromofluorobenzene	49.83	0	50	0	99.7	73 - 126			
Surr: Dibromofluoromethane	52.63	0	50	0	105	71 - 128			
Surr: Toluene-d8	49.39	0	50	0	98.8	73 - 127			

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: R276150		Instrument: VOA5		Method: SW8260						
MS		Sample ID: HS16060643-03MS		Units: ug/Kg		Analysis Date: 11-Jun-2016 14:03				
Client ID: GP-16-2-1-060616		Run ID: VOA5_276150		SeqNo: 3719628		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	39.4	5.0	50	0	78.8	79 - 122				S
Ethylbenzene	42.21	5.0	50	0	84.4	80 - 122				
m,p-Xylene	85.36	10	100	0	85.4	79 - 122				
o-Xylene	42.76	5.0	50	0	85.5	80 - 123				
Toluene	39.88	5.0	50	0	79.8	79 - 120				
Xylenes, Total	128.1	10	150	0	85.4	80 - 120				
Surr: 1,2-Dichloroethane-d4	47.19	0	50	0	94.4	70 - 128				
Surr: 4-Bromofluorobenzene	50.09	0	50	0	100	73 - 126				
Surr: Dibromofluoromethane	53.99	0	50	0	108	71 - 128				
Surr: Toluene-d8	49.51	0	50	0	99.0	73 - 127				

MSD		Sample ID: HS16060643-03MSD		Units: ug/Kg		Analysis Date: 11-Jun-2016 14:26				
Client ID: GP-16-2-1-060616		Run ID: VOA5_276150		SeqNo: 3719629		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	40.48	5.0	50	0	81.0	79 - 122	39.4	2.71	30	
Ethylbenzene	42.81	5.0	50	0	85.6	80 - 122	42.21	1.42	30	
m,p-Xylene	87.07	10	100	0	87.1	79 - 122	85.36	1.99	30	
o-Xylene	44.09	5.0	50	0	88.2	80 - 123	42.76	3.08	30	
Toluene	41.1	5.0	50	0	82.2	79 - 120	39.88	3	30	
Xylenes, Total	131.2	10	150	0	87.4	80 - 120	128.1	2.35	30	
Surr: 1,2-Dichloroethane-d4	47.48	0	50	0	95.0	70 - 128	47.19	0.615	30	
Surr: 4-Bromofluorobenzene	49.13	0	50	0	98.3	73 - 126	50.09	1.93	30	
Surr: Dibromofluoromethane	52.88	0	50	0	106	71 - 128	53.99	2.08	30	
Surr: Toluene-d8	48.36	0	50	0	96.7	73 - 127	49.51	2.35	30	

The following samples were analyzed in this batch:

HS16060643-03	HS16060643-04	HS16060643-05	HS16060643-06
HS16060643-07	HS16060643-08		

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: 105391		Instrument: UV-2450		Method: SW7196						
MBLK	Sample ID: MBLK-105391	Units: mg/kg		Analysis Date: 17-Jun-2016 16:20						
Client ID:	Run ID: UV-2450_276548	SeqNo: 3728793		PrepDate: 16-Jun-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-105391	Units: mg/kg		Analysis Date: 17-Jun-2016 16:20						
Client ID:	Run ID: UV-2450_276548	SeqNo: 3728792		PrepDate: 16-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.16	2.00	10	0	91.6	80 - 120				
MS	Sample ID: HS16060688-01MS	Units: mg/kg		Analysis Date: 17-Jun-2016 16:20						
Client ID:	Run ID: UV-2450_276548	SeqNo: 3728790		PrepDate: 16-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	5.131	1.99	9.944	0.1987	49.6	75 - 125				S
MSD	Sample ID: HS16060688-01MSD	Units: mg/kg		Analysis Date: 17-Jun-2016 16:20						
Client ID:	Run ID: UV-2450_276548	SeqNo: 3728791		PrepDate: 16-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.885	1.99	9.929	0.1987	47.2	75 - 125	5.131	4.91	20	S
PDS	Sample ID: HS16060688-01PDS	Units: mg/kg		Analysis Date: 17-Jun-2016 16:20						
Client ID:	Run ID: UV-2450_276548	SeqNo: 3728805		PrepDate: 16-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	10.5	1.99	9.944	0.1987	104	80 - 120				
The following samples were analyzed in this batch:										
HS16060643-01		HS16060643-02		HS16060643-03		HS16060643-04				
HS16060643-05		HS16060643-06		HS16060643-07		HS16060643-08				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: R276224		Instrument: WetChem_HS		Method: SW9045B	
DUP	Sample ID: HS16060646-07DUP	Units: pH Units		Analysis Date: 13-Jun-2016 12:30	
Client ID:	Run ID: WetChem_HS_276224	SeqNo: 3721817		PrepDate:	DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC Control Limit RPD Ref Value %RPD RPD Limit Qual
pH	8.89	0.100			8.87 0.225 10
Temp Deg C @pH	24.1	0			24 0.416 10
The following samples were analyzed in this batch:					
HS16060643-01		HS16060643-02		HS16060643-03	
HS16060643-05		HS16060643-06		HS16060643-07	
				HS16060643-08	

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: R276612		Instrument: Balance1		Method: LaDNR-29B SP						
DUP	Sample ID: HS16060643-05DUP	Units: SP as fraction		Analysis Date: 17-Jun-2016 12:10						
Client ID:	Run ID: Balance1_276612	SeqNo: 3730307		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.436	0.100					0.436	0	30	

The following samples were analyzed in this batch:

HS16060643-01	HS16060643-02	HS16060643-03	HS16060643-04
HS16060643-05	HS16060643-06	HS16060643-07	HS16060643-08

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

QC BATCH REPORT

Batch ID: R276732		Instrument: WetChem_HS		Method: LaDNR-29B EC					
DUP	Sample ID: HS16060643-05DUP	Units: mmhos/cm @25° C		Analysis Date: 21-Jun-2016 12:30					
Client ID:		Run ID: WetChem_HS_276732		SeqNo: 3732867		PrepDate:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Electrical Conductivity @ saturation	4.546	0.0100					4.529	0.375	20
Electrical Conductivity, 1:1 aqueous	1.98	0.0100					1.974	0.303	20
Saturation % as decimal	0.436	0					0.436	0	20
The following samples were analyzed in this batch:									
HS16060643-01		HS16060643-02		HS16060643-03		HS16060643-04			
HS16060643-05		HS16060643-06		HS16060643-07		HS16060643-08			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060643

**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 Quantitation 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	16-022-0	27-Mar-2017
California	2919	31-Jul-2016
Kansas	E-10352 2014-2015	31-Jul-2016
Kentucky	96 2016-2017	30-Apr-2017
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R193 2016-2017	30-Apr-2017
Oklahoma	2015-047	31-Aug-2016
Texas	TX104704231-16-17	30-Apr-2017

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060643

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16060643-01	GP-16-1-2-060616	Login	6/10/2016 7:05:02 PM	PMG	1D
HS16060643-01	GP-16-1-2-060616	Login	6/10/2016 7:05:02 PM	PMG	VW-2
HS16060643-01	GP-16-1-2-060616	Login	6/10/2016 7:05:02 PM	PMG	BTEX A1
HS16060643-01	GP-16-1-2-060616	Login	6/10/2016 7:05:02 PM	PMG	1D
HS16060643-02	GP-16-1-11-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-02	GP-16-1-11-060616	Login	6/10/2016 7:10:57 PM	PMG	VW-2
HS16060643-02	GP-16-1-11-060616	Login	6/10/2016 7:10:57 PM	PMG	BTEX A1
HS16060643-02	GP-16-1-11-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-03	GP-16-2-1-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-03	GP-16-2-1-060616	Login	6/10/2016 7:10:57 PM	PMG	VW-2
HS16060643-03	GP-16-2-1-060616	Login	6/10/2016 7:10:57 PM	PMG	BTEX A1
HS16060643-03	GP-16-2-1-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-04	GP-16-2-9-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-04	GP-16-2-9-060616	Login	6/10/2016 7:10:57 PM	PMG	VW-2
HS16060643-04	GP-16-2-9-060616	Login	6/10/2016 7:10:57 PM	PMG	BTEX A1
HS16060643-04	GP-16-2-9-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-05	GP-16-3-2-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-05	GP-16-3-2-060616	Login	6/10/2016 7:10:57 PM	PMG	VW-2
HS16060643-05	GP-16-3-2-060616	Login	6/10/2016 7:10:57 PM	PMG	BTEX A1
HS16060643-05	GP-16-3-2-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-06	GP-16-3-13-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-06	GP-16-3-13-060616	Login	6/10/2016 7:10:57 PM	PMG	VW-2
HS16060643-06	GP-16-3-13-060616	Login	6/10/2016 7:10:57 PM	PMG	BTEX A1
HS16060643-06	GP-16-3-13-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-07	GP-16-3-18-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-07	GP-16-3-18-060616	Login	6/10/2016 7:10:57 PM	PMG	VW-2
HS16060643-07	GP-16-3-18-060616	Login	6/10/2016 7:10:57 PM	PMG	BTEX A1
HS16060643-07	GP-16-3-18-060616	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-08	GP-16-7-3-060816	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-08	GP-16-7-3-060816	Login	6/10/2016 7:10:57 PM	PMG	VW-2
HS16060643-08	GP-16-7-3-060816	Login	6/10/2016 7:10:57 PM	PMG	BTEX A1
HS16060643-08	GP-16-7-3-060816	Login	6/10/2016 7:10:57 PM	PMG	1D
HS16060643-01	GP-16-1-2-060616	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060643-02	GP-16-1-11-060616	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060643-03	GP-16-2-1-060616	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060643-04	GP-16-2-9-060616	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060643-05	GP-16-3-2-060616	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060643-06	GP-16-3-13-060616	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060643-07	GP-16-3-18-060616	Out	6/22/2016 8:55:01 AM	JCJ	METPREP
HS16060643-08	GP-16-7-3-060816	Out	6/22/2016 8:55:01 AM	JCJ	METPREP

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060643

SAMPLE TRACKING

HS16060643-01	GP-16-1-2-060616	Return	6/22/2016 8:55:17 AM	JCJ	1D
HS16060643-02	GP-16-1-11-060616	Return	6/22/2016 8:55:17 AM	JCJ	1D
HS16060643-03	GP-16-2-1-060616	Return	6/22/2016 8:55:17 AM	JCJ	1D
HS16060643-04	GP-16-2-9-060616	Return	6/22/2016 8:55:17 AM	JCJ	1D
HS16060643-05	GP-16-3-2-060616	Return	6/22/2016 8:55:17 AM	JCJ	1D
HS16060643-06	GP-16-3-13-060616	Return	6/22/2016 8:55:17 AM	JCJ	1D
HS16060643-07	GP-16-3-18-060616	Return	6/22/2016 8:55:17 AM	JCJ	1D
HS16060643-08	GP-16-7-3-060816	Return	6/22/2016 8:55:17 AM	JCJ	1D

Sample Receipt Checklist

Client Name: Kinder Morgan
Work Order: HS16060643

Date/Time Received: **10-Jun-2016 08:58**
Received by: **NDR**

Checklist completed by: Paresh M. Giga 10-Jun-2016 Reviewed by: Sonia West 15-Jun-2016
eSignature Date eSignature Date

Matrices: **Soil/Water**Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
TX1005 solids received in hermetically sealed vials?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Temperature(s)/Thermometer(s): 2.8c/3.4c U/c IR5

Cooler(s)/Kit(s): 24548

Date/Time sample(s) sent to storage: 6/10/16 19:30

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: Trip Blank logged in on hold

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments: Corrective Action:



Environmental

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Everett, WA
+1 425 356 2600

Fort Collins, CO
+1 970 490 1511

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 142448

HS16060643

Kinder Morgan

McElmo Dome + Doe Canyon



n, WV

8

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Customer Information				ALS Project Manager:				Project Information											
Purchase Order				Project Name	McElmo Dome + Doe Canyon			A	BTEX 8260										
Work Order				Project Number				B	TPH GRO 8015										
Company Name	Kinder Morgan			Bill To Company	Kinder Morgan			C	TPH DRO 8015										
Send Report To	Aaron Hale			Invoice Attn				D	PAH 8270										
Address	1001 Louisiana Street Suite 740D			Address	1001 Louisiana Street Suite 740D			E	SAR & EC										
City/State/Zip	Houston			City/State/Zip	Houston			F	pH										
Phone				Phone	(713) 369-9193			G	Metals 6020 & Mercury 7471										
Fax				Fax	(713) 495-2835			H	Cr+6 & Cr+3										
e-Mail Address	aaron_hale@kindermorgan.com			e-Mail Address				I	Moisture										
								J											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	GP-16-1-2-060616	060616	1220	soil	N/A	3	X	X	X	X	X	X	X	X					
2	GP-16-1-11-060616	060616	1310	soil	N/A	3	X	X	X	X	X	X	X	X					
3	GP-16-2-1-060616	060616	1430	soil	N/A	3	X	X	X	X	X	X	X	X					
4	GP-16-2-9-060616	060616	1505	soil	N/A	3	X	X	X	X	X	X	X	X					
5	GP-16-3-2-060616	060616	1605	soil	N/A	3	X	X	X	X	X	X	X	X					
6	GP-16-3-13-060616	060616	1620	soil	N/A	3	X	X	X	X	X	X	X	X					
7	GP-16-3-18-060616	060616	1650	soil	N/A	3	X	X	X	X	X	X	X	X					
8	GP-16-7-3-060816	060816	1430	soil	N/A	3	X	X	X	X	X	X	X	X					
9																			
10																			

Sampler(s) Please Print & Sign
H. Stoller

Shipment Method

Required Turnaround Time: (Check Box)
☒ Std 10 WK days
☐ 5 WK Days
☐ 2 WK Days
☐ 24 Hour

Results Due Date:

Relinquished by: _____ Date: _____ Time: _____

Received by: _____

Relinquished by: _____ Date: _____ Time: _____

Received by (Laboratory): _____

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

Checked by (Laboratory): _____


Notes: Soil Samples

Cooler ID: 24548 Cooler Temp: 2.3

QC Package: (Check One Box Below)
☒ Level 2 Std QC
☐ Level 3 Std QC/Row da
☐ Level 4 SW846/CLP
☐ Other/EDD

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

- ote: 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 herein.
 3. The Chain of Custody is a legal document.

