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Subject:

**Summary Report for Site YE-6
McElmo Dome Unit, Southwestern Colorado**

ENVIRONMENT

Dear Mr. Hale:

Date:

February 8, 2017

Included herein is the Summary Report for site YE-6, which is part of the McElmo Dome Unit in southwestern Colorado. Arcadis U.S., Inc. (Arcadis) completed field work at site YE-6 in support of Kinder Morgan CO₂ Company, LP's (KM) efforts to evaluate how the former drill pits were reclaimed and to determine if remediation is warranted, as may be required by the Colorado Oil and Gas Conservation Commission (COGCC).

Contact:

Kelli Jo Preston

Phone:

303.471.3403

Objectives

The objective of the work completed at site YE-6 (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:

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Our ref:

CO002055

Methodology

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

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

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

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

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

Photos were also collected at the site documenting current surface vegetation; reclamation is considered successful by COGCC when vegetative cover reaches 80%. The photos provide an indication of current land use at, and surrounding the site, which can be used as reference for comparison purposes. The photo log for site YE-6 is provided in **Attachment C**.

Detailed notes were kept during the field activities completed at site YE-6 and are provided in **Attachment D**.

Results

Analytical results received from ALS for the soil samples collected at site YE-6 are presented in **Table 1**. Laboratory report(s) are provided in **Attachment E**.

A total of 24 soil samples collected from eight soil borings, were submitted to ALS for site YE-6. For comparison purposes, **Table 1** also includes screening levels (SLs) where applicable, as defined in Table 910-1 of the COGCC's 900 Series Rules. Analytical results that exceed the Table 910-1 SLs are highlighted in yellow. Key findings are summarized as follows:

- Four EC exceedances were observed in soils shallower than 3 feet, from four boring locations (boring 1, boring 3, boring 7, and boring 8; **Figure 1** and **Table 1**). Per COGCC guidance, provided under their Rules and Regulation frequently asked questions (FAQs) from 2008 (COGCC 2016); EC, pH, and SAR SLs only need to be applied to samples collected from the first 3 feet bgs. Therefore, any SL exceedances observed at a depth greater than 3 feet bgs "should not adversely affect the successful reclamation of the site" and therefore have not been highlighted.
- Arsenic was observed in multiple locations at concentrations greater than SLs, with a maximum observed concentration of 6.26 milligrams per kilogram (mg/kg). It is generally accepted that background concentrations of arsenic may be as high as 11 mg/kg per the Colorado Department of Public Health and Environment (CDPHE 2014, **Attachment F**). All concentrations were below 11 mg/kg.
- DRO was detected at a concentration above the SL of 500 mg/kg at boring 2 from 11 to 12 feet bgs (1000 mg/kg).
- Liner material was observed at 11.5 feet bgs in boring 1, at 11.5 feet bgs in boring 3, and at 10 feet bgs in boring 7, but was otherwise absent from the other borings.

References

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

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

Mr. Aaron Hale
February 8, 2017

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 YE-6

Figures

- 1 YE-6 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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TABLES



Table 1 - Soil Analytical Results for Samples Collected at McElmo Dome Site YE-6
Kinder Morgan CO2 Company LP

| | | | | | | Metals | | | | | | | | | | | Volatiles | | | | | |
|------|-----------------|----------------|-----------------------------|---------------------|--------|---------|--------|---------------------------------|----------|----------|--------|------|--------|----------|----------|-------|-----------|--------------|-------------|-----------|-----------|---------------|
| Site | Sample Location | Depth (ft bgs) | Date Collected | Sample ID | Matrix | Arsenic | Barium | Boron | Cadmium | Chromium | Copper | Lead | Nickel | Selenium | Silver | Zinc | Benzene | Ethylbenzene | m&p-Xylenes | o-Xylene | Toluene | Total Xylenes |
| | | | Table 910-1 Screening Level | | | 0.39 | 15000 | 2 mg/L (results below in mg/kg) | 70 | NS | 3100 | 400 | 1600 | 390 | 390 | 23000 | 0.17 | 100 | NS | NS | 85 | 175 |
| | | | Units | | | mg/kg | | | | | | | | | | | mg/kg | | | | | |
| YE-6 | Boring 1 | 0-1 | 10/27/2016 | YE-6-1-0-1-102716 | Soil | 2.51 | 152 | 4.32 | < 0.0471 | 5.53 | 4.61 | 5.68 | 6.17 | < 0.170 | < 0.0754 | 16.7 | < 4.8 E-3 | < 4.8 E-3 | < 9.7 E-3 | < 4.8 E-3 | < 4.8 E-3 | < 9.7 E-3 |
| YE-6 | Boring 1 | 13-14 | 10/27/2016 | YE-6-1-13-14-102716 | Soil | 3.29 | 291 | 5.85 | < 0.0487 | 4.12 | 5.54 | 8.67 | 6.03 | 0.580 | < 0.0779 | 24.0 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 |
| YE-6 | Boring 1 | 18-19 | 10/27/2016 | YE-6-1-18-19-102716 | Soil | 6.26 | 923 | 4.37 | < 0.0460 | 2.06 | 7.49 | 8.73 | 14.4 | 0.694 | < 0.0735 | 92.7 | < 4.8 E-3 | < 4.8 E-3 | < 9.7 E-3 | < 4.8 E-3 | < 4.8 E-3 | < 9.7 E-3 |
| YE-6 | Boring 2 | 2-3 | 10/27/2016 | YE-6-2-2-3-102716 | Soil | 2.87 | 210 | 4.78 | < 0.0461 | 6.66 | 4.93 | 6.66 | 7.27 | 0.515 | < 0.0738 | 18.1 | < 4.8 E-3 | < 4.8 E-3 | < 9.6 E-3 | < 4.8 E-3 | < 4.8 E-3 | < 9.6 E-3 |
| YE-6 | Boring 2 | 11-12 | 10/27/2016 | YE-6-2-11-12-102716 | Soil | 5.87 | 1950 | 61.0 | < 0.0477 | 9.01 | 7.95 | 13.6 | 7.73 | 0.977 | < 0.0764 | 228 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 |
| YE-6 | Boring 2 | 15-16 | 10/27/2016 | YE-6-2-15-16-102716 | Soil | 2.14 | 829 | < 6.56 | < 0.0469 | 1.90 | 5.97 | 10.2 | 12.3 | < 0.169 | < 0.0750 | 117 | < 4.8 E-3 | < 4.8 E-3 | < 9.7 E-3 | < 4.8 E-3 | < 4.8 E-3 | < 9.7 E-3 |
| YE-6 | Boring 3 | 1-2 | 10/27/2016 | YE-6-3-1-2-102716 | Soil | 3.23 | 263 | 4.02 | < 0.0471 | 6.29 | 7.50 | 8.07 | 7.72 | < 0.169 | < 0.0753 | 28.8 | < 5.0 E-3 | < 5.0 E-3 | < 9.9 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 9.9 E-3 |
| YE-6 | Boring 3 | 9-10 | 10/27/2016 | YE-6-3-9-10-102716 | Soil | 2.88 | 371 | 5.86 | < 0.0476 | 2.65 | 6.33 | 10.1 | 5.16 | < 0.171 | < 0.0762 | 24.3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 |
| YE-6 | Boring 3 | 14-15 | 10/27/2016 | YE-6-3-14-15-102716 | Soil | 1.79 | 818 | 5.19 | < 0.0476 | 1.99 | 4.12 | 6.91 | 5.82 | < 0.171 | < 0.0762 | 38.3 | < 5.0 E-3 | < 5.0 E-3 | < 9.9 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 9.9 E-3 |
| YE-6 | Boring 4 | 1-2 | 10/27/2016 | YE-6-4-1-2-102716 | Soil | 2.21 | 191 | 5.38 | < 0.0488 | 5.69 | 4.82 | 6.38 | 6.52 | < 0.176 | < 0.0780 | 17.3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 |
| YE-6 | Boring 4 | 13-14 | 10/27/2016 | YE-6-4-13-14-102716 | Soil | 1.16 | 30.5 | 4.46 | < 0.0463 | 1.78 | 9.06 | 13.1 | 7.58 | 0.781 | < 0.0740 | 97.6 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 |
| YE-6 | Boring 4 | 14-15 | 10/27/2016 | YE-6-4-14-15-102716 | Soil | 1.99 | 732 | 4.95 | < 0.0456 | 2.36 | 7.12 | 15.4 | 8.07 | 0.581 | < 0.0729 | 71.1 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 |
| YE-6 | Boring 5 | 2-3 | 10/28/2016 | YE-6-5-2-3-102816 | Soil | 2.15 | 140 | 4.24 | < 0.0461 | 6.30 | 5.12 | 5.86 | 6.87 | < 0.166 | < 0.0738 | 18.1 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 |
| YE-6 | Boring 5 | 4-5 | 10/28/2016 | YE-6-5-4-5-102816 | Soil | 2.94 | 158 | 4.89 | < 0.0465 | 5.57 | 4.92 | 6.47 | 6.51 | 0.475 | < 0.0743 | 17.8 | < 5.0 E-3 | < 5.0 E-3 | < 9.9 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 9.9 E-3 |
| YE-6 | Boring 5 | 15-16 | 10/28/2016 | YE-6-5-15-16-102816 | Soil | 1.16 | 468 | 2.98 | < 0.0460 | 1.31 | 3.89 | 22.9 | 2.42 | 0.659 | < 0.0736 | 28.9 | < 4.9 E-3 | < 4.9 E-3 | < 9.8 E-3 | < 4.9 E-3 | < 4.9 E-3 | < 9.8 E-3 |
| YE-6 | Boring 6 | 2-3 | 10/28/2016 | YE-6-6-2-3-102816 | Soil | 2.27 | 142 | 4.04 | < 0.0479 | 6.53 | 5.74 | 6.73 | 7.35 | < 0.172 | < 0.0766 | 20.1 | < 5.1 E-3 | < 5.1 E-3 | < 10 E-3 | < 5.1 E-3 | < 5.1 E-3 | < 10 E-3 |
| YE-6 | Boring 6 | 11-12 | 10/28/2016 | YE-6-6-11-12-102816 | Soil | 4.26 | 374 | 5.88 | < 0.0481 | 3.35 | 23.9 | 18.7 | 6.06 | 1.01 | < 0.0770 | 21.0 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.1 E-3 | < 5.1 E-3 | < 10 E-3 |
| YE-6 | Boring 6 | 15-16 | 10/28/2016 | YE-6-6-15-16-102816 | Soil | 0.678 | 79.1 | 4.38 | < 0.0469 | 1.22 | 4.34 | 4.21 | 1.69 | 0.477 | < 0.0751 | 11.8 | < 4.8 E-3 | < 4.8 E-3 | < 9.7 E-3 | < 4.8 E-3 | < 4.8 E-3 | < 9.7 E-3 |
| YE-6 | Boring 7 | 2-3 | 10/28/2016 | YE-6-7-2-3-102816 | Soil | 3.09 | 217 | 4.30 | < 0.0465 | 7.77 | 6.66 | 7.69 | 8.06 | < 0.168 | < 0.0744 | 25.2 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.1 E-3 | < 5.1 E-3 | < 10 E-3 |
| YE-6 | Boring 7 | 9-10 | 10/28/2016 | YE-6-7-9-10-102816 | Soil | 4.27 | 1260 | 15.9 | < 0.0469 | 8.11 | 7.08 | 12.5 | 5.30 | < 0.169 | < 0.0751 | 23.8 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.1 E-3 | < 5.1 E-3 | < 10 E-3 |
| YE-6 | Boring 7 | 14-15 | 10/28/2016 | YE-6-7-14-15-102816 | Soil | 1.81 | 448 | 6.16 | < 0.0483 | 3.47 | 8.58 | 34.0 | 6.82 | 0.734 | < 0.0773 | 47.2 | < 4.8 E-3 | < 4.8 E-3 | < 9.6 E-3 | < 4.8 E-3 | < 4.8 E-3 | < 9.6 E-3 |
| YE-6 | Boring 8 | 2-3 | 10/28/2016 | YE-6-8-2-3-102816 | Soil | 2.68 | 185 | 4.28 | < 0.0459 | 7.32 | 5.85 | 7.47 | 8.40 | < 0.165 | < 0.0735 | 23.6 | < 4.9 E-3 | < 4.9 E-3 | < 9.8 E-3 | < 4.9 E-3 | < 4.9 E-3 | < 9.8 E-3 |
| YE-6 | Boring 8 | 12-13 | 10/28/2016 | YE-6-8-12-13-102816 | Soil | 3.71 | 324 | 8.40 | < 0.0486 | 3.40 | 7.19 | 21.7 | 6.24 | 0.565 | < 0.0777 | 66.9 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 |
| YE-6 | Boring 8 | 14-15 | 10/28/2016 | YE-6-8-14-15-102816 | Soil | 1.20 | 29.7 | 3.64 | < 0.0480 | 1.75 | 11.4 | 17.5 | 14.3 | 0.616 | < 0.0768 | 124 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 | < 5.0 E-3 | < 5.0 E-3 | < 10 E-3 |

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

Table 1 - Soil Analytical Results for Samples Collected at McElmo Dome Site YE-6
Kinder Morgan CO2 Company LP

| Site | | | | | | Soluble Cations for SAR | | | Chromium | | EC (mmhos/cm@25C) | TPH | | Mercury | pH Units | SAR |
|-------|----------|-------|------------|---------------------|------|-------------------------|-----------|--------|----------|---------|---------------------------------|----------|--------|---------|----------|---------|
| | | | | | | Calcium | Magnesium | Sodium | Cr(III) | Cr(VI) | EC@sat | GRO | DRO | Mercury | pH | SAR |
| | | | | | | NS | NS | NS | 120000 | 23 | <4 mmhos/cm or 2x background | 500 | | 23 | 6-9 | <12 |
| Units | | | | | | mg/L | | | mg/kg | | mmhos/cm | mg/kg | | mg/kg | SU | meq/meq |
| YE-6 | Boring 1 | 0-1 | 10/27/2016 | YE-6-1-0-1-102716 | Soil | 302 | 70.3 | 657 | 5.53 | < 0.293 | 14.8 | < 0.010 | < 0.50 | 0.0169 | 8.68 | 8.84 |
| YE-6 | Boring 1 | 13-14 | 10/27/2016 | YE-6-1-13-14-102716 | Soil | 1540 | 137 | 7190 | < 0.700 | < 0.302 | 110 | < 0.010 | 10 | 0.0422 | 8.11 | 47.1 |
| YE-6 | Boring 1 | 18-19 | 10/27/2016 | YE-6-1-18-19-102716 | Soil | 179 | 88.5 | 878 | < 0.700 | < 0.301 | 15.1 | < 0.010 | 1.9 | 0.0261 | 8.36 | 13.4 |
| YE-6 | Boring 2 | 2-3 | 10/27/2016 | YE-6-2-2-3-102716 | Soil | 50.6 | 14.8 | 64.8 | 6.66 | < 0.297 | 1.53 | < 0.0099 | < 0.50 | 0.0270 | 8.82 | 2.06 |
| YE-6 | Boring 2 | 11-12 | 10/27/2016 | YE-6-2-11-12-102716 | Soil | 3820 | < 5.00 | 17900 | 9.01 | < 0.298 | 206 | 1.5 | 1000 | 0.0116 | 11.7 | 79.7 |
| YE-6 | Boring 2 | 15-16 | 10/27/2016 | YE-6-2-15-16-102716 | Soil | 413 | 125 | 2050 | < 0.700 | < 0.302 | 43.1 | < 0.010 | 5.8 | 0.0194 | 8.66 | 22.7 |
| YE-6 | Boring 3 | 1-2 | 10/27/2016 | YE-6-3-1-2-102716 | Soil | 430 | 25.4 | 554 | 6.29 | < 0.297 | 12.2 | < 0.0099 | 3.8 | 0.0273 | 8.96 | 7.02 |
| YE-6 | Boring 3 | 9-10 | 10/27/2016 | YE-6-3-9-10-102716 | Soil | 637 | 180 | 764 | < 0.700 | < 0.299 | 22.8 | < 0.0099 | 1.9 | 0.0456 | 8.13 | 6.88 |
| YE-6 | Boring 3 | 14-15 | 10/27/2016 | YE-6-3-14-15-102716 | Soil | 210 | 80.0 | 330 | < 0.700 | < 0.302 | 11.4 | < 0.0099 | < 0.50 | 0.0278 | 8.52 | 4.91 |
| YE-6 | Boring 4 | 1-2 | 10/27/2016 | YE-6-4-1-2-102716 | Soil | 73.3 | 24.5 | 37.5 | 5.69 | < 0.301 | 1.86 | < 0.0099 | < 0.50 | 0.0251 | 8.88 | 0.968 |
| YE-6 | Boring 4 | 13-14 | 10/27/2016 | YE-6-4-13-14-102716 | Soil | 288 | 140 | 452 | < 0.700 | < 0.295 | 9.52 | < 0.0099 | < 0.50 | 0.156 | 8.21 | 5.46 |
| YE-6 | Boring 4 | 14-15 | 10/27/2016 | YE-6-4-14-15-102716 | Soil | 389 | 92.7 | 498 | < 0.700 | < 0.296 | 10.4 | < 0.010 | < 0.50 | 0.0509 | 8.63 | 5.89 |
| YE-6 | Boring 5 | 2-3 | 10/28/2016 | YE-6-5-2-3-102816 | Soil | 68.9 | 17.0 | 40.7 | 6.30 | < 0.302 | 1.82 | < 0.010 | < 0.50 | 0.0183 | 7.28 | 1.14 |
| YE-6 | Boring 5 | 4-5 | 10/28/2016 | YE-6-5-4-5-102816 | Soil | 626 | 151 | 783 | 5.57 | < 0.301 | 18.6 | < 0.010 | 4.5 | 0.0585 | 8.10 | 7.28 |
| YE-6 | Boring 5 | 15-16 | 10/28/2016 | YE-6-5-15-16-102816 | Soil | 76.5 | 34.4 | 152 | < 0.700 | < 0.302 | 4.50 | < 0.010 | 2.9 | 0.0188 | 9.17 | 3.62 |
| YE-6 | Boring 6 | 2-3 | 10/28/2016 | YE-6-6-2-3-102816 | Soil | 50.9 | 8.63 | 36.4 | 6.53 | < 0.299 | 1.09 | < 0.010 | 3.4 | 0.0169 | 8.69 | 1.24 |
| YE-6 | Boring 6 | 11-12 | 10/28/2016 | YE-6-6-11-12-102816 | Soil | 772 | 33.9 | 1920 | < 0.700 | < 0.300 | 30.2 | < 0.0099 | 4.2 | 0.103 | 8.26 | 18.4 |
| YE-6 | Boring 6 | 15-16 | 10/28/2016 | YE-6-6-15-16-102816 | Soil | 112 | 46.9 | 357 | < 0.700 | < 0.300 | 5.64 | < 0.010 | < 0.50 | 0.0643 | 8.37 | 7.14 |
| YE-6 | Boring 7 | 2-3 | 10/28/2016 | YE-6-7-2-3-102816 | Soil | 814 | 11.4 | 526 | 7.77 | < 0.299 | 15.4 | < 0.0099 | 1.9 | 0.0177 | 7.75 | 5.02 |
| YE-6 | Boring 7 | 9-10 | 10/28/2016 | YE-6-7-9-10-102816 | Soil | 853 | < 5.00 | 2670 | 8.11 | < 0.298 | 34.7 | 0.13 | 47 | 0.0225 | 11.3 | 25.2 |
| YE-6 | Boring 7 | 14-15 | 10/28/2016 | YE-6-7-14-15-102816 | Soil | 896 | < 5.00 | 568 | < 0.700 | < 0.299 | 10.3 | < 0.0099 | 5.0 | 0.0824 | 8.29 | 5.22 |
| YE-6 | Boring 8 | 2-3 | 10/28/2016 | YE-6-8-2-3-102816 | Soil | 584 | 79.0 | 535 | 7.32 | < 0.300 | 14.2 | < 0.0099 | 1.9 | 0.0142 | 7.49 | 5.51 |
| YE-6 | Boring 8 | 12-13 | 10/28/2016 | YE-6-8-12-13-102816 | Soil | 2500 | < 5.00 | 6170 | < 0.700 | < 0.300 | 73.3 | 0.45 | 66 | 0.0437 | 11.0 | 34.0 |
| YE-6 | Boring 8 | 14-15 | 10/28/2016 | YE-6-8-14-15-102816 | Soil | 48.3 | 51.3 | 84.9 | < 0.700 | < 0.300 | 1.84 | < 0.0099 | < 0.50 | 0.0347 | 8.18 | 2.03 |

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

FIGURES





LEGEND

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

SCALE IN FEET

KINDER MORGAN
CORTEZ, CO

YE-6 SITE FEATURES

ARCADIS

FIGURE
1

ATTACHMENT A

Form 27 Application



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: REM #9858

OGCC Operator Number: 46685

Name of Operator: Kinder Morgan CO2 Co

Address: 17801 Hwy 491

City: Cortez State: CO Zip: 81321

Contact Name and Telephone:

James Conway

No: 970-882-5505

Fax: 970-882-5521

API Number: 05-083-06594

County: Montezuma

Facility Name: N/A

Facility Number: N/A

Well Name: Yellow Jacket (YE-6)

Well Number: 6

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SE 1/4, SW 1/4, Sec 2, T37N, R18W Latitude: 37.48697 N Longitude: 108.80537 W

TECHNICAL CONDITIONS

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

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

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

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

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

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

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

Not yet determined

How Determined:

See attached assessment scope

REMEDIALTION WORKPLAN

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

Kinder Morgan conducted a water well review and no water wells were found within a 1/2 mile of the location. Kinder Morgan has also prepared the attached scope of work for the assessment of the former drilling pit location.

Describe how source is to be removed:

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

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

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



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

Page 2

REMEDIATION WORKPLAN (Cont.)

OGCC Employee: _____

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

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

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

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

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

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

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

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

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

IMPLEMENTATION SCHEDULE

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

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

Print Name: James Conway

Signed: _____

Title: Operations Engineering & Regulatory Manager

Date: 9/23/16

OGCC Approved: _____

Title: Environmental Protection Specialist

Date: 10/4/16



General Scope of Work for Yellow Jacket (YE-6)

Kinder Morgan CO2 – McElmo Dome Unit
API Number – 05-083-06594
Montezuma County, Colorado

General Well Location Information

Kinder Morgan's Yellow Jacket Well YE-6 was drilled in 2002. This well was drilled as a CO2 production well. A lined, earthen pit was constructed to hold the water-based drilling fluids for this well. Kinder Morgan's records indicate that the physical pit closure occurred in 2003.