 ALS Environmental 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <u>SM</u>
	Date: _____	Time: _____	Date: <u>06/10/16</u>
	Name: _____	_____	_____
	Company: _____	_____	_____

24548 JUN 10 2016

FedEx	24548	FRI - 10 JUN 10:30A
6786 7198 1869		PRIORITY OVERNIGHT
XH SGRA		77099
		TX-US IAH
		
<small>11 5182495 09JUN16 DHOA 53902/30/0/6A08</small>		



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June 24, 2016

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

Work Order: **HS16060646**

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

Dear Aaron,

ALS Environmental received 8 sample(s) on Jun 10, 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,

A handwritten signature in cursive script that reads "Sonia West".

Generated By: Dayna.Fisher
Sonia West
Project Manager

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060646

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16060646-01	GP-16-6-3-060816	Soil		08-Jun-2016 15:20	10-Jun-2016 19:16	<input type="checkbox"/>
HS16060646-02	GP-16-6-8-060816	Soil		08-Jun-2016 15:40	10-Jun-2016 19:16	<input type="checkbox"/>
HS16060646-03	GP-16-6-9-060816	Soil		08-Jun-2016 15:50	10-Jun-2016 19:16	<input type="checkbox"/>
HS16060646-04	GP-16-6-13-060816	Soil		08-Jun-2016 16:10	10-Jun-2016 19:16	<input type="checkbox"/>
HS16060646-05	GP-16-5-3-060816	Soil		08-Jun-2016 16:20	10-Jun-2016 19:16	<input type="checkbox"/>
HS16060646-06	GP-16-5-4-060816	Soil		08-Jun-2016 16:30	10-Jun-2016 19:16	<input type="checkbox"/>
HS16060646-07	GP-16-5-13-060816	Soil		08-Jun-2016 17:20	10-Jun-2016 19:16	<input type="checkbox"/>
HS16060646-08	Trip blank - VBLKW-053116-06	Water		08-Jun-2016 00:00	10-Jun-2016 19:16	<input checked="" type="checkbox"/>

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060646

CASE NARRATIVE

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: 105424**

Sample ID: **GP-16-5-13-060816 (HS16060646-07MSD)**

- The matrix spike duplicate recovery was outside of the control limit. However, the matrix spike recovery and the RPD between the MS and MSD was in control.

Sample ID: **GP-16-6-9-060816 (HS16060646-03)**

- The surrogate recoveries could not be determined due to dilution below the calibration range.

Batch ID: 105422

Sample ID: **GP-16-6-8-060816 (HS16060646-02)**

- Due to sample matrix interferences, the surrogate recovery was outside of the established control limits.

GC Volatiles by Method SW8015**Batch ID: R276337,R276423**

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

GCMS Semivolatiles by Method SW8270**Batch ID: 105358**

Sample ID: **HS16060642-09**

- MS and MSD are for an unrelated sample

GCMS Volatiles by Method SW8260**Batch ID: R276168**

Sample ID: **GP-16-6-8-060816 (HS16060646-02), GP-16-6-9-060816 (HS16060646-03)**

- Dibromofluoromethane failure for HS16060646-02, 03 confirmed by reanalysis as matrix effect.

Sample ID: **GP-16-6-3-060816 (HS16060646-01)**

- The MS and/or MSD recovery was below the lower control limit.

Metals by Method SW7471A**Batch ID: 105592**

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

Metals by Method Calculation**Batch ID: R276931**

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

Metals by Method La29B SAR**Batch ID: 105433A**

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060646

CASE NARRATIVE

Metals by Method La29B-6020**Batch ID: 105433**

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

Metals by Method SW6020**Batch ID: 105430**

- Sample ID: **HS16060643-01**
- MS and MSD are for an unrelated sample

Batch ID: 105351

- Sample ID: **GP-16-5-4-060816 (HS16060646-06)**
Sample ID: **GP-16-6-8-060816 (HS16060646-02)**
- Sample ran at a 2x due to internal standard 72 one (Silver) failure at a 1x.
- Sample ID: **GP-16-6-9-060816 (HS16060646-03)**
- Sample ran at a 5x due to internal standard failures at a 1x.
- Sample ID: **HS16060643-01**
- MS/MSD and DUPs are for an unrelated sample

WetChemistry by Method LaDNR-29B SP**Batch ID: R276612**

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

WetChemistry by Method LaDNR-29B EC**Batch ID: R276732**

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

WetChemistry by Method SW9045B**Batch ID: R276224**

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

WetChemistry by Method SW7196**Batch ID: 105560**

- 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: GP-16-6-3-060816
 Collection Date: 08-Jun-2016 15:20

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-01
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Acenaphthylene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Anthracene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Benz(a)anthracene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Benzo(a)pyrene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Benzo(b)fluoranthene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Benzo(g,h,i)perylene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Benzo(k)fluoranthene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Chrysene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Dibenz(a,h)anthracene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Fluoranthene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Fluorene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Indeno(1,2,3-cd)pyrene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Naphthalene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Phenanthrene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
Pyrene	ND		3.3	ug/Kg	1	21-Jun-2016 17:29
<i>Surr: 2-Fluorobiphenyl</i>	76.8		43-125	%REC	1	21-Jun-2016 17:29
<i>Surr: 4-Terphenyl-d14</i>	88.5		32-125	%REC	1	21-Jun-2016 17:29
<i>Surr: Nitrobenzene-d5</i>	54.6		37-125	%REC	1	21-Jun-2016 17:29
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	3.04		1.46	mg/Kg	1	15-Jun-2016 21:14
Barium	209		4.86	mg/Kg	10	16-Jun-2016 12:36
Boron	5.02		2.43	mg/Kg	1	16-Jun-2016 15:03
Cadmium	ND		0.486	mg/Kg	1	15-Jun-2016 21:14
Chromium	5.59		0.486	mg/Kg	1	15-Jun-2016 21:14
Copper	6.54		0.195	mg/Kg	1	15-Jun-2016 21:14
Lead	6.83		0.486	mg/Kg	1	15-Jun-2016 21:14
Nickel	7.34		0.486	mg/Kg	1	15-Jun-2016 21:14
Selenium	ND		0.486	mg/Kg	1	15-Jun-2016 21:14
Silver	ND		0.486	mg/Kg	1	15-Jun-2016 21:14
Zinc	23.4		0.479	mg/Kg	1	17-Jun-2016 16:18

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-6-3-060816
 Collection Date: 08-Jun-2016 15:20

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-01
 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	13-Jun-2016 11:22
Ethylbenzene	ND		4.8	ug/Kg	1	13-Jun-2016 11:22
m,p-Xylene	ND		9.7	ug/Kg	1	13-Jun-2016 11:22
o-Xylene	ND		4.8	ug/Kg	1	13-Jun-2016 11:22
Toluene	ND		4.8	ug/Kg	1	13-Jun-2016 11:22
Xylenes, Total	ND		9.7	ug/Kg	1	13-Jun-2016 11:22
Surr: 1,2-Dichloroethane-d4	84.6		70-128	%REC	1	13-Jun-2016 11:22
Surr: 4-Bromofluorobenzene	87.6		73-126	%REC	1	13-Jun-2016 11:22
Surr: Dibromofluoromethane	95.0		71-128	%REC	1	13-Jun-2016 11:22
Surr: Toluene-d8	97.4		73-127	%REC	1	13-Jun-2016 11:22
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	141		4.99	mg/L	10	20-Jun-2016 16:44
Magnesium	29.3		4.99	mg/L	10	20-Jun-2016 16:44
Sodium	227		4.99	mg/L	10	20-Jun-2016 16:44
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	5.59		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	4.81		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	2.56		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.534		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 16:04
Surr: 4-Bromofluorobenzene	94.4		70-130	%REC	1	14-Jun-2016 16:04
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	13.3		3.58	ug/Kg	1	22-Jun-2016 17:45
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.53	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.0	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.534		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	4.54		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-6-3-060816
Collection Date: 08-Jun-2016 15:20

ANALYTICAL REPORT

WorkOrder:HS16060646
Lab ID:HS16060646-01
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	17-Jun-2016 05:35
Surr: 2-Fluorobiphenyl	82.3		60-135	%REC	1	17-Jun-2016 05:35

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-6-8-060816
 Collection Date: 08-Jun-2016 15:40

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-02
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Acenaphthylene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Benz(a)anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Benzo(a)pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Benzo(b)fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Benzo(g,h,i)perylene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Benzo(k)fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Chrysene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Dibenz(a,h)anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Fluorene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Indeno(1,2,3-cd)pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Naphthalene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Phenanthrene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 17:49
Surr: 2-Fluorobiphenyl	86.7		43-125	%REC	1	21-Jun-2016 17:49
Surr: 4-Terphenyl-d14	117		32-125	%REC	1	21-Jun-2016 17:49
Surr: Nitrobenzene-d5	87.1		37-125	%REC	1	21-Jun-2016 17:49
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	4.13		1.49	mg/Kg	1	15-Jun-2016 21:19
Barium	102		0.496	mg/Kg	1	15-Jun-2016 21:19
Boron	16.8		4.96	mg/Kg	2	16-Jun-2016 13:32
Cadmium	ND		0.496	mg/Kg	1	15-Jun-2016 21:19
Chromium	7.20		0.496	mg/Kg	1	15-Jun-2016 21:19
Copper	5.61		0.199	mg/Kg	1	15-Jun-2016 21:19
Lead	7.29		0.496	mg/Kg	1	15-Jun-2016 21:19
Nickel	5.29		0.496	mg/Kg	1	15-Jun-2016 21:19
Selenium	ND		0.496	mg/Kg	1	15-Jun-2016 21:19
Silver	ND		0.993	mg/Kg	2	16-Jun-2016 13:32
Zinc	31.0		0.482	mg/Kg	1	17-Jun-2016 16:22

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-6-8-060816
 Collection Date: 08-Jun-2016 15:40

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-02
 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	13-Jun-2016 09:30
Ethylbenzene	ND		5.0	ug/Kg	1	13-Jun-2016 09:30
m,p-Xylene	ND		10	ug/Kg	1	13-Jun-2016 09:30
o-Xylene	ND		5.0	ug/Kg	1	13-Jun-2016 09:30
Toluene	ND		5.0	ug/Kg	1	13-Jun-2016 09:30
Xylenes, Total	ND		10	ug/Kg	1	13-Jun-2016 09:30
Surr: 1,2-Dichloroethane-d4	81.9		70-128	%REC	1	13-Jun-2016 09:30
Surr: 4-Bromofluorobenzene	98.5		73-126	%REC	1	13-Jun-2016 09:30
Surr: Dibromofluoromethane	5.51	S	71-128	%REC	1	13-Jun-2016 09:30
Surr: Toluene-d8	96.5		73-127	%REC	1	13-Jun-2016 09:30
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	481		5.00	mg/L	10	20-Jun-2016 16:46
Magnesium	ND		5.00	mg/L	10	20-Jun-2016 16:46
Sodium	253		5.00	mg/L	10	20-Jun-2016 16:46
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.96	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	7.20		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	16.8		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	10.7		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.641		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	1.4		0.050	mg/Kg	1	14-Jun-2016 16:20
Surr: 4-Bromofluorobenzene	105		70-130	%REC	1	14-Jun-2016 16:20
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	7.55		3.58	ug/Kg	1	22-Jun-2016 17:47
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	12.3	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	23.9	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.641		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	3.18		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-6-8-060816
Collection Date: 08-Jun-2016 15:40

ANALYTICAL REPORT

WorkOrder:HS16060646
Lab ID:HS16060646-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	940		34	mg/Kg	10	24-Jun-2016 07:07
Surr: 2-Fluorobiphenyl	431	S	60-135	%REC	10	24-Jun-2016 07:07

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-6-9-060816
 Collection Date: 08-Jun-2016 15:50