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

Groundwater Evaluation

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

A review of US Geological Survey data identifies the Dakota-Glen Canyon aquifer system as the major aquifer system in this area of Colorado (Ground Water Atlas of the United States; Arizona, Colorado, New Mexico Utah HA 730-C; US Geological Survey, 1995). The regional direction of flow of the Dakota-Glen Canyon aquifer system in this area is typically to the west and estimated depth of this regional aquifer is between 800-1,200 feet below ground surface. The Mancos Shale confining unit is located between the surface and the Dakota-Glen Canyon aquifer systems which should prohibit any downward migration of surface water into the Dakota-Glen Canyon aquifer system. The major recharge areas for the Dakota-Glen Canyon aquifer system lie well outside of the YE-6 location.

The COGCC GIS Online mapping system shows 3 water well locations 1.3, 1.4, and 1.6 miles to the northeast, south, and southeast of the YE-6 location, respectively. These water well locations were not drilled after having their permit denied in 1979. A fourth water well location (Colorado Division of Water Resources Permit 18230) was drilled to a depth of 300 feet in 1965. This well location listed groundwater at 209 feet in depth but only produced 0.5 gallons per minute. This water well location is located 1.6 miles to the east of YE-6. For this reason, Kinder Morgan does not anticipate that any shallow groundwater would be located at the YE-6 location.

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

Site Assessment

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

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

Soil Boring Program:

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

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

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

Laboratory Analysis Plan

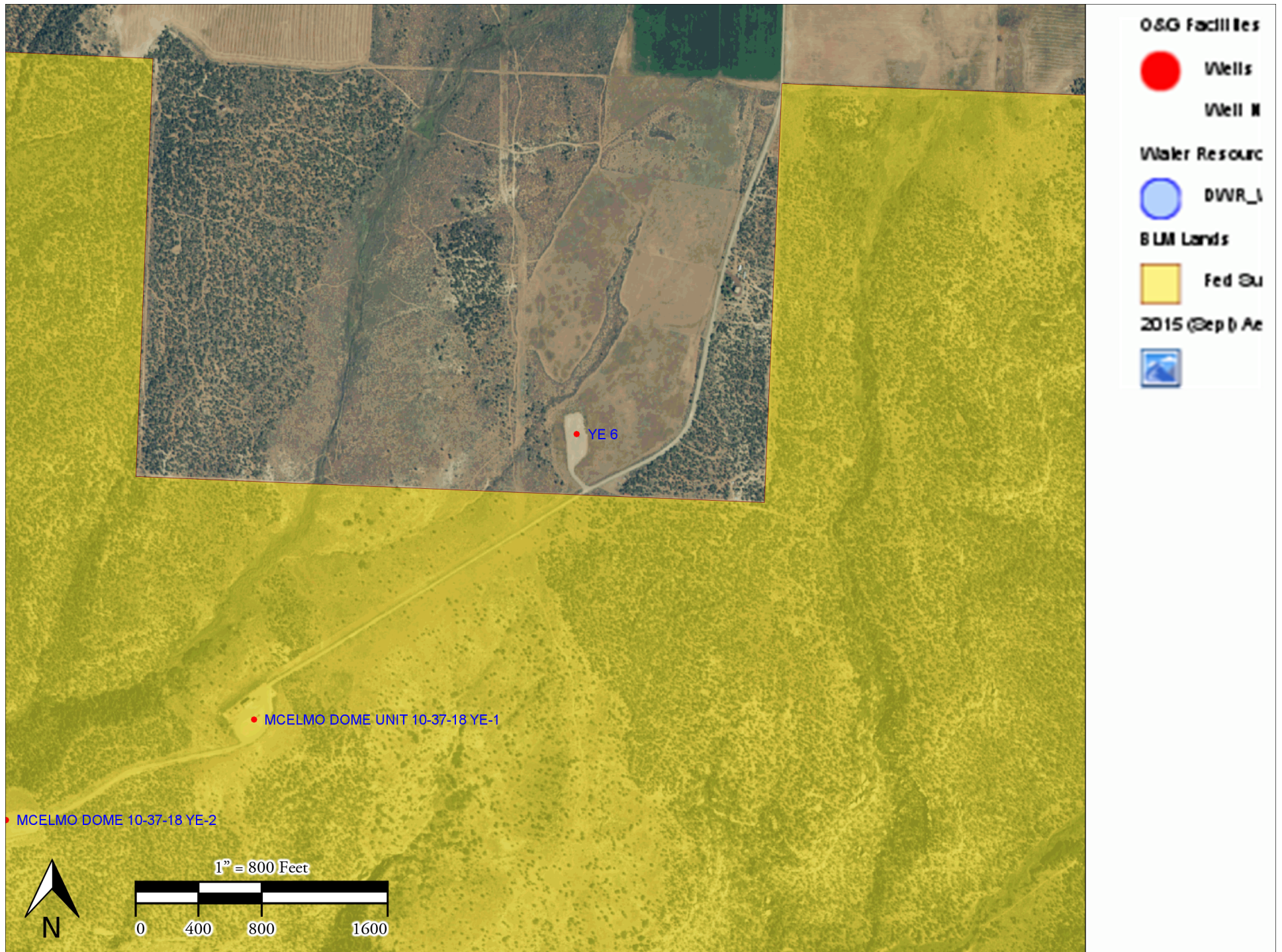
Kinder Morgan proposes to submit each soil sample for analysis of all applicable constituents on COGCC Table 910-1 with the exception of PAHs (Acenaphthene, Anthracene, Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene,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

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

Summary Report:

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

Kinder Morgan YE-6



**Kinder Morgan CO₂ Co., SESW Section 2, T37N, R18W, N PM, Montezuma County, Colorado, Form 27
Conditions of Approval (COAs)**

Conditions of Approval:

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

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

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

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

Review of Colorado Division of Water Resources water well information indicates that the nearest domestic water well (approximately 1.6 mile from the former Pit Facility location) had a static water level of 209 ft. bgs. Kinder Morgan shall not be required to advance an additional boring to a depth of 50 ft. bgs at the location to evaluate the potential for shallow groundwater. If groundwater is encountered in the shallow pit area borings, water samples shall be collected and analyzed for Table 910-1 constituents.

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

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

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

After discussions with KM representatives, it is the understanding of the COGCC that PAHs have not been encountered in other site investigations that have been conducted by the operator thus far. An abbreviated Table 910-1 constituent list, excluding PAHs, shall be accepted at this location. Laboratory results, documenting non-

**Kinder Morgan CO₂ Co., SESW Section 2, T37N, R18W, N PM, Montezuma County, Colorado, Form 27
Conditions of Approval (COAs)**

detect of PAHs in previous investigations, shall be provided to COGCC SW EPS prior to commencing sampling for this closure project.

ATTACHMENT B

Boring Logs



Soil Boring Log

Boring No.: YE-6-1

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon Date Started: 10/27/16

Project Number: _____ Date Completed: 10/27/16

Logger: K. Rose

Editor: _____

Project Location: Cortez, CO

Weather Conditions: Sunny

| Depth (feet) | Blow Counts | Sample ID & Time | Recovery (in.) | PID (ppm) | USCS Class. | Description | Construction Details |
|-----------------|------------------|----------------------------------|-------------------|----------------|----------------|--|-------------------------|
| 1 | 3 4 5 | YE-6-1- 0-1-102716 @1045 | 24" | 20.8 19.4 | ML | (0 - 1.5 ft) Sandy SILT (5, 30, 50, 15) no plasticity, crumbly, dry, light red brown | 0.06 0.04 |
| 2 | 5 7 7 | | 24" | 18.1 17.0 | ML | (1.5 - 4.5 ft) Silty CLAY: Clayey SILT, no plasticity, brittle, dry, no dilatancy, red brown. | 0.04 0.02 |
| 3 | 10 11 11 | | 24" | 38.4 24.1 | ML | (4.5 - 10 ft) Sandy SILT (5, 40, 45, 10) no plasticity, no dilatancy, crumbly, dry, vf - f grained sand, | 0.05 0.12 |
| 4 | 8 7 7 | | 24" | 21.8 18.6 | | light red brown. | 0.02 0.03 |
| 5 | 10 7 7 | | 24" | 32.4 25.0 | | @ 9' Slight black staining and black fly ash observed. | 0.12 0.38 |
| 6 | 12 20 50/5 | | 14" | 37.8 427.7 | ML | (10 - 13 ft) Sandy silt (0, 35, 55, 10) No plasticity, no dilatancy, crumbly, vf - f grained sand, | 0.28 0.49 |
| 7 | 4 13 10 | YE-6-1- 13-14-102716 @1115 | 24" | 160.5 113.4 | | dry, light red brown @ 11.5 Dark gray staining observed, black fly ash observed, and pieces of | 0.81 4.42 |
| 8 | 28 6 14 | | 24" | 300.2 105.7 | ML | black liner. (13 - 14.5 ft) Sandy SILT (10, 35, 45, 10) vf - coarse sand, no plasticity, | 3.31 1.86 |
| 9 | 22 44 6 | | | 227.0 94.5 | | no dilatancy, crumbly, dry, dark gray and black staining and black ash present, odor. | 0.56 0.45 |
| 10 | 11 50/3 | | 16" | | SW | (14.5 - 18 ft) Silty SAND (10, 50, 30, 10) vf - c grained, poorly sorted, loose, gray/black staining observed, hydrocarbon odor | 0.17 0.17 |
| 11 | | YE-6-1- 18-19-102716 @1125 | 12" | 47.1 47.1 | ML | (18 - 19 ft) Clayey silt, yellow brown, iron oxidation weathering, no staining. | T.D. 19' |

Drilling Co.: Kuyek

Driller: Kelly

Sampling Method: 8" TSA

Sampling Fluid: _____

Remarks: Elevation change b/w boring
and YE-6 well, boring is higher so
drilling deeper is necessary

Sampling Method: 2.5" Split Spoon

Sampling Interval: 24"

Water Level Start: _____

Water Level Finish: _____

Converted to Well: ☐ Yes ☒ No

Surface Elev: _____

North Coord: _____

East Coord: _____

Soil Boring Log

Boring No.: YE-6-2

Sheet: 1 of 1

Project Name: McElme Dome + Doe Canyon Date Started: 10/27/16

Logger: K. Rose

Project Number: _____ Date Completed: 10/27/16

Editor: _____

Project Location: Cortez, CO

Weather Conditions: Sunny

| Depth (feet) | Blow Counts | Sample ID & Time | Recovery (in.) | PID (ppm) | USCS Class. | Description | Construction Details mS SPEC COND |
|-----------------|----------------|--------------------------------|-------------------|--------------|----------------|--|--|
| 1 | 5 4 | | 24" | 23.9 | ML | (0 - 4 ft) Sandy SILT (5, 35, 60, 0) No plasticity, medium stiff, no dilatancy, dry, light red brown, sand grains very fine to coarse. | 0.03 |
| 2 | 6 10 | | | 19.9 | | | 0.02 |
| 3 | 7 9 9 | YE-6-2- 2-3-102716 @1300 | 24" | 19.9 | | @ 2 ft: Coarse grained to pebble size inclusions of white sandstone and low plasticity pink silt. | 0.11 |
| 4 | 9 6 | | | 20.2 | | | 0.08 |
| 5 | 11 12 | | 24" | 24.6 | ML | (4 - 6.5 ft) Sandy SILT (10, 30, 50, 0) No plasticity, no dilatancy, stiff, dry, light red brown, | 0.05 |
| 6 | 13 10 | | | 18.7 | | | 0.08 |
| 7 | 18 15 | | 24" | 50.9 | ML | sand vf-c. (6.5 - 11 ft) Sandy silt (20, 35, 45, 5) sand is vf. coarse grained, | 0.11 |
| 8 | 13 10 | | | 138.5 | | | 0.20 |
| 9 | 18 15 | | 24" | 37.1 | | no plasticity, no dilatancy, crumbly. black fly ash and some gray staining and streaks of black observed. | 0.08 |
| 10 | 13 7 | | | 26.4 | | | 2.07 |
| 11 | 15 23 | YE-6-2- 11-12-102716 | 24" | 182.5 | SW | (11 - 12 ft) Silty SAND, very fine to coarse grains, poorly sorted, loose, weak cementation, subangular, dark gray and black staining. | 1.38 |
| 12 | 25/3 24 | @1325 | | 193.0 | | | 6.28 |
| 13 | 19 20/4 | | 18" | 56.2 | ML | (12 - 13 ft) Sandy SILT, no plasticity, medium stiff, dry, red brown, black fly ash observed, no staining visible. | 0.78 |
| 14 | 37/5 | | 12" | 42.5 | | | 0.63 |
| 15 | | YE-6-2- 15-16-102716 | | 38.1 | SP | (13 - 13.4 ft) SAND (0, 100, 0, 0), poorly graded, vf-f grained, white gray, very dense | 0.15 |
| 16 | | @1335 | | 38.1 | ML | (13.4 - 15.3 ft) Sandy SILT, no plasticity, stiff, red brown, gray and black staining. | |
| | | | | | ML | (15.3 - 16 ft) Clayey silt, yellow brown, no plasticity, dry, no staining observed. | |

Total
Depth: 16'

Drilling Co.: Kyle K

Driller: Kelly

Sampling Method: 8" 17.5 A

Sampling Fluid: _____

Remarks: _____

Sampling Method: 2.5" split spoon

Sampling Interval: 24"

Water Level Start: _____

Water Level Finish: _____

Converted to Well: ☐ Yes ☒ No

Surface Elev: _____

North Coor: _____

East Coor: _____

Soil Boring Log

Boring No.: YE-6-3

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon

Date Started: 10/27/16

Logger: K. Rose

Project Number:

Date Completed: 10/27/16

Editor:

Project Location: Cortez, CO

Weather Conditions: Sunny

| Depth (feet) | Blow Counts | Sample ID & Time | Recovery (in.) | PID (ppm) | USCS Class. | Description | Construction Details |
|-----------------|----------------|----------------------------------|-------------------|--------------|----------------|---|-------------------------|
| 1 | 3 | YE-6-3- 1-2-1027H @ 1410 | 24" | 44.8 | ML | (0 - 3.5 ft) Sandy SILT, <30% clay, no plasticity, no dilatancy, crumbly, dry, light red brown. | SP. COND. 0.05 |
| 2 | 7 | | | 114.6 | | | 0.05 |
| 3 | 9 | | | | | | |
| 4 | 8 | | 24" | 39.9 | ML | (3.5 - 5 ft) Clayey SILT (0, 10, 60, 30) no plasticity, no dilatancy, stiff, dry, red brown. | 0.02 |
| 5 | 13 | | | 32.2 | | | 0.27 |
| 6 | 17 | | | | | | |
| 7 | 12 | | 24" | 34.8 | ML | | 0.29 |
| 8 | 7 | | | 30.9 | | (5 - 8 ft) Sandy SILT, some gravel, v.f. - c grained sand, no plasticity, medium stiff, dry, red brown. | 0.08 |
| 9 | 10 | | | 30.5 | | | 0.13 |
| 10 | 25 | YE-6-3- 9-10-1027H @ 1430 | 24" | 40.7 | SW SP | @ 6.5' : Lenses of hard white fine grained sandstone. | 0.09 |
| 11 | 8 | | | 38.1 | | (8 - 13 ft) SAND and SILT, some gravel, no plasticity, brittle, poorly sorted, light red brown, no staining observed. | 0.10 |
| 12 | 10 | | | 35.0 | | | 0.51 |
| 13 | 6 | | 24" | 65.7 | | @ 11 ft: Slight gray staining | 0.19 |
| 14 | 5 | | | 57.6 | | @ 11.5 ft: Black liner observed | 0.51 |
| 15 | 7 | | | | | (13 - 15 ft) Silty SAND, v. fine to coarse sand, poorly sorted, dry, subrounded, very loose, weak cementation, no staining or ash observed, yellow brown. | 0.11 |
| | 16 | YE-6-3- 14-15-1027H @ 1440 | 12" | 27.9 | SW | @ 14' : Very dense white sandstone cobbles, fine grained. | |
| | 50/5 | | | 28.4 | | @ 14.5' Increase in silt content some Fe weathering. | 0.03 |
| | | | | | | | |
| | | | | | | Total Depth: 15' bgs | |

Drilling Co.: Kyuek

Driller: Kelly

Sampling Method: 8" HSA

Sampling Fluid:

Remarks:

Sampling Method: 2.5" split spoon

Sampling Interval: 24"

Water Level Start:

Water Level Finish:

Converted to Well:

☐ Yes

☒ No

Surface Elev:

North Coord:

East Coord:

Soil Boring Log

Boring No.: **YE-6-4**

Sheet: **1** of **1**

Project Name: **McElmo Dome + Doe Canyon** Date Started: **10/27/16** Logger: **K. Rose**

Project Number: _____ Date Completed: **10/27/16** Editor: _____

Project Location: **Cortez, CO** Weather Conditions: **Sunny**

| Depth (feet) | Blow Counts | Sample ID & Time | Recovery (in.) | PID (ppm) | USCS Class. | Description | Construction Details sp. cond. |
|----------------------|----------------|----------------------------------|-------------------|--------------|----------------|--|--------------------------------------|
| 1 | 4 5 6 | YE-6-4- 1-2-1027H @ 1505 | 24" | 22.4 | ML | (0-1.5 ft) Sandy SILT (0,40,60,0) no plasticity, no dilatancy, sand vf-c grained, dry, brittle, red brown. | 0.04 |
| 2 | 7 | | | 18.5 | | | 0.06 |
| 3 | 7 | | | 20.8 | SW | (1.5-5.5 ft) Silty SAND, little gravel (15,50,35,0), poorly sorted, dry, loose, light red brown. | 0.03 |
| 4 | 7 8 | | 24" | 23.4 | | | 0.02 |
| 5 | 8 8 | | | 20.2 | | | 0.04 |
| 6 | 10 10 | | | 25.3 | ML | (5.5-7 ft) Sandy SILT, little gravel (10,30,50,10), no plasticity, no dilatancy, dry, brittle, light red brown. | 0.26 |
| 7 | 10 9 31 | | 24" | 239.8 | | | 0.16 |
| 8 | 33 | | | 48.4 | SW | (7-10 ft) Silty SAND (5,60,30,5) poorly sorted, vf-c grains, dry, very loose, light red brown, gray staining and black fly ash observed, odor. | 0.64 |
| 9 | | | | 45.6 | | | 0.39 |
| 10 | 16 | | 24" | 113.1 | | | 0.78 |
| 11 | 16 12 | | | 158.9 | ML | @ 9.5 ft: Black staining observed. (10-11 ft) Clayey SILT, no plasticity, very stiff, red gray. | 0.29 |
| 12 | 17 | | | 102.8 | | | 0.40 |
| 13 | 11 22 32 | YE-6-4- 13-14-1027H @ 1535 | 24" | 84.6 | ML | (11-11.5 ft) Clayey SILT, (0,0,70,30), no plasticity, medium stiff, yellow brown. | 0.92 |
| 14 | 36 | | | 139.3 | | | 1.60 |
| 15 | 40 1/2 | YE-6-4- 14-15-1027H @ 1540 | 12" | 32.2 | CL | (11.5-15 ft) Silty CLAY, no plasticity, very stiff to hard, gray, iron oxidation weathering. | 1.39 |
| Total depth: 15' bgs | | | | | | | |

Drilling Co.: **Kwik**
Driller: **Kelby**
Sampling Method: **8" HSA**
Sampling Fluid: _____
Remarks: _____

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

Soil Boring Log

Boring No.: YE-6-5

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon Date Started: 10/28/16 Logger: K. Rose
 Project Number: _____ Date Completed: 10/28/16 Editor: _____
 Project Location: Cortez, CO Weather Conditions: Overcast

| Depth (feet) | Blow Counts | Sample ID & Time | Recovery (in.) | PID (ppm) | USCS Class. | Description | Construction Details Sp. Conductivity |
|----------------------|---------------------|----------------------------------|-------------------|--------------|----------------|---|---|
| 1 | 2 3 5 | | 24" | 15.7 | ML | (0 - 1 ft) SILT, no plasticity, powdery, red brown. | 0.07 |
| 2 | 6 | | | 31.2 | ML | (1 - 5 ft) Sandy SILT (0,40,50,10) | 0.02 |
| 3 | 11 8 6 | YE-6-5- 2-3-102816 @1440 | 24" | 23.1 | | no plasticity, no dilatancy, dry, medium stiff, light red brown. | 1.05 |
| 4 | 7 | | | 27.4 | | | 0.73 |
| 5 | 6 10 10 15 | YE-6-5- 4-5-102816 @1450 | 24" | 43.2 | ML | @ 4.5' : 10% gravel (5 - 6.5 ft) Clayey SILT (0,10,50,40) | 5.42 |
| 6 | 15 | | | 23.2 | | low plasticity, no dilatancy | 0.29 |
| 7 | 5 14 21 | | 24" | 194.7 | | dry, red brown, medium stiff, some gray stained areas observed. | 1.71 |
| 8 | 20 | | | 56.0 | CL | (6.5 - 9 ft) Silty CLAY. | 0.53 |
| 9 | 10 27 37 | | 24" | 103.6 | | low plasticity, no dilatancy, dry, stiff, red brown | 1.51 |
| 10 | 42 | | | 32.8 | ML | (9 - 11 ft) Sandy SILT, some clay, low plasticity, no dilatancy, dry, medium stiff, light brown red with slight gray staining observed. | 0.56 |
| 11 | 10 29 40/3 | | 18" | 43.5 | | | 1.01 |
| 12 | 22 | | | 55.2 | | | 0.15 |
| 13 | 31 41 | | 24" | 97.1 | CL | (11 - ft) CLAY, some silt, (0,0,25,75), no plasticity, no dilatancy, dry, stiff, light gray, no staining or odor observed. | 0.10 |
| 14 | | | | 102.6 | | | 0.22 |
| 15 | 26 30/2 24 | YE-6-5- 15-16-102816 @1515 | 24" | 153.5 | | | 0.10 |
| 16 | 30/2 | | | 192.9 | | @ 13.5' Black staining @ 14' : Gray staining. | 0.03 |
| Total Depth: 16' bgs | | | | | | | |

Drilling Co.: Kynak
 Driller: Kelly
 Logging Method: 8" TSA
 Logging Fluid: _____
 Remarks: _____