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-03
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Acenaphthylene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Benz(a)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Benzo(a)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Benzo(b)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Benzo(g,h,i)perylene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Benzo(k)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Chrysene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Dibenz(a,h)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Fluorene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Indeno(1,2,3-cd)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Naphthalene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Phenanthrene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
Pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 18:08
<i>Surr: 2-Fluorobiphenyl</i>	96.2		43-125	%REC	1	21-Jun-2016 18:08
<i>Surr: 4-Terphenyl-d14</i>	93.5		32-125	%REC	1	21-Jun-2016 18:08
<i>Surr: Nitrobenzene-d5</i>	73.6		37-125	%REC	1	21-Jun-2016 18:08
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	ND		7.26	mg/Kg	5	16-Jun-2016 13:15
Barium	108		2.42	mg/Kg	5	16-Jun-2016 13:15
Boron	ND		12.1	mg/Kg	5	16-Jun-2016 13:15
Cadmium	ND		2.42	mg/Kg	5	16-Jun-2016 13:15
Chromium	9.45		2.42	mg/Kg	5	16-Jun-2016 13:15
Copper	7.84		0.968	mg/Kg	5	16-Jun-2016 13:15
Lead	6.60		2.42	mg/Kg	5	16-Jun-2016 13:15
Nickel	7.10		2.42	mg/Kg	5	16-Jun-2016 13:15
Selenium	ND		2.42	mg/Kg	5	16-Jun-2016 13:15
Silver	ND		2.42	mg/Kg	5	16-Jun-2016 13:15
Zinc	34.5		0.470	mg/Kg	1	17-Jun-2016 16:27

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-6-9-060816
 Collection Date: 08-Jun-2016 15:50

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-03
 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	13-Jun-2016 11:50
Ethylbenzene	ND		5.0	ug/Kg	1	13-Jun-2016 11:50
m,p-Xylene	ND		10	ug/Kg	1	13-Jun-2016 11:50
o-Xylene	ND		5.0	ug/Kg	1	13-Jun-2016 11:50
Toluene	ND		5.0	ug/Kg	1	13-Jun-2016 11:50
Xylenes, Total	ND		10	ug/Kg	1	13-Jun-2016 11:50
Surr: 1,2-Dichloroethane-d4	83.5		70-128	%REC	1	13-Jun-2016 11:50
Surr: 4-Bromofluorobenzene	97.9		73-126	%REC	1	13-Jun-2016 11:50
Surr: Dibromofluoromethane	8.17	S	71-128	%REC	1	13-Jun-2016 11:50
Surr: Toluene-d8	98.0		73-127	%REC	1	13-Jun-2016 11:50
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	896		8.32	mg/L	10	20-Jun-2016 16:49
Magnesium	ND		8.32	mg/L	10	20-Jun-2016 16:49
Sodium	396		8.32	mg/L	10	20-Jun-2016 16:49
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.98	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	9.45		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	12.3		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	8.95		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.728		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	1.1		0.050	mg/Kg	1	14-Jun-2016 16:36
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	14-Jun-2016 16:36
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	8.02		3.60	ug/Kg	1	22-Jun-2016 17:48
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	12.3	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.0	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.728		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	3.64		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-6-9-060816
Collection Date: 08-Jun-2016 15:50

ANALYTICAL REPORT

WorkOrder:HS16060646
Lab ID:HS16060646-03
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	1,200		170	mg/Kg	100	24-Jun-2016 02:42
Surr: 2-Fluorobiphenyl	0	JS	60-135	%REC	100	24-Jun-2016 02:42

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-6-13-060816
 Collection Date: 08-Jun-2016 16:10

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-04
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Acenaphthylene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Benz(a)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Benzo(a)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Benzo(b)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Benzo(g,h,i)perylene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Benzo(k)fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Chrysene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Dibenz(a,h)anthracene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Fluoranthene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Fluorene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Indeno(1,2,3-cd)pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Naphthalene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Phenanthrene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
Pyrene	ND		6.5	ug/Kg	1	21-Jun-2016 18:27
<i>Surr: 2-Fluorobiphenyl</i>	81.3		43-125	%REC	1	21-Jun-2016 18:27
<i>Surr: 4-Terphenyl-d14</i>	89.9		32-125	%REC	1	21-Jun-2016 18:27
<i>Surr: Nitrobenzene-d5</i>	83.5		37-125	%REC	1	21-Jun-2016 18:27
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	5.09		1.49	mg/Kg	1	15-Jun-2016 21:28
Barium	313		4.96	mg/Kg	10	16-Jun-2016 12:40
Boron	2.74		2.48	mg/Kg	1	16-Jun-2016 15:07
Cadmium	ND		0.496	mg/Kg	1	15-Jun-2016 21:28
Chromium	2.04		0.496	mg/Kg	1	15-Jun-2016 21:28
Copper	2.99		0.198	mg/Kg	1	15-Jun-2016 21:28
Lead	4.18		0.496	mg/Kg	1	15-Jun-2016 21:28
Nickel	5.27		0.496	mg/Kg	1	15-Jun-2016 21:28
Selenium	ND		0.496	mg/Kg	1	15-Jun-2016 21:28
Silver	ND		0.496	mg/Kg	1	15-Jun-2016 21:28
Zinc	13.3		0.453	mg/Kg	1	17-Jun-2016 16:31

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-6-13-060816
 Collection Date: 08-Jun-2016 16:10

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-04
 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	13-Jun-2016 12:18
Ethylbenzene	ND		5.0	ug/Kg	1	13-Jun-2016 12:18
m,p-Xylene	ND		10	ug/Kg	1	13-Jun-2016 12:18
o-Xylene	ND		5.0	ug/Kg	1	13-Jun-2016 12:18
Toluene	ND		5.0	ug/Kg	1	13-Jun-2016 12:18
Xylenes, Total	ND		10	ug/Kg	1	13-Jun-2016 12:18
Surr: 1,2-Dichloroethane-d4	85.8		70-128	%REC	1	13-Jun-2016 12:18
Surr: 4-Bromofluorobenzene	97.8		73-126	%REC	1	13-Jun-2016 12:18
Surr: Dibromofluoromethane	75.5		71-128	%REC	1	13-Jun-2016 12:18
Surr: Toluene-d8	95.7		73-127	%REC	1	13-Jun-2016 12:18
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	20.8		5.00	mg/L	10	20-Jun-2016 16:52
Magnesium	ND		5.00	mg/L	10	20-Jun-2016 16:52
Sodium	28.1		5.00	mg/L	10	20-Jun-2016 16:52
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.98	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	ND		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.865		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	0.330		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.381		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	0.067		0.050	mg/Kg	1	14-Jun-2016 16:52
Surr: 4-Bromofluorobenzene	89.9		70-130	%REC	1	14-Jun-2016 16:52
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	6.92		3.59	ug/Kg	1	22-Jun-2016 17:50
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	9.43	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.0	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.381		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	1.70		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-6-13-060816
Collection Date: 08-Jun-2016 16:10

ANALYTICAL REPORT

WorkOrder:HS16060646
Lab ID:HS16060646-04
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C	Method:SW8015M			Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	4.3		1.7	mg/Kg	1	17-Jun-2016 04:23
Surr: 2-Fluorobiphenyl	68.2		60-135	%REC	1	17-Jun-2016 04:23

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-5-3-060816
 Collection Date: 08-Jun-2016 16:20

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-05
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Acenaphthylene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Anthracene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Benz(a)anthracene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Benzo(a)pyrene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Benzo(b)fluoranthene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Benzo(g,h,i)perylene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Benzo(k)fluoranthene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Chrysene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Dibenz(a,h)anthracene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Fluoranthene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Fluorene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Indeno(1,2,3-cd)pyrene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Naphthalene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Phenanthrene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
Pyrene	ND		3.3	ug/Kg	1	22-Jun-2016 13:40
<i>Surr: 2-Fluorobiphenyl</i>	85.4		43-125	%REC	1	22-Jun-2016 13:40
<i>Surr: 4-Terphenyl-d14</i>	86.6		32-125	%REC	1	22-Jun-2016 13:40
<i>Surr: Nitrobenzene-d5</i>	81.1		37-125	%REC	1	22-Jun-2016 13:40
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	3.58		1.46	mg/Kg	1	15-Jun-2016 21:33
Barium	205		4.88	mg/Kg	10	16-Jun-2016 12:44
Boron	5.30		2.44	mg/Kg	1	16-Jun-2016 15:11
Cadmium	ND		0.488	mg/Kg	1	15-Jun-2016 21:33
Chromium	6.84		0.488	mg/Kg	1	15-Jun-2016 21:33
Copper	7.99		0.195	mg/Kg	1	15-Jun-2016 21:33
Lead	8.40		0.488	mg/Kg	1	15-Jun-2016 21:33
Nickel	8.80		0.488	mg/Kg	1	15-Jun-2016 21:33
Selenium	ND		0.488	mg/Kg	1	15-Jun-2016 21:33
Silver	ND		0.488	mg/Kg	1	15-Jun-2016 21:33
Zinc	24.8		0.460	mg/Kg	1	17-Jun-2016 16:36

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-5-3-060816
 Collection Date: 08-Jun-2016 16:20

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-05
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES BY SW8260C		Method:SW8260		Analyst: WLR		
Benzene	ND		4.7	ug/Kg	1	13-Jun-2016 12:47
Ethylbenzene	ND		4.7	ug/Kg	1	13-Jun-2016 12:47
m,p-Xylene	ND		9.4	ug/Kg	1	13-Jun-2016 12:47
o-Xylene	ND		4.7	ug/Kg	1	13-Jun-2016 12:47
Toluene	ND		4.7	ug/Kg	1	13-Jun-2016 12:47
Xylenes, Total	ND		9.4	ug/Kg	1	13-Jun-2016 12:47
Surr: 1,2-Dichloroethane-d4	87.6		70-128	%REC	1	13-Jun-2016 12:47
Surr: 4-Bromofluorobenzene	91.1		73-126	%REC	1	13-Jun-2016 12:47
Surr: Dibromofluoromethane	94.3		71-128	%REC	1	13-Jun-2016 12:47
Surr: Toluene-d8	96.8		73-127	%REC	1	13-Jun-2016 12:47
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	74.5		4.99	mg/L	10	20-Jun-2016 17:01
Magnesium	12.7		4.99	mg/L	10	20-Jun-2016 17:01
Sodium	65.5		4.99	mg/L	10	20-Jun-2016 17:01
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.98	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	6.84		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	1.83		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	0.929		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.508		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 17:08
Surr: 4-Bromofluorobenzene	89.1		70-130	%REC	1	14-Jun-2016 17:08
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	13.7		3.54	ug/Kg	1	22-Jun-2016 17:52
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.55	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.1	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.508		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	1.85		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-5-3-060816
Collection Date: 08-Jun-2016 16:20

ANALYTICAL REPORT

WorkOrder:HS16060646
Lab ID:HS16060646-05
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		1.7	mg/Kg	1	17-Jun-2016 04:47
Surr: 2-Fluorobiphenyl	69.3		60-135	%REC	1	17-Jun-2016 04:47

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-5-4-060816
 Collection Date: 08-Jun-2016 16:30

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-06
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Acenaphthylene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Benz(a)anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Benzo(a)pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Benzo(b)fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Benzo(g,h,i)perylene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Benzo(k)fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Chrysene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Dibenz(a,h)anthracene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Fluoranthene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Fluorene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Indeno(1,2,3-cd)pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Naphthalene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Phenanthrene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
Pyrene	ND		9.8	ug/Kg	1	21-Jun-2016 19:06
<i>Surr: 2-Fluorobiphenyl</i>	64.8		43-125	%REC	1	21-Jun-2016 19:06
<i>Surr: 4-Terphenyl-d14</i>	84.2		32-125	%REC	1	21-Jun-2016 19:06
<i>Surr: Nitrobenzene-d5</i>	81.9		37-125	%REC	1	21-Jun-2016 19:06
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	2.57		1.49	mg/Kg	1	15-Jun-2016 21:38
Barium	133		0.495	mg/Kg	1	15-Jun-2016 21:38
Boron	4.36		2.48	mg/Kg	1	16-Jun-2016 15:20
Cadmium	ND		0.495	mg/Kg	1	15-Jun-2016 21:38
Chromium	3.99		0.495	mg/Kg	1	15-Jun-2016 21:38
Copper	3.58		0.198	mg/Kg	1	15-Jun-2016 21:38
Lead	5.26		0.495	mg/Kg	1	15-Jun-2016 21:38
Nickel	5.43		0.495	mg/Kg	1	15-Jun-2016 21:38
Selenium	ND		0.495	mg/Kg	1	15-Jun-2016 21:38
Silver	ND		0.991	mg/Kg	2	16-Jun-2016 13:37
Zinc	16.9		0.452	mg/Kg	1	17-Jun-2016 16:40

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-5-4-060816
 Collection Date: 08-Jun-2016 16:30

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-06
 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	13-Jun-2016 13:15
Ethylbenzene	ND		4.8	ug/Kg	1	13-Jun-2016 13:15
m,p-Xylene	ND		9.7	ug/Kg	1	13-Jun-2016 13:15
o-Xylene	ND		4.8	ug/Kg	1	13-Jun-2016 13:15
Toluene	ND		4.8	ug/Kg	1	13-Jun-2016 13:15
Xylenes, Total	ND		9.7	ug/Kg	1	13-Jun-2016 13:15
Surr: 1,2-Dichloroethane-d4	81.3		70-128	%REC	1	13-Jun-2016 13:15
Surr: 4-Bromofluorobenzene	87.6		73-126	%REC	1	13-Jun-2016 13:15
Surr: Dibromofluoromethane	95.0		71-128	%REC	1	13-Jun-2016 13:15
Surr: Toluene-d8	97.9		73-127	%REC	1	13-Jun-2016 13:15
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	40.5		5.00	mg/L	10	20-Jun-2016 17:04
Magnesium	6.95		5.00	mg/L	10	20-Jun-2016 17:04
Sodium	55.6		5.00	mg/L	10	20-Jun-2016 17:04
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.99	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	ND		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	1.16		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	0.611		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.526		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	14-Jun-2016 17:24
Surr: 4-Bromofluorobenzene	92.5		70-130	%REC	1	14-Jun-2016 17:24
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	11.9		3.50	ug/Kg	1	22-Jun-2016 17:53
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.43	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.0	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.526		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	2.12		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-5-4-060816
Collection Date: 08-Jun-2016 16:30