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

Soil Boring Log

Boring No.: YE-6-6

Sheet: 1 of 1

Project Name: McElmo Dome

Date Started: 10/28/16

Logger: K. Rose

Project Number:

Date Completed: 10/28/16

Editor:

Project Location: Cortez, CO

Weather Conditions: Sunny

| Depth (feet) | Blow Counts | Sample ID & Time | Recovery (in.) | PID (ppm) | USCS Class. | Description | Construction Details Sp. Conductivity |
|-----------------|----------------|-----------------------------------|-------------------|--------------|----------------|---|---|
| 1 | 3 | | 24" | 19.5 | ML | (0-3 ft) SILT (0,25,65,10) no plasticity, no dilatancy, dry, brittle, red brown. | 0.03 |
| 2 | 6 | | | 19.3 | | | 0.04 |
| 3 | 6 | YE-6-6- 2-3-102816 @ 1315 | 24" | 49.2 | SW | (3-5.5 ft) Silty SAND (10,50,30,10) poorly sorted, dry, loose, weak cementation, vf - C grained sand. | 0.07 |
| 4 | 7 | | | 25.5 | | | 0.06 |
| 5 | 15 | | | | | | |
| 6 | 19 | | | | | | |
| 7 | 12 | | 18" | 38.4 | ML | (5.5-12 ft) Sandy SILT, some pebbles and gravel, no plasticity, no dilatancy, dry, medium stiff, red brown. | 0.33 |
| 8 | 39 | | | 73.4 | | | 0.45 |
| 9 | 47 | | | | | | |
| 10 | 44 | | 12" | 51.3 | | @ 7 ft: white fly ash observed, gray staining, odor. @ 9 ft: Black staining, odor. @ 11 ft: Increase in clay content. | 0.18 |
| 11 | 9 | | | 51.3 | | | 0.18 |
| 12 | 50/4 | | 18" | 88.8 | | | 1.28 |
| 13 | 13 | | | 103.5 | | | 0.11 |
| 14 | 40 | | | | | | |
| 15 | 14 | YE-6-6- 11-12-102816 @ 1340 | 24" | 61.8 | SW | (12-13 ft) Silty SAND, poorly sorted, dry, black staining and odor. | 1.56 |
| 16 | 21 | | | 28.8 | | | 8.92 |
| 17 | 11 | | | | | | |
| 18 | 17 | | 24" | 60.8 | CL | (13-15 ft) CLAY, little silt, low plasticity, low dilatancy, gray color, no staining observed, iron oxidation weathering. | 0.53 |
| 19 | 14 | | | 33.5 | | | 0.17 |
| 20 | 23 | | | | | | |
| 21 | 25 | | 12" | 43.2 | | | 0.05 |
| 22 | 14 | YE-6-6- 15-16-102816 @ 1350 | 12" | 28.8 | | | 0.20 |
| 23 | 40/6 | | | | | TD: 16' bgs | |
| 24 | 17 | | | | | | |
| 25 | 34 | | | | | | |
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Drilling Co.: Kylek
 Driller: Kelly
 Sampling Method: 8" HSA
 Sampling Fluid:
 Remarks:

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

Soil Boring Log

Boring No.: YE-6-7

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon

Date Started: 10/28/16

Logger: K. Rose

Project Number:

Date Completed: 10/28/16

Editor:

Project Location: Cortez, CO

Weather Conditions: Overcast

| Depth (feet) | Blow Counts | Sample ID & Time | Recovery (in.) | PID (ppm) | USCS Class. | Description | Construction Details sp. Conductivity |
|--------------|-------------|----------------------------|----------------|-----------|-------------|--|--|
| 1 | 4 | | 24" | 18.6 | ML | (0-1 ft) Sandy SILT, no plasticity, <30% clay, sand | 0.11 |
| 2 | 6 | | | 15.4 | | vf-m; trace gravel, red | 0.04 |
| 3 | 8 | YE-6-7-2-3-102816 @ 1130 | 24" | 24.8 | SW | brown. | 0.32 |
| 4 | 9 | | | 18.5 | | (1-4 ft) Sand and silt, trace gravel, dry, loose, poorly | 0.06 |
| 5 | 18 | | 24" | 18.7 | | sorted, weak cementation, sand | 0.14 |
| 6 | 12 | | | 17.9 | | vf-c grained, light red brown, no staining or odor. | 0.16 |
| 7 | 30 | | 16" | 157.7 | ML | (4-6 ft) Sandy SILT (1,35,50,14) | 0.06 |
| 8 | 40/4 | | 24" | 328.8 | | no plasticity, no dilatancy, dry, red brown, medium stiff. | 0.17 |
| 9 | 28 | | | | | sand vf-c grained, no staining observed. | |
| 10 | 20/2 | YE-6-7-9-10-102816 @ 1150 | 12" | 105.3 | SW | (6-13 ft) Silty SAND (5,50,405) | 2.35 |
| 11 | 14 | | | 157.3 | | poorly sorted, vf-c grained | 0.09 |
| 12 | 50/2 | | 20" | 182.3 | | sand, medium dense, dry, subrounded, light red brown, black liner observed at 10 ft. | 0.09 |
| 13 | 19 | | | 71.3 | | light gray staining observed. | 0.34 |
| 14 | 40 | | 20" | 96.4 | CL | @ 10' Greater staining observed | 1.54 |
| 15 | 18 | YE-6-7-14-15-102816 @ 1200 | | 46.5 | | (13-15 ft) CLAY, some silty, (0,0,25,75) low plasticity, no dilatancy, dry, gray color, no staining or odor observed, Fe weathering. | 0.21 |
| | 22 | | | | | TD: 15' bgs | |

Drilling Co.: Kuyek

Driller: Kelly

Sampling Method: 8" HSA

Sampling Fluid:

Remarks:

Sampling Method: 2.5" split spoon

Sampling Interval: 24"

Water Level Start:

Water Level Finish:

Converted to Well:

☐ Yes

☒ No

Surface Elev:

North Coord:

East Coord:

Soil Boring Log

Boring No.: YE-6-8

Sheet: 1 of 1

Project Name: McElmo Dome + Doe Canyon

Date Started: 10/28/16

Logger: K. Rose

Project Number:

Date Completed: 10/28/16

Editor:

Project Location: Cortez, CO

Weather Conditions: Sunny

| Depth (feet) | Blow Counts | Sample ID & Time | Recovery (in.) | PID (ppm) | USCS Class. | Description | ms Construction Details |
|-----------------|----------------|-----------------------------------|-------------------|--------------|----------------|---|-------------------------------|
| 1 | 4 | | | 6.1 | ML | (0 - 1 ft) Sandy SILT, no plasticity, < 20% clay, sand vf-m, dry, crumbly, red brown. | 0.00 |
| 2 | 6 | | 24" | 26.8 | | | 0.17 |
| 3 | 7 | | | | | | |
| 4 | 8 | YE-6-8- 2-3-102816 @0945 | 24" | 13.1 | SW | (1-2.5 ft) Sand and Silt, little gravel, dry, loose, poorly sorted, weak cementation, sand vf-c grained, light red brown. | 0.25 |
| 5 | 6 | | | 10.2 | | | 2.35 |
| 6 | 5 | | | 21.1 | ML | (2.5-6.5 ft) Clayey SILT, some sand (5, 20, 30, 40) (5, 20, 40, 35), no plasticity, no dilatancy, dry, medium stiff, red brown. | 2.50 |
| 7 | 3 | | 24" | 53.1 | | | 2.34 |
| 8 | 9 | | | 108.2 | | @ 5.5 ft: Gray and black staining, white fly ash observed. | 0.51 |
| 9 | 48 | | | 323.0 | | | 1.18 |
| 10 | 20 | | | 175.3 | SW | (6.5-10 ft) Silty SAND, < 30% clay, vf-c sand, trace gravel, subround to subangular, poorly sorted, dry, loose, gray and black staining and black fly ash observed, odor. | 2.99 |
| 11 | 40 | | 24" | 241.7 | | @ 8.5 ft: Iron oxidation weathering streaks + white fly ash. | 1.76 |
| 12 | 50/6 | | | 89.5 | | | 2.30 |
| 13 | 12 | | 24" | 49.2 | | | 1.78 |
| 14 | 23 | YE-6-8- 12-13-102816 @ 1010 | 24" | 46.2 | ML | (10 - 13.5 ft) Clayey SILT (0, 10, 50, 40), no plasticity, no dilatancy, dry, medium stiff, yellow brown with gray staining, odor. | 7.83 |
| 15 | 30 | | | 28.8 | | | 1.57 |
| 16 | 50 | YE-6-8- 14-15-102816 @ 1020 | 12" | 49.2 | | @ 11.5 ft: Solid black staining, odor. | 0.24 |
| 17 | 23 | | | | | | |
| 18 | 40 | | | | CL | (13.5 - 15 ft) CLAY, some silt, (0, 0, 25, 75), low plasticity, no dilatancy, dry, gray, no staining or odor. | |
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Drilling Co.: Kyvek
 Driller: Kelly
 Sampling Method: 8" PSA
 Sampling Fluid:
 Remarks:

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

ATTACHMENT C

Photo Log



Project Photographs

McElmo Dome
Cortez, Colorado



Photo: 1

Date:
10/27/16

Description:
Looking east

Location:
YE-6



Photo: 2

Date:
10/27/16

Description:
Looking north

Location:
YE-6

Project Photographs

McElmo Dome
Cortez, Colorado



Photo: 3

Date:
10/27/16

Description:
Looking south

Location:
YE-6



Photo: 4

Date:
10/27/16

Description:
Looking west

Location:
YE-6

Project Photographs

McElmo Dome
Cortez, Colorado



Photo: 5

Date:
10/27/16

Description:
Liner found at 10 to 11.5 feet
below ground surface

Location:
YE-6

ATTACHMENT D

Field Notes





ARCADIS

Infrastructure · Water · Environment · Buildings

ARCADIS U.S., Inc.

BY K.R. DATE 10/27/16 SHEET NO 1 OF 2

CHKD. BY _____ DATE _____ JOB NO _____

SUBJECT _____

[illegible]

Imagine the result

W m

10/27/16

1230 Begin drilling at YE-6-2
1300 YE-6-2-2-3-102716
1325 YE-6-2-11-12-102716
1335 YE-6-2-15-16-102716 TD: 16' bgs
1350 Begin drilling at YE-6-3
1410 YE-6-3-1-2-102716
1430 YE-6-3-9-10-102716
1440 YE-6-3-14-15-102716 TD: 15' bgs
1450 Begin drilling at YE-6-4
1505 YE-6-4-1-2-102716
1535 YE-6-4-13-14-102716
1540 YE-6-4-14-15-102716 TD: 15' bgs
1630 Finish site cleanup, mob back to field office
1700 Kyvek decons equipment
K.R. - Packing samples/coolers
2000 Arcadis offsite

K.R.

McElmo Dome and Doe Canyon

10/28/16

8" HSA Drilling YE-6

Kinder Morgan

Weather: Sunny

0830: Arcadis onsite. Meeting time moved to 0830 because Kyvek had to drive to Farmington early this morning to fix a leaking water valve on the drill rig.

0900: Kyvek and Jimmy onsite.

0930: Begin drilling at YE-6-8.

0945 YE-6-8-2-3-102816

1010 YE-6-8-12-13-102816

1020 YE-6-8-14-15-102816

1043 GPS Coordinates YE-6

YE-6-1 N: 807354.83 ft E: -8638828.00 ft
Elevation: 6,603.78 ft

YE-6-2 N: 807410.45 ft E: -8638816.79 ft
Elevation: 6,603.98 ft

YE-6-3 N: 807461.50 ft E: -8638807.91 ft
Elevation: 6,603.13 ft

YE-6-4 N: 807528.02 ft E: -8638806.08 ft
Elevation: 6,599.95 ft

YE-6-5 N: 807369.99 ft E: -8638930.46 ft
Elevation: 6,599.55 ft

YE-6-6 N: 807419.73 ft E: -8638923.93 ft
Elevation: 6,597.17 ft

YE-6-7 N: 807499.06 ft E: -8638907.48 ft
Elevation: 6,596.15 ft

YE-6-8 N: 807552.17 ft E: -8638896.28 ft
Elevation: 6,597.84 ft

1120 Begin drilling at YE-6-7

1130 YE-6-7-2-3-102816

1150 YE-6-7-9-10-102816

1200 YE-6-7-14-15-102816

| | | |
|------|--|--------------------|
| 1250 | Begin drilling at YE-6-6 | |
| 1315 | YE-6-6 - 2-3 - 102816 | Staining observed. |
| 1340 | YE-6-6 - 11-12 - 102816 | |
| 1350 | YE-6-6 - 15-16 - 102816 | TD: 16' bgs |
| 1420 | Begin drilling at YE-6-S | |
| 1440 | YE-6-S - 2-3 - 102816 | Staining observed |
| 1450 | YE-6-S - 4-5 - 102816 | |
| 1515 | YE-6-S - 15-16 - 102816 | TD: 16' bgs |
| 1430 | cleanup and mob to YF-3 location | |
| 1445 | Offsite to decon augers at field office. | |

ATTACHMENT E

Laboratory Analytical Reports





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

November 16, 2016

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

Work Order: **HS16110051**

Revision: **1**

Laboratory Results for: **McElmo Dome**

Dear Aaron,

ALS Environmental received 27 sample(s) on Nov 01, 2016 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

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

Generated By: Sonia.West
Sonia West
Project Manager

Client: Kinder Morgan
Project: McElmo Dome
Work Order: HS16110051

SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---------------|----------------------|--------|-------|-------------------|-------------------|--------------------------|
| HS16110051-01 | YE-6-3-14-15-102716 | Soil | | 27-Oct-2016 14:40 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-02 | YE-6-4-1-2-102716 | Soil | | 27-Oct-2016 15:05 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-03 | YE-6-4-13-14-102716 | Soil | | 27-Oct-2016 15:35 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-04 | YE-6-4-14-15-102716 | Soil | | 27-Oct-2016 15:40 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-05 | YE-6-5-2-3-102816 | Soil | | 28-Oct-2016 14:40 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-06 | YE-6-5-4-5-102816 | Soil | | 28-Oct-2016 14:50 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-07 | YE-6-5-15-16-102816 | Soil | | 28-Oct-2016 15:15 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-08 | YE-6-6-2-3-102816 | Soil | | 28-Oct-2016 13:15 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-09 | TRIP BLANK 082916-74 | Water | | 27-Oct-2016 00:00 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-10 | YE-6-1-0-1-102716 | Soil | | 27-Oct-2016 10:45 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-11 | YE-6-1-13-14-102716 | Soil | | 27-Oct-2016 11:15 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-12 | YE-6-1-18-19-102716 | Soil | | 27-Oct-2016 11:25 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-13 | YE-6-2-2-3-102716 | Soil | | 27-Oct-2016 13:00 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-14 | YE-6-2-11-12-102716 | Soil | | 27-Oct-2016 13:25 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-15 | YE-6-2-15-16-102716 | Soil | | 27-Oct-2016 13:35 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-16 | YE-6-3-1-2-102716 | Soil | | 27-Oct-2016 14:10 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-17 | YE-6-3-9-10-102716 | Soil | | 27-Oct-2016 14:30 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-18 | TRIP BLANK 100716-95 | Water | | 27-Oct-2016 00:00 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-19 | YE-6-6-11-12-102816 | Soil | | 28-Oct-2016 13:40 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-20 | YE-6-6-15-16-102816 | Soil | | 28-Oct-2016 13:50 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-21 | YE-6-7-2-3-102816 | Soil | | 28-Oct-2016 11:30 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-22 | YE-6-7-9-10-102816 | Soil | | 28-Oct-2016 11:50 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-23 | YE-6-7-14-15-102816 | Soil | | 28-Oct-2016 12:00 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-24 | YE-6-8-2-3-102816 | Soil | | 28-Oct-2016 09:45 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-25 | YE-6-8-12-13-102816 | Soil | | 28-Oct-2016 10:10 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-26 | YE-6-8-14-15-102816 | Soil | | 28-Oct-2016 10:20 | 01-Nov-2016 08:45 | <input type="checkbox"/> |
| HS16110051-27 | TRIP BLANK 100716-08 | Water | | 28-Oct-2016 00:00 | 01-Nov-2016 08:45 | <input type="checkbox"/> |

Client: Kinder Morgan
Project: McElmo Dome
Work Order: HS16110051

CASE NARRATIVE

Work Order Comments

- Revision I:
This report has been revised to change the sample ID YA-6-3-14-15-102716 to YE-6-3-14-15-102716

Work Order Comments

- Sample YE-6-8-14-15-102816 has one of the jars labeled with the collection time of 10:25. The laboratory has reported the collection time of 10:20 as per the chain of custody.

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: 109453**

- Sample ID: **YE-6-2-11-12-102716 (HS16110051-14)**
- The surrogate recoveries could not be determined due to dilution below the calibration range.

Batch ID: 109502

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

GC Volatiles by Method SW8015**Batch ID: R284153,R284181**

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

GCMS Volatiles by Method SW8260**Batch ID: R284083**

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

Batch ID: R284085

- Sample ID: **YE-6-4-1-2-102716 (HS16110051-02MS)**
- MS/MSD failed QC limits for some compounds.

Batch ID: R284110

- Sample ID: **YE-6-2-11-12-102716 (HS16110051-14MS)**
- MS/MSD failed QC limits for some compounds.

Metals by Method Calculation**Batch ID: R284823**

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

Metals by Method La29B SAR**Batch ID: 109794,109795**

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

Client: Kinder Morgan
Project: McElmo Dome
Work Order: HS16110051

CASE NARRATIVE

Metals by Method SW7471A**Batch ID: 109678,109679,109772**

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

Metals by Method SW6020**Batch ID: 109608****Sample ID: YE-6-2-15-16-102716 (HS16110051-15)**

- Boron ran at a 5X dilution due to internal standard failure at a 1X.

Sample ID: YE-6-3-1-2-102716 (HS16110051-16BS)

- Boron failed on the PDS but passed on the MS\MSD.

Sample ID: YE-6-3-1-2-102716 (HS16110051-16MS)

- 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: YE-6-3-1-2-102716 (HS16110051-16MS)

- Zinc failed on the MS\MSD but passed on the PDS. Lithium failed on the MS but passed on the MSD and PDS.

Sample ID: YE-6-3-1-2-102716 (HS16110051-16MSD)

- Copper and Selenium failed on the MSD but passed on the MS and PDS.

Batch ID: 109457**Sample ID: HS16110065-05MS**

- MS/MSD and DUPs are for an unrelated sample

WetChemistry by Method LaDNR-29B EC**Batch ID: R284853,R284856**

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

WetChemistry by Method SW9045B**Batch ID: R284579,R284643**

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

WetChemistry by Method LaDNR-29B SP**Batch ID: R284844,R284846**

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

WetChemistry by Method SW3550**Batch ID: R284285,R284379**

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

WetChemistry by Method SW7196**Batch ID: 109702,109729**

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

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-3-14-15-102716
 Collection Date: 27-Oct-2016 14:40

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-01
 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 | 02-Nov-2016 16:43 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 16:43 |
| m,p-Xylene | ND | | 9.9 | ug/Kg | 1 | 02-Nov-2016 16:43 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 16:43 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 16:43 |
| Xylenes, Total | ND | | 9.9 | ug/Kg | 1 | 02-Nov-2016 16:43 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>109</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 16:43</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>94.6</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 16:43</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>105</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 16:43</i> |
| <i>Surr: Toluene-d8</i> | <i>96.8</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 16:43</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 04:08 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>84.1</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 04:08</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | ND | | 1.7 | mg/Kg | 1 | 04-Nov-2016 00:53 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>88.9</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 00:53</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 4.91 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 210 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:15 |
| Magnesium | 80.0 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:15 |
| Sodium | 330 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:15 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 Analyst: JCJ | | |
| Arsenic | 1.79 | | 0.476 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| Barium | 818 | | 9.53 | mg/Kg | 20 | 03-Nov-2016 17:39 |
| Boron | 5.19 | | 2.38 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| Cadmium | ND | | 0.476 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| Chromium | 1.99 | | 0.476 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| Copper | 4.12 | | 0.191 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| Lead | 6.91 | | 0.476 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| Nickel | 5.82 | | 0.476 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| Selenium | ND | | 0.476 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| Silver | ND | | 0.476 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| Zinc | 38.3 | | 0.476 | mg/Kg | 1 | 03-Nov-2016 15:11 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 27.8 | | 3.41 | ug/Kg | 1 | 09-Nov-2016 15:28 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-3-14-15-102716
 Collection Date: 27-Oct-2016 14:40

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-01
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 11.4 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 4.39 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.386 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.387 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 6.54 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 2.01 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.52 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.8 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-4-1-2-102716
 Collection Date: 27-Oct-2016 15:05

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-02
 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 | 02-Nov-2016 14:55 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 14:55 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 14:55 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 14:55 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 14:55 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 14:55 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | 108 | | 70-128 | %REC | 1 | 02-Nov-2016 14:55 |
| <i>Surr: 4-Bromofluorobenzene</i> | 92.1 | | 73-126 | %REC | 1 | 02-Nov-2016 14:55 |
| <i>Surr: Dibromofluoromethane</i> | 97.9 | | 71-128 | %REC | 1 | 02-Nov-2016 14:55 |
| <i>Surr: Toluene-d8</i> | 96.3 | | 73-127 | %REC | 1 | 02-Nov-2016 14:55 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 04:56 |
| <i>Surr: 4-Bromofluorobenzene</i> | 83.3 | | 70-130 | %REC | 1 | 03-Nov-2016 04:56 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | ND | | 1.7 | mg/Kg | 1 | 04-Nov-2016 01:17 |
| <i>Surr: 2-Fluorobiphenyl</i> | 83.3 | | 60-135 | %REC | 1 | 04-Nov-2016 01:17 |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 5.69 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 0.968 | | 0.0100 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 73.3 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:18 |
| Magnesium | 24.5 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:18 |
| Sodium | 37.5 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:18 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 Analyst: JCJ | | |
| Arsenic | 2.21 | | 0.488 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| Barium | 191 | | 2.44 | mg/Kg | 5 | 03-Nov-2016 17:43 |
| Boron | 5.38 | | 2.44 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| Cadmium | ND | | 0.488 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| Chromium | 5.69 | | 0.488 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| Copper | 4.82 | | 0.195 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| Lead | 6.38 | | 0.488 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| Nickel | 6.52 | | 0.488 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| Selenium | ND | | 0.488 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| Silver | ND | | 0.488 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| Zinc | 17.3 | | 0.488 | mg/Kg | 1 | 03-Nov-2016 15:15 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 25.1 | | 3.48 | ug/Kg | 1 | 09-Nov-2016 15:33 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-4-1-2-102716
 Collection Date: 27-Oct-2016 15:05