ANALYTICAL REPORT

WorkOrder:HS16060646
Lab ID:HS16060646-06
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		5.0	mg/Kg	1	17-Jun-2016 05:11
Surr: 2-Fluorobiphenyl	68.0		60-135	%REC	1	17-Jun-2016 05:11

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-5-13-060816
 Collection Date: 08-Jun-2016 17:20

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-07
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL PAHS		Method:SW8270		Prep:SW3541 / 14-Jun-2016		Analyst: LG
Acenaphthene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Acenaphthylene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Anthracene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Benz(a)anthracene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Benzo(a)pyrene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Benzo(b)fluoranthene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Benzo(g,h,i)perylene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Benzo(k)fluoranthene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Chrysene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Dibenz(a,h)anthracene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Fluoranthene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Fluorene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Indeno(1,2,3-cd)pyrene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Naphthalene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Phenanthrene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
Pyrene	ND		9.9	ug/Kg	1	21-Jun-2016 19:26
<i>Surr: 2-Fluorobiphenyl</i>	78.3		43-125	%REC	1	21-Jun-2016 19:26
<i>Surr: 4-Terphenyl-d14</i>	83.3		32-125	%REC	1	21-Jun-2016 19:26
<i>Surr: Nitrobenzene-d5</i>	114		37-125	%REC	1	21-Jun-2016 19:26
METALS BY SW6020A		Method:SW6020		Prep:SW3050A / 14-Jun-2016		Analyst: JDE
Arsenic	4.14		1.47	mg/Kg	1	15-Jun-2016 21:43
Barium	287		4.91	mg/Kg	10	16-Jun-2016 12:49
Boron	2.65		2.46	mg/Kg	1	16-Jun-2016 15:16
Cadmium	ND		0.491	mg/Kg	1	15-Jun-2016 21:43
Chromium	1.56		0.491	mg/Kg	1	15-Jun-2016 21:43
Copper	2.21		0.197	mg/Kg	1	15-Jun-2016 21:43
Lead	3.82		0.491	mg/Kg	1	15-Jun-2016 21:43
Nickel	3.71		0.491	mg/Kg	1	15-Jun-2016 21:43
Selenium	ND		0.491	mg/Kg	1	15-Jun-2016 21:43
Silver	ND		0.491	mg/Kg	1	15-Jun-2016 21:43
Zinc	13.8		0.453	mg/Kg	1	17-Jun-2016 16:44

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

Client: Kinder Morgan
 Project: McElmo Dome + Doe Canyon
 Sample ID: GP-16-5-13-060816
 Collection Date: 08-Jun-2016 17:20

ANALYTICAL REPORT

WorkOrder:HS16060646
 Lab ID:HS16060646-07
 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	13-Jun-2016 13:43
Ethylbenzene	ND		4.8	ug/Kg	1	13-Jun-2016 13:43
m,p-Xylene	ND		9.7	ug/Kg	1	13-Jun-2016 13:43
o-Xylene	ND		4.8	ug/Kg	1	13-Jun-2016 13:43
Toluene	ND		4.8	ug/Kg	1	13-Jun-2016 13:43
Xylenes, Total	ND		9.7	ug/Kg	1	13-Jun-2016 13:43
Surr: 1,2-Dichloroethane-d4	85.3		70-128	%REC	1	13-Jun-2016 13:43
Surr: 4-Bromofluorobenzene	87.4		73-126	%REC	1	13-Jun-2016 13:43
Surr: Dibromofluoromethane	95.1		71-128	%REC	1	13-Jun-2016 13:43
Surr: Toluene-d8	99.3		73-127	%REC	1	13-Jun-2016 13:43
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR		Method:La29B-6020		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Calcium	17.9		5.00	mg/L	10	20-Jun-2016 17:07
Magnesium	ND		5.00	mg/L	10	20-Jun-2016 17:07
Sodium	11.5		5.00	mg/L	10	20-Jun-2016 17:07
HEXAVALENT CHROMIUM BY SW7196A		Method:SW7196		Prep:SW3060A / 22-Jun-2016 Analyst: JHD		
Chromium, Hexavalent	ND		1.98	mg/kg	1	23-Jun-2016 14:53
TRIVALENT CHROMIUM		Method:Calculation		Analyst: RPM		
Chromium, Trivalent	ND		5.00	mg/Kg	1	24-Jun-2016 09:23
LA29B ELECTRICAL CONDUCTIVITY		Method:LaDNR-29B EC		Analyst: KMU		
Electrical Conductivity @ saturation	0.521		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Electrical Conductivity, 1:1 aqueous	0.196		0.0100	mmhos/cm @25°C	1	21-Jun-2016 12:30
Saturation % as decimal	0.376		0	mmhos/cm @25°C	1	21-Jun-2016 12:30
GASOLINE RANGE ORGANICS BY SW8015C		Method:SW8015		Analyst: SFE		
Gasoline Range Organics	ND		0.050	mg/Kg	1	16-Jun-2016 03:25
Surr: 4-Bromofluorobenzene	88.9		70-130	%REC	1	16-Jun-2016 03:25
MERCURY BY SW7471B		Method:SW7471A		Prep:SW7471A / 22-Jun-2016 Analyst: JCJ		
Mercury	8.81		3.35	ug/Kg	1	22-Jun-2016 17:55
PH SOIL BY SW9045D		Method:SW9045B		Analyst: OFO		
pH	8.87	H	0.100	pH Units	1	13-Jun-2016 12:30
Temp Deg C @pH	24.0	H	0	°C	1	13-Jun-2016 12:30
LA29B SATURATION POINT (AS FRACTION)		Method:LaDNR-29B SP		Analyst: KAH		
Saturation Point	0.376		0.100	SP as fraction	1	17-Jun-2016 12:10
LA29B SODIUM ADSORPTION RATIO		Method:La29B SAR		Prep:La29B-6020 / 16-Jun-2016 Analyst: RPM		
Sodium Adsorption Ratio	0.749		0.0100	meq/meq	1	23-Jun-2016 11:22

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Sample ID: GP-16-5-13-060816
Collection Date: 08-Jun-2016 17:20

ANALYTICAL REPORT

WorkOrder:HS16060646
Lab ID:HS16060646-07
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3541 / 16-Jun-2016		Analyst: AAP
TPH (Diesel Range)	ND		5.1	mg/Kg	1	17-Jun-2016 05:35
Surr: 2-Fluorobiphenyl	84.4		60-135	%REC	1	17-Jun-2016 05:35

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

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

Batch ID: 1043 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS16060646-01	1	5.145 (g)	5 (mL)	0.97	Bulk (5030B)
HS16060646-02	1	5.013 (g)	5 (mL)	1	Bulk (5030B)
HS16060646-03	1	4.988 (g)	5 (mL)	1	Bulk (5030B)
HS16060646-04	1	4.992 (g)	5 (mL)	1	Bulk (5030B)
HS16060646-05	1	5.33 (g)	5 (mL)	0.94	Bulk (5030B)
HS16060646-06	1	5.166 (g)	5 (mL)	0.97	Bulk (5030B)
HS16060646-07	1	5.179 (g)	5 (mL)	0.97	Bulk (5030B)

Batch ID: 1045 **Method:** VOLATILES BY SW8260C

SampleID	Container	Sample Wt/Vol	Final Volume	Weight Factor	Container Type
HS16060646-02	1	4.998 (g)	5 (mL)	1	Bulk (5030B)
HS16060646-03	1	5.012 (g)	5 (mL)	1	Bulk (5030B)

Batch ID: 105351 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060646-01	1	0.5139	50 (mL)	97.3
HS16060646-02	1	0.5037	50 (mL)	99.27
HS16060646-03	1	0.5166	50 (mL)	96.79
HS16060646-04	1	0.5041	50 (mL)	99.19
HS16060646-05	1	0.5125	50 (mL)	97.56
HS16060646-06	1	0.5046	50 (mL)	99.09
HS16060646-07	1	0.5088	50 (mL)	98.27

Batch ID: 105358 **Method:** LOW-LEVEL PAHS **Prep:** 3541_B_LOW

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060646-01	1	30.05	1 (mL)	0.03328
HS16060646-02	1	10.14	1 (mL)	0.09862
HS16060646-03	1	15.14	1 (mL)	0.06605
HS16060646-04	1	15.16	1 (mL)	0.06596
HS16060646-05	1	30.14	1 (mL)	0.03318
HS16060646-06	1	10.12	1 (mL)	0.09881
HS16060646-07	1	10.04	1 (mL)	0.0996

Batch ID: 105422 **Method:** TPH DRO/ORO BY SW8015C **Prep:** 8015SPR_LL

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060646-01	1	30.12	1 (mL)	0.0332
HS16060646-02	1	15.11	1 (mL)	0.06618

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

Batch ID: 105424 **Method:** TPH DRO/ORO BY SW8015C **Prep:** 8015SPR_LL

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060646-03	1	30.11	1 (mL)	0.03321
HS16060646-04	1	30.06	1 (mL)	0.03327
HS16060646-05	1	30.13	1 (mL)	0.03319
HS16060646-06	1	10.1	1 (mL)	0.09901
HS16060646-07	1	10.08	1 (mL)	0.09921

Batch ID: 105430 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060646-01	1	0.5221	50 (mL)	95.77
HS16060646-02	1	0.5188	50 (mL)	96.38
HS16060646-03	1	0.5319	50 (mL)	94
HS16060646-04	1	0.5518	50 (mL)	90.61
HS16060646-05	1	0.5435	50 (mL)	92
HS16060646-06	1	0.5528	50 (mL)	90.45
HS16060646-07	1	0.5524	50 (mL)	90.51

Batch ID: 105433 **Method:** LA 29B - 1:1 SOLUBLE CATIONS FOR SAR **Prep:** LA29B SAR CATPR

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060646-01	1	80.1841	80 (mL)	0.9977
HS16060646-02	1	100.0511	100 (mL)	0.9995
HS16060646-03	1	60.1203	100 (mL)	1.663
HS16060646-04	1	80.0683	80 (mL)	0.9991
HS16060646-05	1	80.1312	80 (mL)	0.9984
HS16060646-06	1	80.0669	80 (mL)	0.9992
HS16060646-07	1	80.0427	80 (mL)	0.9995

Batch ID: 105560 **Method:** HEXAVALENT CHROMIUM BY SW7196A **Prep:** CR6_S_PR3060A

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060646-01	1	2.5188	100 (mL)	39.7
HS16060646-02	1	2.5485	100 (mL)	39.24
HS16060646-03	1	2.5287	100 (mL)	39.55
HS16060646-04	1	2.5284	100 (mL)	39.55
HS16060646-05	1	2.5243	100 (mL)	39.61
HS16060646-06	1	2.5066	100 (mL)	39.89
HS16060646-07	1	2.5189	100 (mL)	39.7

WEIGHT LOG

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

Batch ID: 105592 **Method:** MERCURY BY SW7471B **Prep:** HG_S_LOWPR

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS16060646-01	1	0.5578	40 (mL)	71.71
HS16060646-02	1	0.5565	40 (mL)	71.88
HS16060646-03	1	0.5536	40 (mL)	72.25
HS16060646-04	1	0.5551	40 (mL)	72.06
HS16060646-05	1	0.5642	40 (mL)	70.9
HS16060646-06	1	0.5702	40 (mL)	70.15
HS16060646-07	1	0.5947	40 (mL)	67.26

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 105351 Test Name : METALS BY SW6020A Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		14 Jun 2016 15:23	16 Jun 2016 15:03	1
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		14 Jun 2016 15:23	16 Jun 2016 12:36	10
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		14 Jun 2016 15:23	15 Jun 2016 21:14	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40		14 Jun 2016 15:23	16 Jun 2016 13:32	2
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40		14 Jun 2016 15:23	15 Jun 2016 21:19	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50		14 Jun 2016 15:23	16 Jun 2016 13:15	5
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		14 Jun 2016 15:23	16 Jun 2016 15:07	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		14 Jun 2016 15:23	16 Jun 2016 12:40	10
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		14 Jun 2016 15:23	15 Jun 2016 21:28	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		14 Jun 2016 15:23	16 Jun 2016 15:11	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		14 Jun 2016 15:23	16 Jun 2016 12:44	10
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		14 Jun 2016 15:23	15 Jun 2016 21:33	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		14 Jun 2016 15:23	16 Jun 2016 15:20	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		14 Jun 2016 15:23	16 Jun 2016 13:37	2
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		14 Jun 2016 15:23	15 Jun 2016 21:38	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		14 Jun 2016 15:23	16 Jun 2016 15:16	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		14 Jun 2016 15:23	16 Jun 2016 12:49	10
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		14 Jun 2016 15:23	15 Jun 2016 21:43	1
Batch ID 105358 Test Name : LOW-LEVEL PAHS Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		14 Jun 2016 15:17	21 Jun 2016 17:29	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40		14 Jun 2016 15:17	21 Jun 2016 17:49	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50		14 Jun 2016 15:17	21 Jun 2016 18:08	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		14 Jun 2016 15:17	21 Jun 2016 18:27	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		14 Jun 2016 15:17	22 Jun 2016 13:40	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		14 Jun 2016 15:17	21 Jun 2016 19:06	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		14 Jun 2016 15:17	21 Jun 2016 19:26	1
Batch ID 105422 Test Name : TPH DRO/ORO BY SW8015C Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		16 Jun 2016 09:42	17 Jun 2016 05:35	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40		16 Jun 2016 09:42	24 Jun 2016 07:07	10
Batch ID 105424 Test Name : TPH DRO/ORO BY SW8015C Matrix: Soil						
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50		16 Jun 2016 10:50	24 Jun 2016 02:42	100
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		16 Jun 2016 10:50	17 Jun 2016 04:23	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		16 Jun 2016 10:50	17 Jun 2016 04:47	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		16 Jun 2016 10:50	17 Jun 2016 05:11	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		16 Jun 2016 10:50	17 Jun 2016 05:35	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 105430 Test Name : METALS BY SW6020A Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		16 Jun 2016 13:30	17 Jun 2016 16:18	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40		16 Jun 2016 13:30	17 Jun 2016 16:22	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50		16 Jun 2016 13:30	17 Jun 2016 16:27	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		16 Jun 2016 13:30	17 Jun 2016 16:31	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		16 Jun 2016 13:30	17 Jun 2016 16:36	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		16 Jun 2016 13:30	17 Jun 2016 16:40	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		16 Jun 2016 13:30	17 Jun 2016 16:44	1
Batch ID 105433 Test Name : LA 29B - 1:1 SOLUBLE CATIONS FOR SAR Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		16 Jun 2016 12:56	20 Jun 2016 16:44	10
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40		16 Jun 2016 12:56	20 Jun 2016 16:46	10
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50		16 Jun 2016 12:56	20 Jun 2016 16:49	10
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		16 Jun 2016 12:56	20 Jun 2016 16:52	10
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		16 Jun 2016 12:56	20 Jun 2016 17:01	10
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		16 Jun 2016 12:56	20 Jun 2016 17:04	10
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		16 Jun 2016 12:56	20 Jun 2016 17:07	10
Batch ID 105433A Test Name : LA29B SODIUM ADSORPTION RATIO Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		16 Jun 2016 12:56	23 Jun 2016 11:22	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		16 Jun 2016 12:56	23 Jun 2016 11:22	1
Batch ID 105560 Test Name : HEXAVALENT CHROMIUM BY SW7196A Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		22 Jun 2016 14:49	23 Jun 2016 14:53	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		22 Jun 2016 14:49	23 Jun 2016 14:53	1
Batch ID 105592 Test Name : MERCURY BY SW7471B Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20		22 Jun 2016 10:43	22 Jun 2016 17:45	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40		22 Jun 2016 10:43	22 Jun 2016 17:47	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50		22 Jun 2016 10:43	22 Jun 2016 17:48	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10		22 Jun 2016 10:43	22 Jun 2016 17:50	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20		22 Jun 2016 10:43	22 Jun 2016 17:52	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30		22 Jun 2016 10:43	22 Jun 2016 17:53	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20		22 Jun 2016 10:43	22 Jun 2016 17:55	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R276168 Test Name : VOLATILES BY SW8260C Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20			13 Jun 2016 11:22	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40			13 Jun 2016 09:30	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50			13 Jun 2016 11:50	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10			13 Jun 2016 12:18	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20			13 Jun 2016 12:47	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30			13 Jun 2016 13:15	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20			13 Jun 2016 13:43	1
Batch ID R276224 Test Name : PH SOIL BY SW9045D Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20			13 Jun 2016 12:30	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40			13 Jun 2016 12:30	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50			13 Jun 2016 12:30	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10			13 Jun 2016 12:30	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20			13 Jun 2016 12:30	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30			13 Jun 2016 12:30	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20			13 Jun 2016 12:30	1
Batch ID R276337 Test Name : GASOLINE RANGE ORGANICS BY SW8015C Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20			14 Jun 2016 16:04	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40			14 Jun 2016 16:20	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50			14 Jun 2016 16:36	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10			14 Jun 2016 16:52	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20			14 Jun 2016 17:08	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30			14 Jun 2016 17:24	1
Batch ID R276423 Test Name : GASOLINE RANGE ORGANICS BY SW8015C Matrix: Soil						
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20			16 Jun 2016 03:25	1
Batch ID R276612 Test Name : LA29B SATURATION POINT (AS FRACTION) Matrix: Soil						
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20			17 Jun 2016 12:10	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40			17 Jun 2016 12:10	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50			17 Jun 2016 12:10	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10			17 Jun 2016 12:10	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20			17 Jun 2016 12:10	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30			17 Jun 2016 12:10	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20			17 Jun 2016 12:10	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R276732	Test Name : LA29B ELECTRICAL CONDUCTIVITY			Matrix: Soil		
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20			21 Jun 2016 12:30	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40			21 Jun 2016 12:30	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50			21 Jun 2016 12:30	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10			21 Jun 2016 12:30	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20			21 Jun 2016 12:30	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30			21 Jun 2016 12:30	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20			21 Jun 2016 12:30	1
Batch ID R276931	Test Name : TRIVALENT CHROMIUM			Matrix: Soil		
HS16060646-01	GP-16-6-3-060816	08 Jun 2016 15:20			24 Jun 2016 09:23	1
HS16060646-02	GP-16-6-8-060816	08 Jun 2016 15:40			24 Jun 2016 09:23	1
HS16060646-03	GP-16-6-9-060816	08 Jun 2016 15:50			24 Jun 2016 09:23	1
HS16060646-04	GP-16-6-13-060816	08 Jun 2016 16:10			24 Jun 2016 09:23	1
HS16060646-05	GP-16-5-3-060816	08 Jun 2016 16:20			24 Jun 2016 09:23	1
HS16060646-06	GP-16-5-4-060816	08 Jun 2016 16:30			24 Jun 2016 09:23	1
HS16060646-07	GP-16-5-13-060816	08 Jun 2016 17:20			24 Jun 2016 09:23	1

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105422		Instrument: FID-8		Method: SW8015M					
MBLK	Sample ID: MBLK-105422	Units: mg/Kg		Analysis Date: 16-Jun-2016 19:56					
Client ID:	Run ID: FID-8_276844	SeqNo: 3735266		PrepDate: 16-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	ND	1.7							
Surr: 2-Fluorobiphenyl	2.785	0.10	3.33	0	83.6	60 - 135			
LCS	Sample ID: LCS-105422	Units: mg/Kg		Analysis Date: 16-Jun-2016 20:20					
Client ID:	Run ID: FID-8_276844	SeqNo: 3735267		PrepDate: 16-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	31.52	1.7	33.33	0	94.6	70 - 130			
Surr: 2-Fluorobiphenyl	2.88	0.10	3.33	0	86.5	60 - 135			
MS	Sample ID: HS16060643-08MS	Units: mg/Kg		Analysis Date: 17-Jun-2016 04:47					
Client ID:	Run ID: FID-8_276844	SeqNo: 3735287		PrepDate: 16-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	105.1	5.1	99.1	3.859	102	70 - 130			
Surr: 2-Fluorobiphenyl	8.097	0.30	9.901	0	81.8	60 - 135			
MSD	Sample ID: HS16060643-08MSD	Units: mg/Kg		Analysis Date: 17-Jun-2016 05:11					
Client ID:	Run ID: FID-8_276844	SeqNo: 3735288		PrepDate: 16-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	91.22	5.1	99.2	3.859	88.1	70 - 130	105.1	14.1	30
Surr: 2-Fluorobiphenyl	7.379	0.30	9.911	0	74.5	60 - 135	8.097	9.29	30
The following samples were analyzed in this batch: HS16060646-01 HS16060646-02									

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105424		Instrument: FID-7		Method: SW8015M					
MBLK	Sample ID: MBLK-105424	Units: mg/Kg		Analysis Date: 17-Jun-2016 03:10					
Client ID:	Run ID: FID-7_276861		SeqNo: 3735557		PrepDate: 16-Jun-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	2.683	0.10	3.33	0	80.6	60 - 135			

LCS	Sample ID: LCS-105424	Units: mg/Kg		Analysis Date: 17-Jun-2016 03:34					
Client ID:	Run ID: FID-7_276861		SeqNo: 3735558		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

TPH (Diesel Range)	26.72	1.7	33.33	0	80.2	70 - 130			
Surr: 2-Fluorobiphenyl	2.918	0.10	3.33	0	87.6	60 - 135			

MS	Sample ID: HS16060646-07MS	Units: mg/Kg		Analysis Date: 17-Jun-2016 05:59					
Client ID: GP-16-5-13-060816	Run ID: FID-7_276861		SeqNo: 3735563		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

TPH (Diesel Range)	74.34	5.1	99.29	2.317	72.5	70 - 130			
Surr: 2-Fluorobiphenyl	7.925	0.30	9.921	0	79.9	60 - 135			

MSD	Sample ID: HS16060646-07MSD	Units: mg/Kg		Analysis Date: 17-Jun-2016 06:23					
Client ID: GP-16-5-13-060816	Run ID: FID-7_276861		SeqNo: 3735564		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

TPH (Diesel Range)	70.06	5.1	99.39	2.317	68.2	70 - 130	74.34	5.92	30	S
Surr: 2-Fluorobiphenyl	7.418	0.30	9.93	0	74.7	60 - 135	7.925	6.61	30	

The following samples were analyzed in this batch:

HS16060646-03	HS16060646-04	HS16060646-05	HS16060646-06
HS16060646-07			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: R276337		Instrument: FID-14		Method: SW8015					
MBLK	Sample ID: GBLK-160614	Units: mg/Kg		Analysis Date: 14-Jun-2016 12:20					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724135		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Gasoline Range Organics	ND	0.050							
Surr: 4-Bromofluorobenzene	0.08142	0.0050	0.1	0	81.4	70 - 130			
LCS	Sample ID: GLCS-160614	Units: mg/Kg		Analysis Date: 14-Jun-2016 11:48					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724134		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Gasoline Range Organics	1.026	0.050	1	0	103	70 - 130			
Surr: 4-Bromofluorobenzene	0.09682	0.0050	0.1	0	96.8	70 - 130			
MS	Sample ID: HS16060643-06MS	Units: mg/Kg		Analysis Date: 14-Jun-2016 13:07					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724137		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Gasoline Range Organics	1.097	0.050	1	0	110	70 - 130			
Surr: 4-Bromofluorobenzene	0.09963	0.0050	0.1	0	99.6	70 - 130			
MSD	Sample ID: HS16060643-06MSD	Units: mg/Kg		Analysis Date: 14-Jun-2016 13:23					
Client ID:	Run ID: FID-14_276337	SeqNo: 3724138		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Gasoline Range Organics	1.069	0.050	1	0	107	70 - 130	1.097	2.53	30
Surr: 4-Bromofluorobenzene	0.09555	0.0050	0.1	0	95.6	70 - 130	0.09963	4.18	30
The following samples were analyzed in this batch:									
HS16060646-01		HS16060646-02		HS16060646-03		HS16060646-04			
HS16060646-05		HS16060646-06							

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: R276423		Instrument: FID-14		Method: SW8015						
MBLK	Sample ID: GBLK-160615	Units: mg/Kg			Analysis Date: 16-Jun-2016 01:33					
Client ID:	Run ID: FID-14_276423	SeqNo: 3726125		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 0.08893 0.0050 0.1 0 88.9 70 - 130

LCS	Sample ID: GLCS-160615	Units: mg/Kg				Analysis Date: 16-Jun-2016 01:01				
Client ID:		Run ID: FID-14_276423	SeqNo: 3726124		PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Gasoline Range Organics 0.9533 0.050 1 0 95.3 70 - 130

Surr: 4-Bromofluorobenzene 0.0978 0.0050 0.1 0 97.8 70 - 130

MS	Sample ID: HS16060754-01MS		Units: mg/Kg		Analysis Date: 16-Jun-2016 09:47					
Client ID:	Run ID: FID-14_276423		SeqNo: 3726149		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Gasoline Range Organics 1.29 0.050 1 0 129 70 - 130

Surr: 4-Bromofluorobenzene 0.1126 0.0050 0.1 0 113 70 - 130

MSD	Sample ID: HS16060754-01MSD		Units: mg/Kg		Analysis Date: 16-Jun-2016 10:03					
Client ID:	Run ID: FID-14_276423		SeqNo: 3726150		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Gasoline Range Organics 1.236 0.050 1 0 124 70 - 130 1.29 4.26 30

Surr: 4-Bromofluorobenzene 0.1085 0.0050 0.1 0 109 70 - 130 0.1126 3.69 30

The following samples were analyzed in this batch: HS16060646-07

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105351		Instrument: ICPMS04		Method: SW6020						
MBLK	Sample ID: MBLK-105351	Units: mg/Kg			Analysis Date: 15-Jun-2016 19:44					
Client ID:	Run ID: ICPMS04_276334	SeqNo: 3725752		PrepDate: 14-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic	ND	1.50								
Barium	ND	0.500								
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								