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-02
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 1.86 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 0.907 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.487 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.486 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 7.09 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 2.01 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.88 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.7 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-4-13-14-102716
 Collection Date: 27-Oct-2016 15:35

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-03
 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 | 02-Nov-2016 17:11 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 17:11 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 17:11 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 17:11 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 17:11 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 17:11 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>91.1</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 17:11</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>88.8</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 17:11</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>104</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 17:11</i> |
| <i>Surr: Toluene-d8</i> | <i>96.9</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 17:11</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 05:12 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>81.6</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 05:12</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 | | Analyst: AAP |
| TPH (Diesel Range) | ND | | 1.7 | mg/Kg | 1 | 04-Nov-2016 01:41 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>86.2</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 01:41</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: DQ |
| Sodium Adsorption Ratio | 5.46 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: RPM |
| Calcium | 288 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:21 |
| Magnesium | 140 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:21 |
| Sodium | 452 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:21 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 | | Analyst: JCJ |
| Arsenic | 1.16 | | 0.463 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Barium | 30.5 | | 0.463 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Boron | 4.46 | | 2.31 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Cadmium | ND | | 0.463 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Chromium | 1.78 | | 0.463 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Copper | 9.06 | | 0.185 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Lead | 13.1 | | 0.463 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Nickel | 7.58 | | 0.463 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Selenium | 0.781 | | 0.463 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Silver | ND | | 0.463 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| Zinc | 97.6 | | 0.463 | mg/Kg | 1 | 03-Nov-2016 15:20 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 | | Analyst: OFO |
| Mercury | 156 | | 3.45 | ug/Kg | 1 | 09-Nov-2016 15:35 |

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

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-4-13-14-102716
 Collection Date: 27-Oct-2016 15:35

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-03
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 9.52 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 6.33 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.665 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.664 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 13.8 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 1.97 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.21 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.7 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-4-14-15-102716
 Collection Date: 27-Oct-2016 15:40

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-04
 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 | 02-Nov-2016 17:38 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 17:38 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 17:38 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 17:38 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 17:38 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 17:38 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | 106 | | 70-128 | %REC | 1 | 02-Nov-2016 17:38 |
| <i>Surr: 4-Bromofluorobenzene</i> | 91.8 | | 73-126 | %REC | 1 | 02-Nov-2016 17:38 |
| <i>Surr: Dibromofluoromethane</i> | 103 | | 71-128 | %REC | 1 | 02-Nov-2016 17:38 |
| <i>Surr: Toluene-d8</i> | 96.3 | | 73-127 | %REC | 1 | 02-Nov-2016 17:38 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 05:28 |
| <i>Surr: 4-Bromofluorobenzene</i> | 88.4 | | 70-130 | %REC | 1 | 03-Nov-2016 05:28 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 | | Analyst: AAP |
| TPH (Diesel Range) | ND | | 1.7 | mg/Kg | 1 | 04-Nov-2016 02:05 |
| <i>Surr: 2-Fluorobiphenyl</i> | 84.5 | | 60-135 | %REC | 1 | 04-Nov-2016 02:05 |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: DQ |
| Sodium Adsorption Ratio | 5.89 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: RPM |
| Calcium | 389 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:24 |
| Magnesium | 92.7 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:24 |
| Sodium | 498 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:24 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 | | Analyst: JCJ |
| Arsenic | 1.99 | | 0.456 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| Barium | 732 | | 9.12 | mg/Kg | 20 | 03-Nov-2016 17:48 |
| Boron | 4.95 | | 2.28 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| Cadmium | ND | | 0.456 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| Chromium | 2.36 | | 0.456 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| Copper | 7.12 | | 0.182 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| Lead | 15.4 | | 0.456 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| Nickel | 8.07 | | 0.456 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| Selenium | 0.581 | | 0.456 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| Silver | ND | | 0.456 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| Zinc | 71.1 | | 0.456 | mg/Kg | 1 | 03-Nov-2016 15:24 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 | | Analyst: OFO |
| Mercury | 50.9 | | 3.49 | ug/Kg | 1 | 09-Nov-2016 15:36 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-4-14-15-102716
 Collection Date: 27-Oct-2016 15:40

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-04
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 10.4 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 6.47 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.625 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.625 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 8.69 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 1.97 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.63 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.6 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-5-2-3-102816
 Collection Date: 28-Oct-2016 14:40

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-05
 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 | 02-Nov-2016 18:05 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 18:05 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 18:05 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 18:05 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 18:05 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 18:05 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>104</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 18:05</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>91.3</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 18:05</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>102</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 18:05</i> |
| <i>Surr: Toluene-d8</i> | <i>93.1</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 18:05</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 05:44 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>92.9</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 05:44</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 | | Analyst: AAP |
| TPH (Diesel Range) | ND | | 1.7 | mg/Kg | 1 | 04-Nov-2016 02:29 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>78.0</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 02:29</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 6.30 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: DQ |
| Sodium Adsorption Ratio | 1.14 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: RPM |
| Calcium | 68.9 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:27 |
| Magnesium | 17.0 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:27 |
| Sodium | 40.7 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:27 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 | | Analyst: JCJ |
| Arsenic | 2.15 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Barium | 140 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Boron | 4.24 | | 2.31 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Cadmium | ND | | 0.461 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Chromium | 6.30 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Copper | 5.12 | | 0.185 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Lead | 5.86 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Nickel | 6.87 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Selenium | ND | | 0.461 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Silver | ND | | 0.461 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| Zinc | 18.1 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 15:28 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 | | Analyst: OFO |
| Mercury | 18.3 | | 3.47 | ug/Kg | 1 | 09-Nov-2016 15:38 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-5-2-3-102816
 Collection Date: 28-Oct-2016 14:40

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-05
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 1.82 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 0.834 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.459 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.459 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 12.0 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 2.01 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 7.28 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.8 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-5-4-5-102816
 Collection Date: 28-Oct-2016 14:50

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-06
 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 | 02-Nov-2016 18:33 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 18:33 |
| m,p-Xylene | ND | | 9.9 | ug/Kg | 1 | 02-Nov-2016 18:33 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 18:33 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 18:33 |
| Xylenes, Total | ND | | 9.9 | ug/Kg | 1 | 02-Nov-2016 18:33 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>97.4</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 18:33</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>93.6</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 18:33</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>101</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 18:33</i> |
| <i>Surr: Toluene-d8</i> | <i>94.3</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 18:33</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 06:00 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>85.7</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 06:00</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 4.5 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 03:42 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>95.6</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 03:42</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 5.57 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 7.28 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 626 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:36 |
| Magnesium | 151 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:36 |
| Sodium | 783 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:36 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 Analyst: JCJ | | |
| Arsenic | 2.94 | | 0.465 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Barium | 158 | | 0.465 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Boron | 4.89 | | 2.32 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Cadmium | ND | | 0.465 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Chromium | 5.57 | | 0.465 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Copper | 4.92 | | 0.186 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Lead | 6.47 | | 0.465 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Nickel | 6.51 | | 0.465 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Selenium | 0.475 | | 0.465 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Silver | ND | | 0.465 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| Zinc | 17.8 | | 0.465 | mg/Kg | 1 | 03-Nov-2016 15:33 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 58.5 | | 3.60 | ug/Kg | 1 | 09-Nov-2016 15:40 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-5-4-5-102816
 Collection Date: 28-Oct-2016 14:50

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-06
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 18.6 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 9.69 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.520 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.521 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 11.5 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 2.01 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.10 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.7 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-5-15-16-102816
 Collection Date: 28-Oct-2016 15:15

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-07
 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 | 02-Nov-2016 19:00 |
| Ethylbenzene | ND | | 4.9 | ug/Kg | 1 | 02-Nov-2016 19:00 |
| m,p-Xylene | ND | | 9.8 | ug/Kg | 1 | 02-Nov-2016 19:00 |
| o-Xylene | ND | | 4.9 | ug/Kg | 1 | 02-Nov-2016 19:00 |
| Toluene | ND | | 4.9 | ug/Kg | 1 | 02-Nov-2016 19:00 |
| Xylenes, Total | ND | | 9.8 | ug/Kg | 1 | 02-Nov-2016 19:00 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>102</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:00</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>97.0</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:00</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>100</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:00</i> |
| <i>Surr: Toluene-d8</i> | <i>97.2</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:00</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 06:16 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>84.8</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 06:16</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 2.9 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 04:06 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>82.1</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 04:06</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 3.62 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 76.5 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:39 |
| Magnesium | 34.4 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:39 |
| Sodium | 152 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:39 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 Analyst: JCJ | | |
| Arsenic | 1.16 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| Barium | 468 | | 4.60 | mg/Kg | 10 | 03-Nov-2016 17:52 |
| Boron | 2.98 | | 2.30 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| Cadmium | ND | | 0.460 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| Chromium | 1.31 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| Copper | 3.89 | | 0.184 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| Lead | 22.9 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| Nickel | 2.42 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| Selenium | 0.659 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| Silver | ND | | 0.460 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| Zinc | 28.9 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 15:51 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 18.8 | | 3.43 | ug/Kg | 1 | 09-Nov-2016 15:45 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-5-15-16-102816
 Collection Date: 28-Oct-2016 15:15

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-07
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 4.50 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 1.76 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.392 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.392 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 6.38 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 2.01 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 9.17 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.7 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-6-2-3-102816
 Collection Date: 28-Oct-2016 13:15

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-08
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|-------------|---------------------------|-----------------|--|--------------------|--------------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 5.1 | ug/Kg | 1 | 02-Nov-2016 19:27 |
| Ethylbenzene | ND | | 5.1 | ug/Kg | 1 | 02-Nov-2016 19:27 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 19:27 |
| o-Xylene | ND | | 5.1 | ug/Kg | 1 | 02-Nov-2016 19:27 |
| Toluene | ND | | 5.1 | ug/Kg | 1 | 02-Nov-2016 19:27 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 19:27 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>120</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:27</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>91.3</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:27</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>94.1</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:27</i> |
| <i>Surr: Toluene-d8</i> | <i>96.3</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:27</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 06:32 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>83.8</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 06:32</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 3.4 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 04:30 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>76.1</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 04:30</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 6.53 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 1.24 | | 0.00998 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 50.9 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:42 |
| Magnesium | 8.63 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:42 |
| Sodium | 36.4 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:42 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 Analyst: JCJ | | |
| Arsenic | 2.27 | | 0.479 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Barium | 142 | | 0.479 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Boron | 4.04 | | 2.39 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Cadmium | ND | | 0.479 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Chromium | 6.53 | | 0.479 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Copper | 5.74 | | 0.191 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Lead | 6.73 | | 0.479 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Nickel | 7.35 | | 0.479 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Selenium | ND | | 0.479 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Silver | ND | | 0.479 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| Zinc | 20.1 | | 0.479 | mg/Kg | 1 | 03-Nov-2016 15:56 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 16.9 | | 3.50 | ug/Kg | 1 | 09-Nov-2016 15:47 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-6-2-3-102816
 Collection Date: 28-Oct-2016 13:15