MBLK	Sample ID: MBLK-105351	Units: mg/Kg			Analysis Date: 16-Jun-2016 12:14					
Client ID:		Run ID: ICPMS04_276424	SeqNo: 3726276		PrepDate: 14-Jun-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								
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LCS	Sample ID: LCS-105351	Units: mg/Kg			Analysis Date: 15-Jun-2016 19:49					
Client ID:		Run ID: ICPMS04_276334	SeqNo: 3725753		PrepDate: 14-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic	9.669	1.50	10	0	96.7	80 - 120				
Barium	9.979	0.500	10	0	99.8	80 - 120				
Cadmium	9.25	0.500	10	0	92.5	80 - 120				
Chromium	9.345	0.500	10	0	93.4	80 - 120				
Copper	9.893	0.200	10	0	98.9	80 - 120				
Lead	9.125	0.500	10	0	91.3	80 - 120				
Nickel	9.726	0.500	10	0	97.3	80 - 120				
Selenium	9.23	0.500	10	0	92.3	80 - 120				
Silver	8.121	0.500	10	0	81.2	80 - 120				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105351		Instrument: ICPMS04		Method: SW6020						
LCS	Sample ID: LCS-105351	Units: mg/Kg			Analysis Date: 16-Jun-2016 12:18					
Client ID:	Run ID: ICPMS04_276424		SeqNo: 3726277		PrepDate: 14-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Boron	53.06	2.50	50	0	106	80 - 120				
MS	Sample ID: HS16060643-01MS	Units: mg/Kg			Analysis Date: 15-Jun-2016 20:08					
Client ID:	Run ID: ICPMS04_276334		SeqNo: 3725757		PrepDate: 14-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Arsenic	11.86	1.47	9.781	2.604	94.6	75 - 125				
Barium	172	0.489	9.781	167.1	50.2	75 - 125			SO	
Cadmium	9.364	0.489	9.781	0.08039	94.9	75 - 125				
Chromium	14.37	0.489	9.781	5.276	93.0	75 - 125				
Copper	15.22	0.196	9.781	6.477	89.3	75 - 125				
Lead	15.89	0.489	9.781	6.931	91.6	75 - 125				
Nickel	15.81	0.489	9.781	6.42	96.0	75 - 125				
Selenium	8.549	0.489	9.781	0.01168	87.3	75 - 125				
MS	Sample ID: HS16060643-01MS	Units: mg/Kg			Analysis Date: 16-Jun-2016 14:01					
Client ID:	Run ID: ICPMS04_276424		SeqNo: 3726695		PrepDate: 14-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Boron	64.8	2.45	48.9	4.331	124	75 - 125				
Silver	6.814	0.489	9.781	0.02896	69.4	75 - 125			S	
MSD	Sample ID: HS16060643-01MSD	Units: mg/Kg			Analysis Date: 15-Jun-2016 20:12					
Client ID:	Run ID: ICPMS04_276334		SeqNo: 3725758		PrepDate: 14-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual	
Arsenic	11.96	1.47	9.768	2.604	95.8	75 - 125	11.86	0.879	20	
Barium	175.5	0.488	9.768	167.1	86.7	75 - 125	172	2.05	20	
Cadmium	9.537	0.488	9.768	0.08039	96.8	75 - 125	9.364	1.84	20	
Chromium	14.03	0.488	9.768	5.276	89.6	75 - 125	14.37	2.41	20	
Copper	15.28	0.195	9.768	6.477	90.1	75 - 125	15.22	0.389	20	
Lead	16.13	0.488	9.768	6.931	94.2	75 - 125	15.89	1.52	20	
Nickel	15.69	0.488	9.768	6.42	94.9	75 - 125	15.81	0.756	20	
Selenium	8.691	0.488	9.768	0.01168	88.9	75 - 125	8.549	1.64	20	

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105351		Instrument: ICPMS04		Method: SW6020						
MSD		Sample ID: HS16060643-01MSD		Units: mg/Kg		Analysis Date: 16-Jun-2016 14:05				
Client ID:		Run ID: ICPMS04_276424		SeqNo: 3726696		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Boron	68.76	2.44	48.84	4.331	132	75 - 125	64.8	5.93	20	S
Silver	7.412	0.488	9.768	0.02896	75.6	75 - 125	6.814	8.41	20	
PDS		Sample ID: HS16060643-01BS		Units: mg/Kg		Analysis Date: 15-Jun-2016 20:17				
Client ID:		Run ID: ICPMS04_276334		SeqNo: 3725759		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Arsenic	10.95	1.47	9.815	2.604	85.0	75 - 125				
Cadmium	9.229	0.491	9.815	0.08039	93.2	75 - 125				
Chromium	13.27	0.491	9.815	5.276	81.4	75 - 125				
Copper	14.74	0.196	9.815	6.477	84.2	75 - 125				
Lead	16.38	0.491	9.815	6.931	96.3	75 - 125				
Nickel	14.64	0.491	9.815	6.42	83.7	75 - 125				
Selenium	8.443	0.491	9.815	0.01168	85.9	75 - 125				
PDS		Sample ID: HS16060643-01BS		Units: mg/Kg		Analysis Date: 16-Jun-2016 13:11				
Client ID:		Run ID: ICPMS04_276424		SeqNo: 3726438		PrepDate: 14-Jun-2016		DF: 5		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Barium	212.1	2.45	49.08	179.2	66.9	75 - 125				S
PDS		Sample ID: HS16060643-01BS		Units: mg/Kg		Analysis Date: 16-Jun-2016 14:09				
Client ID:		Run ID: ICPMS04_276424		SeqNo: 3726697		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Boron	104	2.45	98.15	4.331	102	75 - 125				
Silver	7.824	0.491	9.815	0.02896	79.4	75 - 125				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105351		Instrument: ICPMS04		Method: SW6020						
SD	Sample ID: HS16060643-01 DIL SX	Units: mg/Kg		Analysis Date: 15-Jun-2016 20:03						
Client ID:	Run ID: ICPMS04_276334	SeqNo: 3725756		PrepDate: 14-Jun-2016		DF: 5				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	3.334	7.36					2.604	0	10	J
Cadmium	ND	2.45					0.08039	0	10	
Lead	7.197	2.45					6.931	3.84	10	
Selenium	ND	2.45					0.01168	0	10	
Silver	ND	2.45					0.0211	0	10	

SD	Sample ID: HS16060643-01 DIL SX	Units: mg/Kg		Analysis Date: 16-Jun-2016 14:36						
Client ID:	Run ID: ICPMS04_276424	SeqNo: 3726702		PrepDate: 14-Jun-2016		DF: 25				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	167.5	12.3					179.2	6.58	10	

SD	Sample ID: HS16060643-01 DIL SX	Units: mg/Kg		Analysis Date: 16-Jun-2016 13:56						
Client ID:	Run ID: ICPMS04_276424	SeqNo: 3726694		PrepDate: 14-Jun-2016		DF: 5				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Boron	ND	12.3					4.331	0	10	
Chromium	5.923	2.45					5.609	5.59	10	
Copper	7.625	0.982					7.004	8.86	10	
Nickel	7.37	2.45					6.763	8.98	10	

The following samples were analyzed in this batch:	HS16060646-01	HS16060646-02	HS16060646-03	HS16060646-04
	HS16060646-05	HS16060646-06	HS16060646-07	

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105430		Instrument: ICPMS04		Method: SW6020						
MBLK	Sample ID: MBLK-105430	Units: mg/Kg		Analysis Date: 17-Jun-2016 14:42						
Client ID:		Run ID: ICPMS04_276513		SeqNo: 3728625		PrepDate: 16-Jun-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								
Lead	ND	0.500								
Zinc	ND	0.500								

LCS	Sample ID: LCS-105430	Units: mg/Kg		Analysis Date: 17-Jun-2016 14:46						
Client ID:		Run ID: ICPMS04_276513		SeqNo: 3728626		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.265	0.500	10	0	92.7	80 - 120				
Lead	8.963	0.500	10	0	89.6	80 - 120				
Zinc	9.378	0.500	10	0	93.8	80 - 120				

MS	Sample ID: HS16060643-01MS	Units: mg/Kg		Analysis Date: 17-Jun-2016 15:08						
Client ID:		Run ID: ICPMS04_276513		SeqNo: 3728631		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.06	0.483	9.653	2.004	93.9	75 - 125				
Lead	14.65	0.483	9.653	5.417	95.6	75 - 125				
Zinc	32.58	0.483	9.653	19.68	134	75 - 125				S

MSD	Sample ID: HS16060643-01MSD	Units: mg/Kg		Analysis Date: 17-Jun-2016 15:12						
Client ID:		Run ID: ICPMS04_276513		SeqNo: 3728632		PrepDate: 16-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.36	0.453	9.055	2.004	92.2	75 - 125	11.06	6.6	20	
Lead	14.12	0.453	9.055	5.417	96.2	75 - 125	14.65	3.63	20	
Zinc	29.76	0.453	9.055	19.68	111	75 - 125	32.58	9.05	20	

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105430		Instrument: ICPMS04		Method: SW6020						
PDS	Sample ID: HS16060643-01BS	Units: mg/Kg			Analysis Date: 17-Jun-2016 15:17					
Client ID:	Run ID: ICPMS04_276513	SeqNo: 3728633		PrepDate: 16-Jun-2016		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Arsenic	10.69	0.478	9.569	2.004	90.7	75 - 125				
Lead	14.26	0.478	9.569	5.417	92.4	75 - 125				
Zinc	28.17	0.478	9.569	19.68	88.7	75 - 125				
SD	Sample ID: HS16060643-01 DIL SX	Units: mg/Kg			Analysis Date: 17-Jun-2016 15:04					
Client ID:	Run ID: ICPMS04_276513	SeqNo: 3728630		PrepDate: 16-Jun-2016		DF: 5				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	RPD Limit	Qual
Arsenic	2.163	2.39					2.004	0	10	J
Lead	5.935	2.39					5.417	9.55	10	
Zinc	21.1	2.39					19.68	7.2	10	
The following samples were analyzed in this batch:		HS16060646-01 HS16060646-05	HS16060646-02 HS16060646-06	HS16060646-03 HS16060646-07	HS16060646-04					

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105433		Instrument: ICPMS05		Method: La29B-6020							
MBLK	Sample ID: MBLK-105433	Units: mg/L			Analysis Date: 20-Jun-2016 16:09						
Client ID:	Run ID: ICPMS05_276596	SeqNo: 3730870		PrepDate: 16-Jun-2016		DF: 10					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual	
Calcium	ND	5.00									
Magnesium	ND	5.00									
Sodium	ND	5.00									
DUP	Sample ID: HS16060643-05DUP	Units: mg/L			Analysis Date: 20-Jun-2016 16:32						
Client ID:	Run ID: ICPMS05_276596	SeqNo: 3730878		PrepDate: 16-Jun-2016		DF: 10					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual	
Calcium	172.7	4.99					172.1	0.338	30		
Magnesium	ND	4.99					0.01806	0	30		
Sodium	34.63	4.99					36.21	4.47	30		
The following samples were analyzed in this batch:		HS16060646-01 HS16060646-05		HS16060646-02 HS16060646-06		HS16060646-03 HS16060646-07		HS16060646-04			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105433A		Instrument: MISC-Metals		Method: La29B SAR					
DUP	Sample ID: HS16060643-05DUP	Units: meq/meq		Analysis Date: 23-Jun-2016 11:22					
Client ID:	Run ID: MISC-Metals_276860	SeqNo: 3735547		PrepDate: 16-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Sodium Adsorption Ratio	0.724	0.0100					0.76	4.85	30
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The following samples were analyzed in this batch:

HS16060646-01	HS16060646-02	HS16060646-03	HS16060646-04
HS16060646-05	HS16060646-06	HS16060646-07	

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105592		Instrument: HG03		Method: SW7471A					
MBLK	Sample ID: MBLK-105592	Units: ug/Kg		Analysis Date: 22-Jun-2016 17:30					
Client ID:	Run ID: HG03_276785	SeqNo: 3734156		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	ND	3.43							
LCS	Sample ID: LCS-105592	Units: ug/Kg		Analysis Date: 22-Jun-2016 17:32					
Client ID:	Run ID: HG03_276785	SeqNo: 3734157		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	333.4	3.41	341.6	0	97.6	85 - 115			
MS	Sample ID: HS16061028-05MS	Units: ug/Kg		Analysis Date: 22-Jun-2016 18:05					
Client ID:	Run ID: HG03_276785	SeqNo: 3734172		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	352.3	3.59	359.5	9.051	95.5	85 - 115			
MSD	Sample ID: HS16061028-05MSD	Units: ug/Kg		Analysis Date: 22-Jun-2016 18:07					
Client ID:	Run ID: HG03_276785	SeqNo: 3734173		PrepDate: 22-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	351.6	3.59	359.5	9.051	95.3	85 - 115	352.3	0.204	20
The following samples were analyzed in this batch:									
HS16060646-01		HS16060646-02		HS16060646-03		HS16060646-04			
HS16060646-05		HS16060646-06		HS16060646-07					

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105358		Instrument: SV-6		Method: SW8270					
MBLK	Sample ID: MBLK-105358	Units: ug/Kg		Analysis Date: 21-Jun-2016 11:36					
Client ID:	Run ID: SV-6_276858	SeqNo: 3735493		PrepDate: 14-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Acenaphthene	ND	3.3							
Acenaphthylene	ND	3.3							
Anthracene	ND	3.3							
Benz(a)anthracene	ND	3.3							
Benzo(a)pyrene	ND	3.3							
Benzo(b)fluoranthene	ND	3.3							
Benzo(g,h,i)perylene	ND	3.3							
Benzo(k)fluoranthene	ND	3.3							
Chrysene	ND	3.3							
Dibenz(a,h)anthracene	ND	3.3							
Fluoranthene	ND	3.3							
Fluorene	ND	3.3							
Indeno(1,2,3-cd)pyrene	ND	3.3							
Naphthalene	ND	3.3							
Phenanthrene	ND	3.3							
Pyrene	ND	3.3							
Surr: 2-Fluorobiphenyl	96.67	0	167	0	57.9	43 - 125			
Surr: 4-Terphenyl-d14	133.2	0	167	0	79.8	32 - 125			
Surr: Nitrobenzene-d5	109.8	0	167	0	65.7	37 - 125			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105358		Instrument: SV-6		Method: SW8270						
LCS		Sample ID: LCS-105358		Units: ug/Kg		Analysis Date: 21-Jun-2016 15:13				
Client ID:		Run ID: SV-6_276858		SeqNo: 3735525		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	154.7	3.3	167	0	92.6	50 - 120				
Acenaphthylene	155.3	3.3	167	0	93.0	50 - 120				
Anthracene	149.5	3.3	167	0	89.5	50 - 123				
Benz(a)anthracene	156.2	3.3	167	0	93.5	50 - 131				
Benzo(a)pyrene	170.6	3.3	167	0	102	50 - 130				
Benzo(b)fluoranthene	187.9	3.3	167	0	113	50 - 137				
Benzo(g,h,i)perylene	173.4	3.3	167	0	104	50 - 130				
Benzo(k)fluoranthene	186	3.3	167	0	111	50 - 143				
Chrysene	174.4	3.3	167	0	104	50 - 130				
Dibenz(a,h)anthracene	173.5	3.3	167	0	104	50 - 130				
Fluoranthene	160.3	3.3	167	0	96.0	50 - 131				
Fluorene	157.2	3.3	167	0	94.1	50 - 125				
Indeno(1,2,3-cd)pyrene	161.9	3.3	167	0	96.9	45 - 139				
Naphthalene	153.4	3.3	167	0	91.8	50 - 125				
Phenanthrene	154.9	3.3	167	0	92.7	50 - 125				
Pyrene	159.1	3.3	167	0	95.2	45 - 130				
Surr: 2-Fluorobiphenyl	132.3	0	167	0	79.2	43 - 125				
Surr: 4-Terphenyl-d14	195.6	0	167	0	117	32 - 125				
Surr: Nitrobenzene-d5	87.17	0	167	0	52.2	37 - 125				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105358		Instrument: SV-6		Method: SW8270						
MS		Sample ID: HS16060642-09MS		Units: ug/Kg		Analysis Date: 21-Jun-2016 15:52				
Client ID:		Run ID: SV-6_276858		SeqNo: 3735495		PrepDate: 14-Jun-2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	448.6	9.7	491.7	0	91.2	50 - 120				
Acenaphthylene	448.1	9.7	491.7	0	91.1	50 - 120				
Anthracene	436.3	9.7	491.7	0	88.7	50 - 123				
Benz(a)anthracene	449.3	9.7	491.7	0	91.4	50 - 131				
Benzo(a)pyrene	480.6	9.7	491.7	0	97.8	50 - 130				
Benzo(b)fluoranthene	467	9.7	491.7	0	95.0	50 - 137				
Benzo(g,h,i)perylene	469.7	9.7	491.7	0	95.5	50 - 130				
Benzo(k)fluoranthene	512.3	9.7	491.7	0	104	50 - 143				
Chrysene	444.6	9.7	491.7	0	90.4	50 - 130				
Dibenz(a,h)anthracene	454.6	9.7	491.7	0	92.5	50 - 130				
Fluoranthene	456.3	9.7	491.7	0	92.8	50 - 131				
Fluorene	450	9.7	491.7	0	91.5	50 - 125				
Indeno(1,2,3-cd)pyrene	439.3	9.7	491.7	0	89.4	45 - 139				
Naphthalene	666.9	9.7	491.7	6.369	134	50 - 125				S
Phenanthrene	438.9	9.7	491.7	0	89.3	50 - 125				
Pyrene	431.2	9.7	491.7	0	87.7	45 - 130				
Surr: 2-Fluorobiphenyl	394.8	0	491.7	0	80.3	43 - 125				
Surr: 4-Terphenyl-d14	380.8	0	491.7	0	77.4	32 - 125				
Surr: Nitrobenzene-d5	396.3	0	491.7	0	80.6	37 - 125				

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105358		Instrument: SV-6		Method: SW8270					
MSD	Sample ID: HS16060642-09MSD	Units: ug/Kg		Analysis Date: 21-Jun-2016 16:11					
Client ID:	Run ID: SV-6_276858	SeqNo: 3735496		PrepDate: 14-Jun-2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Acenaphthene	423.4	9.7	492.6	0	85.9	50 - 120	448.6	5.78	30
Acenaphthylene	442.3	9.7	492.6	0	89.8	50 - 120	448.1	1.29	30
Anthracene	401.6	9.7	492.6	0	81.5	50 - 123	436.3	8.28	30
Benz(a)anthracene	402.3	9.7	492.6	0	81.7	50 - 131	449.3	11	30
Benzo(a)pyrene	451.5	9.7	492.6	0	91.6	50 - 130	480.6	6.25	30
Benzo(b)fluoranthene	461.8	9.7	492.6	0	93.7	50 - 137	467	1.11	30
Benzo(g,h,i)perylene	683.2	9.7	492.6	0	139	50 - 130	469.7	37	30 SR
Benzo(k)fluoranthene	459.2	9.7	492.6	0	93.2	50 - 143	512.3	10.9	30
Chrysene	449.5	9.7	492.6	0	91.2	50 - 130	444.6	1.1	30
Dibenz(a,h)anthracene	572.1	9.7	492.6	0	116	50 - 130	454.6	22.9	30
Fluoranthene	448.7	9.7	492.6	0	91.1	50 - 131	456.3	1.67	30
Fluorene	345.3	9.7	492.6	0	70.1	50 - 125	450	26.3	30
Indeno(1,2,3-cd)pyrene	511.7	9.7	492.6	0	104	45 - 139	439.3	15.2	30
Naphthalene	420.6	9.7	492.6	6.369	84.1	50 - 125	666.9	45.3	30 R
Phenanthrene	410.3	9.7	492.6	0	83.3	50 - 125	438.9	6.72	30
Pyrene	384	9.7	492.6	0	78.0	45 - 130	431.2	11.6	30
Surr: 2-Fluorobiphenyl	337.9	0	492.6	0	68.6	43 - 125	394.8	15.5	30
Surr: 4-Terphenyl-d14	405.1	0	492.6	0	82.2	32 - 125	380.8	6.19	30
Surr: Nitrobenzene-d5	452.6	0	492.6	0	91.9	37 - 125	396.3	13.3	30
The following samples were analyzed in this batch:									
HS16060646-01		HS16060646-02		HS16060646-03		HS16060646-04			
HS16060646-05		HS16060646-06		HS16060646-07					

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: R276168		Instrument: VOA8		Method: SW8260					
MBLK	Sample ID: VBLKS1-061316	Units: ug/Kg		Analysis Date: 13-Jun-2016 09:02					
Client ID:	Run ID: VOA8_276168	SeqNo: 3720660		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	43.33	0	50	0	86.7	70 - 128			
Surr: 4-Bromofluorobenzene	44.39	0	50	0	88.8	73 - 126			
Surr: Dibromofluoromethane	48.04	0	50	0	96.1	71 - 128			
Surr: Toluene-d8	49.34	0	50	0	98.7	73 - 127			

LCS	Sample ID: VLCSS1-061316	Units: ug/Kg		Analysis Date: 13-Jun-2016 08:07					
Client ID:	Run ID: VOA8_276168	SeqNo: 3720659		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Benzene	40.64	5.0	50	0	81.3	79 - 122			
Ethylbenzene	51.59	5.0	50	0	103	80 - 122			
m,p-Xylene	105.8	10	100	0	106	79 - 122			
o-Xylene	52.09	5.0	50	0	104	80 - 123			
Toluene	44.42	5.0	50	0	88.8	79 - 120			
Xylenes, Total	157.9	10	150	0	105	80 - 120			
Surr: 1,2-Dichloroethane-d4	45.69	0	50	0	91.4	70 - 128			
Surr: 4-Bromofluorobenzene	48.99	0	50	0	98.0	73 - 126			
Surr: Dibromofluoromethane	46.26	0	50	0	92.5	71 - 128			
Surr: Toluene-d8	47.1	0	50	0	94.2	73 - 127			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: R276168		Instrument: VOA8		Method: SW8260						
MS		Sample ID: HS16060646-01MS		Units: ug/Kg		Analysis Date: 13-Jun-2016 10:26				
Client ID: GP-16-6-3-060816		Run ID: VOA8_276168		SeqNo: 3720663		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	43.28	4.9	49	0	88.3	79 - 122				
Ethylbenzene	52.03	4.9	49	0	106	80 - 122				
m,p-Xylene	105.9	9.8	98	0	108	79 - 122				
o-Xylene	53.3	4.9	49	0	109	80 - 123				
Toluene	46.13	4.9	49	0	94.1	79 - 120				
Xylenes, Total	159.2	9.8	147	0	108	80 - 120				
Surr: 1,2-Dichloroethane-d4	45.61	0	49	0	93.1	70 - 128				
Surr: 4-Bromofluorobenzene	49.15	0	49	0	100	73 - 126				
Surr: Dibromofluoromethane	46.53	0	49	0	95.0	71 - 128				
Surr: Toluene-d8	46.23	0	49	0	94.3	73 - 127				

MSD		Sample ID: HS16060646-01MSD		Units: ug/Kg		Analysis Date: 13-Jun-2016 10:53				
Client ID: GP-16-6-3-060816		Run ID: VOA8_276168		SeqNo: 3720664		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	36.07	4.9	49	0	73.6	79 - 122	43.28	18.2	30	S
Ethylbenzene	42.36	4.9	49	0	86.4	80 - 122	52.03	20.5	30	
m,p-Xylene	86.29	9.8	98	0	88.0	79 - 122	105.9	20.4	30	
o-Xylene	42.52	4.9	49	0	86.8	80 - 123	53.3	22.5	30	
Toluene	37.21	4.9	49	0	75.9	79 - 120	46.13	21.4	30	S
Xylenes, Total	128.8	9.8	147	0	87.6	80 - 120	159.2	21.1	30	
Surr: 1,2-Dichloroethane-d4	45.56	0	49	0	93.0	70 - 128	45.61	0.115	30	
Surr: 4-Bromofluorobenzene	49.34	0	49	0	101	73 - 126	49.15	0.398	30	
Surr: Dibromofluoromethane	45.85	0	49	0	93.6	71 - 128	46.53	1.48	30	
Surr: Toluene-d8	46.05	0	49	0	94.0	73 - 127	46.23	0.387	30	

The following samples were analyzed in this batch:

HS16060646-01	HS16060646-02	HS16060646-03	HS16060646-04
HS16060646-05	HS16060646-06	HS16060646-07	

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: 105560		Instrument: UV-2450		Method: SW7196						
MBLK	Sample ID: MBLK-105560	Units: mg/kg		Analysis Date: 23-Jun-2016 14:53						
Client ID:		Run ID: UV-2450_276909		SeqNo: 3736585	PrepDate: 22-Jun-2016	DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Chromium, Hexavalent	ND	2.00								
LCS	Sample ID: LCS-105560	Units: mg/kg		Analysis Date: 23-Jun-2016 14:53						
Client ID:		Run ID: UV-2450_276909		SeqNo: 3736584	PrepDate: 22-Jun-2016	DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Chromium, Hexavalent	8.76	2.00	10	0	87.6	80 - 120				
MS	Sample ID: HS16060646-07MS	Units: mg/kg		Analysis Date: 23-Jun-2016 14:53						
Client ID: GP-16-5-13-060816		Run ID: UV-2450_276909		SeqNo: 3736582	PrepDate: 22-Jun-2016	DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Chromium, Hexavalent	9.519	1.97	9.834	0.0794	96.0	75 - 125				
MSD	Sample ID: HS16060646-07MSD	Units: mg/kg		Analysis Date: 23-Jun-2016 14:53						
Client ID: GP-16-5-13-060816		Run ID: UV-2450_276909		SeqNo: 3736583	PrepDate: 22-Jun-2016	DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Chromium, Hexavalent	9.64	1.97	9.837	0.0794	97.2	75 - 125	9.519	1.26	20	
The following samples were analyzed in this batch:										
HS16060646-01		HS16060646-02		HS16060646-03		HS16060646-04				
HS16060646-05		HS16060646-06		HS16060646-07						

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: R276224		Instrument: WetChem_HS		Method: SW9045B	
DUP	Sample ID: HS16060646-07DUP	Units: pH Units		Analysis Date: 13-Jun-2016 12:30	
Client ID:	Run ID: WetChem_HS_276224	SeqNo: 3721817		PrepDate:	DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC Control Limit RPD Ref Value %RPD RPD Limit Qual
pH	8.89	0.100			8.87 0.225 10
Temp Deg C @pH	24.1	0			24 0.416 10
The following samples were analyzed in this batch:					
HS16060646-01		HS16060646-02		HS16060646-03	
HS16060646-05		HS16060646-06		HS16060646-07	

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: R276612		Instrument: Balance1		Method: LaDNR-29B SP					
DUP	Sample ID: HS16060643-05DUP	Units: SP as fraction		Analysis Date: 17-Jun-2016 12:10					
Client ID:	Run ID: Balance1_276612	SeqNo: 3730307		PrepDate:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Saturation Point	0.436	0.100					0.436	0	30
The following samples were analyzed in this batch:				HS16060646-01 HS16060646-05		HS16060646-02 HS16060646-06		HS16060646-03 HS16060646-07	
						HS16060646-04			

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

QC BATCH REPORT

Batch ID: R276732		Instrument: WetChem_HS		Method: LaDNR-29B EC						
DUP	Sample ID: HS16060643-05DUP	Units: mmhos/cm @25°C		Analysis Date: 21-Jun-2016 12:30						
Client ID:	Run ID: WetChem_HS_276732	SeqNo: 3732867		PrepDate:		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	4.546	0.0100					4.529	0.375	20	
Electrical Conductivity, 1:1 aqueous	1.98	0.0100					1.974	0.303	20	
Saturation % as decimal	0.436	0					0.436	0	20	
The following samples were analyzed in this batch:										
HS16060646-01		HS16060646-02		HS16060646-03		HS16060646-04				
HS16060646-05		HS16060646-06		HS16060646-07						

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

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
WorkOrder: HS16060646

**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 Quantitation 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	16-022-0	27-Mar-2017
California	2919	31-Jul-2016
Kansas	E-10352 2014-2015	31-Jul-2016
Kentucky	96 2016-2017	30-Apr-2017
Louisiana	03087 2015/2016	30-Jun-2016
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R193 2016-2017	30-Apr-2017
Oklahoma	2015-047	31-Aug-2016
Texas	TX104704231-16-17	30-Apr-2017

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060646

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16060646-01	GP-16-6-3-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-01	GP-16-6-3-060816	Login	6/10/2016 7:16:20 PM	PMG	VW-2
HS16060646-01	GP-16-6-3-060816	Login	6/10/2016 7:16:20 PM	PMG	BTEX A1
HS16060646-01	GP-16-6-3-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-02	GP-16-6-8-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-02	GP-16-6-8-060816	Login	6/10/2016 7:16:20 PM	PMG	VW-2
HS16060646-02	GP-16-6-8-060816	Login	6/10/2016 7:16:20 PM	PMG	BTEX A1
HS16060646-02	GP-16-6-8-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-03	GP-16-6-9-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-03	GP-16-6-9-060816	Login	6/10/2016 7:16:20 PM	PMG	VW-2
HS16060646-03	GP-16-6-9-060816	Login	6/10/2016 7:16:20 PM	PMG	BTEX A1
HS16060646-03	GP-16-6-9-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-04	GP-16-6-13-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-04	GP-16-6-13-060816	Login	6/10/2016 7:16:20 PM	PMG	VW-2
HS16060646-04	GP-16-6-13-060816	Login	6/10/2016 7:16:20 PM	PMG	BTEX A1
HS16060646-04	GP-16-6-13-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-05	GP-16-5-3-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-05	GP-16-5-3-060816	Login	6/10/2016 7:16:20 PM	PMG	VW-2
HS16060646-05	GP-16-5-3-060816	Login	6/10/2016 7:16:20 PM	PMG	BTEX A1
HS16060646-05	GP-16-5-3-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-06	GP-16-5-4-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-06	GP-16-5-4-060816	Login	6/10/2016 7:16:20 PM	PMG	VW-2
HS16060646-06	GP-16-5-4-060816	Login	6/10/2016 7:16:20 PM	PMG	BTEX A1
HS16060646-06	GP-16-5-4-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-07	GP-16-5-13-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-07	GP-16-5-13-060816	Login	6/10/2016 7:16:20 PM	PMG	VW-2
HS16060646-07	GP-16-5-13-060816	Login	6/10/2016 7:16:20 PM	PMG	BTEX A1
HS16060646-07	GP-16-5-13-060816	Login	6/10/2016 7:16:20 PM	PMG	1D
HS16060646-01	GP-16-6-3-060816	Out	6/22/2016 10:45:38 AM	JCJ	METPREP
HS16060646-02	GP-16-6-8-060816	Out	6/22/2016 10:45:38 AM	JCJ	METPREP
HS16060646-03	GP-16-6-9-060816	Out	6/22/2016 10:45:38 AM	JCJ	METPREP
HS16060646-04	GP-16-6-13-060816	Out	6/22/2016 10:45:38 AM	JCJ	METPREP
HS16060646-05	GP-16-5-3-060816	Out	6/22/2016 10:45:38 AM	JCJ	METPREP
HS16060646-06	GP-16-5-4-060816	Out	6/22/2016 10:45:38 AM	JCJ	METPREP
HS16060646-07	GP-16-5-13-060816	Out	6/22/2016 10:45:38 AM	JCJ	METPREP
HS16060646-01	GP-16-6-3-060816	Return	6/22/2016 10:45:57 AM	JCJ	1D
HS16060646-02	GP-16-6-8-060816	Return	6/22/2016 10:45:57 AM	JCJ	1D
HS16060646-03	GP-16-6-9-060816	Return	6/22/2016 10:45:57 AM	JCJ	1D
HS16060646-04	GP-16-6-13-060816	Return	6/22/2016 10:45:57 AM	JCJ	1D
HS16060646-05	GP-16-5-3-060816	Return	6/22/2016 10:45:57 AM	JCJ	1D

Client: Kinder Morgan
Project: McElmo Dome + Doe Canyon
Work Order: HS16060646

SAMPLE TRACKING

HS16060646-06	GP-16-5-4-060816	Return	6/22/2016 10:45:57 AM	JCJ	1D
HS16060646-07	GP-16-5-13-060816	Return	6/22/2016 10:45:57 AM	JCJ	1D

Sample Receipt Checklist

Client Name: Kinder Morgan
Work Order: HS16060646

Date/Time Received: **10-Jun-2016 19:16**
Received by: **NDR**

Checklist completed by: Paresh M. Giga 10-Jun-2016 Reviewed by: Sonia West 15-Jun-2016
eSignature Date eSignature Date

Matrices: **Soil/Water**Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
TX1005 solids received in hermetically sealed vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Temperature(s)/Thermometer(s): 0.8c/1.4c U/c IR5

Cooler(s)/Kit(s): 25271

Date/Time sample(s) sent to storage: 6/10/16 19:35

Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>

pH adjusted by:

Login Notes: Trip Blank received logged in on hold

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



Environmental

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Everett, WA
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Holland, MI
+1 616 399 6070

Chain of Custody Form

Page ____ of ____

COC ID: 142435

HS16060646

WV

Kinder Morgan

McElmo Dome + Doe Canyon



Customer Information		Project Information		ALS Project Manager:	
Purchase Order		Project Name	McElmo Dome + Doe Canyon	A	BTEX 8260
Work Order		Project Number		B	TPH GRO 8015
Company Name	Kinder Morgan	Bill To Company	Kinder Morgan	C	TPH DRO 8015
Send Report To	Aaron Hale	Invoice Attn		D	PAH 8270
Address	1001 Louisiana Street Suite 740D	Address	1001 Louisiana Street Suite 740D	E	SAR & EC
City/State/Zip	Houston	City/State/Zip	Houston	F	pH
Phone		Phone	(713) 369-9193	G	Metals 6020 & Mercury 7471
Fax		Fax	(713) 495-2835	H	Cr+6 & Cr+3
e-Mail Address	aaron_hale@kindermorgan.com	e-Mail Address		I	Moisture
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	GP-16-6-3-060816	060816	1520	Soil	N/A	3	X	X	X	X	X	X	X	X			
2	GP-16-6-8-060816	060816	1540	Soil	N/A	3	X	X	X	X	X	X	X	X			
3	GP-16-6-9-060816	060816	1550	Soil	N/A	3	X	X	X	X	X	X	X	X			
4	GP-16-6-13-060816	060816	1610	Soil	N/A	3	X	X	X	X	X	X	X	X			
5	GP-16-5-3-060816	060816	1620	Soil	N/A	3	X	X	X	X	X	X	X	X			
6	GP-16-5-4-060816	060816	1630	Soil	N/A	3	X	X	X	X	X	X	X	X			
7	GP-16-5-13-060816	060816	1720	Soil	N/A	3	X	X	X	X	X	X	X	X			
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>H. Stoller</i>		Shipment Method		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> Std 10 WK days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour		Results Due Date:	
Relinquished by:	Date:	Time:	Received by:	Notes/Soil Samples			
Relinquished by:	Date: 6/10/16	Time: 08:53	Received by (Laboratory): NR	Cooler ID: 25271	Cooler Temp: 41.6	QC Package: (Check One Box Below) <input checked="" type="checkbox"/> Level 2 Std QC <input type="checkbox"/> Level 3 Std QC/Row da <input type="checkbox"/> Level 4 SW846/CLP <input type="checkbox"/> Other/EDD	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	TRRP Checklist <input type="checkbox"/> TRRP Level 4			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O 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 contract.
3. The Chain of Custody is a legal document. All information must be accurate and complete.

Page 61 of 62

1K * 5


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RIGHT SOLUTIONS | RIGHT PARTNER

 ALS Environmental 10450 Stanciliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: _____	Time: _____	Date: _____
	Name: _____	_____	06/10/16
	Company: _____	_____	

25271

JUN 10 2016

FedEx 0736 7198 1777	FRI - 10 JUN 10:30A PRIORITY OVERNIGHT
KH SGRA	77099 TX:US IAH
	
<small>192 09JUN16 UNDA 5352 0RD/6A00</small>	

ATTACHMENT F

CDPHE White Paper on Arsenic Concentrations in Soil





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>.

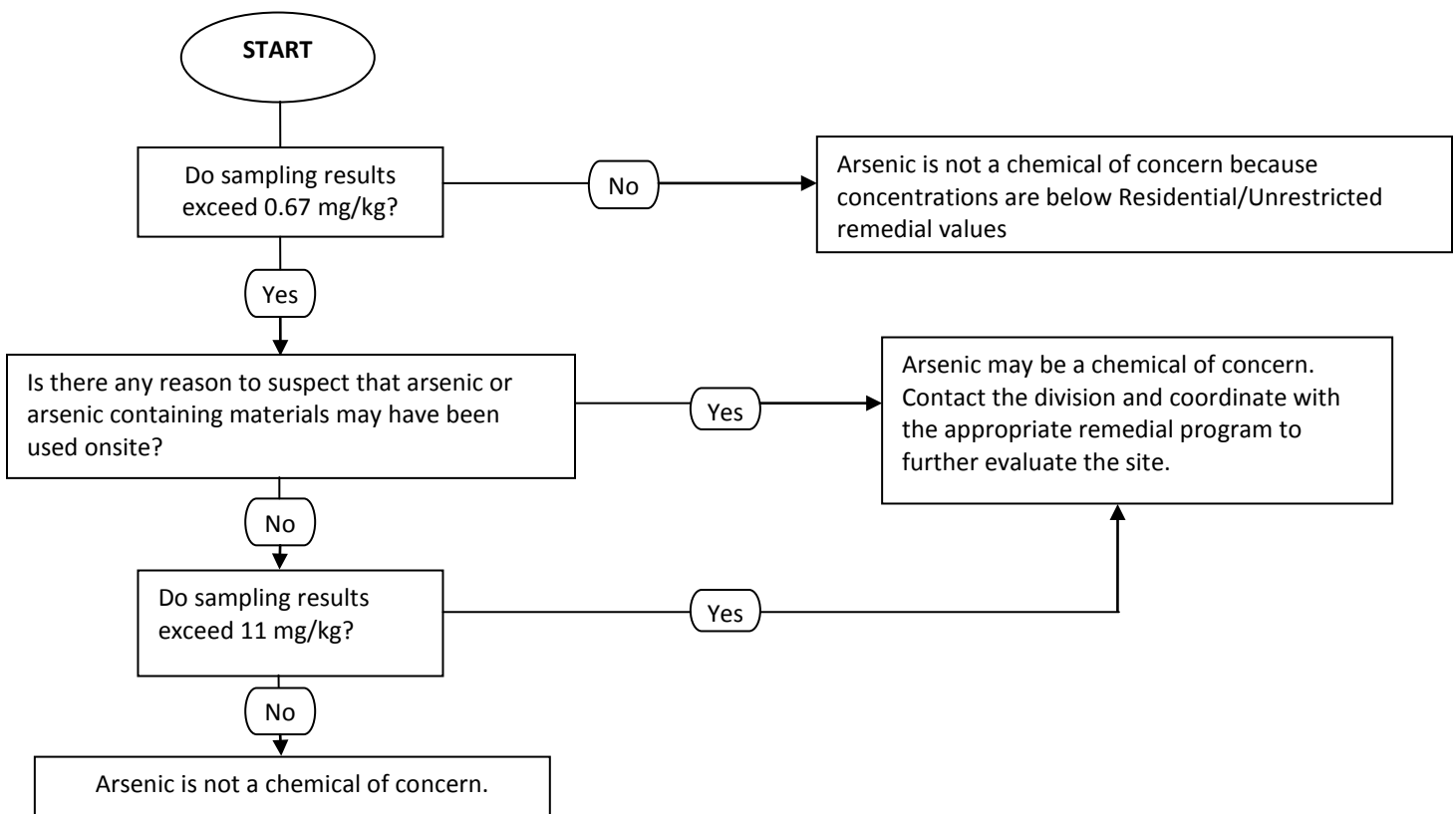
Region 8 U.S. EPA 95% UCLM Background Soil Arsenic Concentrations in Colorado

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:

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