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-08
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 1.09 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 0.513 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.470 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.469 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 4.71 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 1.99 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.69 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.7 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
Project: McElmo Dome
Sample ID: TRIP BLANK 082916-74
Collection Date: 27-Oct-2016 00:00

ANALYTICAL REPORT

WorkOrder:HS16110051
Lab ID:HS16110051-09
Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---------------------------------------|-------------|----------------------|-----------------|--------------|--------------------|--------------------------|
| LOW LEVEL VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: AKP | | |
| Benzene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:06 |
| Ethylbenzene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:06 |
| m,p-Xylene | ND | | 2.0 | ug/L | 1 | 02-Nov-2016 13:06 |
| o-Xylene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:06 |
| Toluene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:06 |
| Xylenes, Total | ND | | 3.0 | ug/L | 1 | 02-Nov-2016 13:06 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>79.3</i> | | <i>71-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:06</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>92.8</i> | | <i>70-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:06</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>95.4</i> | | <i>74-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:06</i> |
| <i>Surr: Toluene-d8</i> | <i>102</i> | | <i>75-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:06</i> |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-1-0-1-102716
 Collection Date: 27-Oct-2016 10:45

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-10
 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 | 02-Nov-2016 19:54 |
| Ethylbenzene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 19:54 |
| m,p-Xylene | ND | | 9.7 | ug/Kg | 1 | 02-Nov-2016 19:54 |
| o-Xylene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 19:54 |
| Toluene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 19:54 |
| Xylenes, Total | ND | | 9.7 | ug/Kg | 1 | 02-Nov-2016 19:54 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>93.1</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:54</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>100</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:54</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>84.5</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:54</i> |
| <i>Surr: Toluene-d8</i> | <i>92.9</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 19:54</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 09:14 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>87.6</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 09:14</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 | | Analyst: AAP |
| TPH (Diesel Range) | ND | | 1.7 | mg/Kg | 1 | 04-Nov-2016 05:43 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>73.0</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 05:43</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 5.53 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: DQ |
| Sodium Adsorption Ratio | 8.84 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: RPM |
| Calcium | 302 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:45 |
| Magnesium | 70.3 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:45 |
| Sodium | 657 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:45 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 | | Analyst: JCJ |
| Arsenic | 2.51 | | 0.471 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Barium | 152 | | 0.471 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Boron | 4.32 | | 2.36 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Cadmium | ND | | 0.471 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Chromium | 5.53 | | 0.471 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Copper | 4.61 | | 0.189 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Lead | 5.68 | | 0.471 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Nickel | 6.17 | | 0.471 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Selenium | ND | | 0.471 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Silver | ND | | 0.471 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| Zinc | 16.7 | | 0.471 | mg/Kg | 1 | 03-Nov-2016 16:00 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 | | Analyst: OFO |
| Mercury | 16.9 | | 3.50 | ug/Kg | 1 | 09-Nov-2016 15:48 |

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

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-1-0-1-102716
 Collection Date: 27-Oct-2016 10:45

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-10
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 14.8 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 6.73 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.456 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.456 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 5.95 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 1.95 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.68 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.7 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-1-13-14-102716
 Collection Date: 27-Oct-2016 11:15

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-11
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|---------------------------|-----------------|--|--------------------|-------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 20:21 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 20:21 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 20:21 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 20:21 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 20:21 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 20:21 |
| Surr: 1,2-Dichloroethane-d4 | 111 | | 70-128 | %REC | 1 | 02-Nov-2016 20:21 |
| Surr: 4-Bromofluorobenzene | 101 | | 73-126 | %REC | 1 | 02-Nov-2016 20:21 |
| Surr: Dibromofluoromethane | 106 | | 71-128 | %REC | 1 | 02-Nov-2016 20:21 |
| Surr: Toluene-d8 | 94.8 | | 73-127 | %REC | 1 | 02-Nov-2016 20:21 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 08:58 |
| Surr: 4-Bromofluorobenzene | 85.1 | | 70-130 | %REC | 1 | 03-Nov-2016 08:58 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 10 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 06:07 |
| Surr: 2-Fluorobiphenyl | 99.3 | | 60-135 | %REC | 1 | 04-Nov-2016 06:07 |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 47.1 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 1,540 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:48 |
| Magnesium | 137 | | 4.99 | mg/L | 10 | 14-Nov-2016 17:48 |
| Sodium | 7,190 | | 49.9 | mg/L | 100 | 15-Nov-2016 11:55 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 Analyst: JCJ | | |
| Arsenic | 3.29 | | 0.487 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| Barium | 291 | | 2.44 | mg/Kg | 5 | 03-Nov-2016 17:56 |
| Boron | 5.85 | | 2.44 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| Cadmium | ND | | 0.487 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| Chromium | 4.12 | | 0.487 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| Copper | 5.54 | | 0.195 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| Lead | 8.67 | | 0.487 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| Nickel | 6.03 | | 0.487 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| Selenium | 0.580 | | 0.487 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| Silver | ND | | 0.487 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| Zinc | 24.0 | | 0.487 | mg/Kg | 1 | 03-Nov-2016 16:05 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 42.2 | | 3.49 | ug/Kg | 1 | 09-Nov-2016 15:50 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-1-13-14-102716
 Collection Date: 27-Oct-2016 11:15

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-11
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 110 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 57.6 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.524 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.524 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 9.40 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 2.01 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.11 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.4 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-1-18-19-102716
 Collection Date: 27-Oct-2016 11:25

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-12
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|------------|---------------------------|-----------------|--|--------------------|-------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 20:48 |
| Ethylbenzene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 20:48 |
| m,p-Xylene | ND | | 9.7 | ug/Kg | 1 | 02-Nov-2016 20:48 |
| o-Xylene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 20:48 |
| Toluene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 20:48 |
| Xylenes, Total | ND | | 9.7 | ug/Kg | 1 | 02-Nov-2016 20:48 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | 103 | | 70-128 | %REC | 1 | 02-Nov-2016 20:48 |
| <i>Surr: 4-Bromofluorobenzene</i> | 86.8 | | 73-126 | %REC | 1 | 02-Nov-2016 20:48 |
| <i>Surr: Dibromofluoromethane</i> | 103 | | 71-128 | %REC | 1 | 02-Nov-2016 20:48 |
| <i>Surr: Toluene-d8</i> | 93.3 | | 73-127 | %REC | 1 | 02-Nov-2016 20:48 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 08:42 |
| <i>Surr: 4-Bromofluorobenzene</i> | 89.3 | | 70-130 | %REC | 1 | 03-Nov-2016 08:42 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 1.9 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 06:31 |
| <i>Surr: 2-Fluorobiphenyl</i> | 64.8 | | 60-135 | %REC | 1 | 04-Nov-2016 06:31 |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 13.4 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 179 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:51 |
| Magnesium | 88.5 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:51 |
| Sodium | 878 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:51 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 Analyst: JCJ | | |
| Arsenic | 6.26 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| Barium | 923 | | 9.19 | mg/Kg | 20 | 03-Nov-2016 18:01 |
| Boron | 4.37 | | 2.30 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| Cadmium | ND | | 0.460 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| Chromium | 2.06 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| Copper | 7.49 | | 0.184 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| Lead | 8.73 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| Nickel | 14.4 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| Selenium | 0.694 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| Silver | ND | | 0.460 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| Zinc | 92.7 | | 0.460 | mg/Kg | 1 | 03-Nov-2016 16:09 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 26.1 | | 3.54 | ug/Kg | 1 | 09-Nov-2016 15:52 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-1-18-19-102716
 Collection Date: 27-Oct-2016 11:25

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-12
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 15.1 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 7.42 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.492 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.492 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 7.25 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 2.01 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.36 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.3 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-2-2-3-102716
 Collection Date: 27-Oct-2016 13:00

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-13
 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 | 02-Nov-2016 21:15 |
| Ethylbenzene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 21:15 |
| m,p-Xylene | ND | | 9.6 | ug/Kg | 1 | 02-Nov-2016 21:15 |
| o-Xylene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 21:15 |
| Toluene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 21:15 |
| Xylenes, Total | ND | | 9.6 | ug/Kg | 1 | 02-Nov-2016 21:15 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | 92.6 | | 70-128 | %REC | 1 | 02-Nov-2016 21:15 |
| <i>Surr: 4-Bromofluorobenzene</i> | 97.5 | | 73-126 | %REC | 1 | 02-Nov-2016 21:15 |
| <i>Surr: Dibromofluoromethane</i> | 99.0 | | 71-128 | %REC | 1 | 02-Nov-2016 21:15 |
| <i>Surr: Toluene-d8</i> | 99.1 | | 73-127 | %REC | 1 | 02-Nov-2016 21:15 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 08:25 |
| <i>Surr: 4-Bromofluorobenzene</i> | 85.7 | | 70-130 | %REC | 1 | 03-Nov-2016 08:25 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | ND | | 1.7 | mg/Kg | 1 | 04-Nov-2016 06:55 |
| <i>Surr: 2-Fluorobiphenyl</i> | 92.9 | | 60-135 | %REC | 1 | 04-Nov-2016 06:55 |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 6.66 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 2.06 | | 0.0100 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 50.6 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:54 |
| Magnesium | 14.8 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:54 |
| Sodium | 64.8 | | 5.00 | mg/L | 10 | 14-Nov-2016 17:54 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 02-Nov-2016 Analyst: JCJ | | |
| Arsenic | 2.87 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| Barium | 210 | | 2.31 | mg/Kg | 5 | 03-Nov-2016 18:05 |
| Boron | 4.78 | | 2.31 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| Cadmium | ND | | 0.461 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| Chromium | 6.66 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| Copper | 4.93 | | 0.185 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| Lead | 6.66 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| Nickel | 7.27 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| Selenium | 0.515 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| Silver | ND | | 0.461 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| Zinc | 18.1 | | 0.461 | mg/Kg | 1 | 03-Nov-2016 16:13 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 27.0 | | 3.43 | ug/Kg | 1 | 09-Nov-2016 15:54 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-2-2-3-102716
 Collection Date: 27-Oct-2016 13:00

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-13
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 1.53 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 0.785 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.514 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.514 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 7.10 | | 0.0100 | wt% | 1 | 04-Nov-2016 10:06 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 1.98 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.82 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.2 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-2-11-12-102716
 Collection Date: 27-Oct-2016 13:25

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-14
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|---------------------------|-----------------|--|--------------------|-------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 00:07 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 00:07 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 03-Nov-2016 00:07 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 00:07 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 00:07 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 03-Nov-2016 00:07 |
| Surr: 1,2-Dichloroethane-d4 | 117 | | 70-128 | %REC | 1 | 03-Nov-2016 00:07 |
| Surr: 4-Bromofluorobenzene | 103 | | 73-126 | %REC | 1 | 03-Nov-2016 00:07 |
| Surr: Dibromofluoromethane | 84.5 | | 71-128 | %REC | 1 | 03-Nov-2016 00:07 |
| Surr: Toluene-d8 | 100 | | 73-127 | %REC | 1 | 03-Nov-2016 00:07 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | 1.5 | | 0.050 | mg/Kg | 1 | 03-Nov-2016 08:09 |
| Surr: 4-Bromofluorobenzene | 118 | | 70-130 | %REC | 1 | 03-Nov-2016 08:09 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 1,000 | | 34 | mg/Kg | 20 | 04-Nov-2016 12:40 |
| Surr: 2-Fluorobiphenyl | 0 | JS | 60-135 | %REC | 20 | 04-Nov-2016 12:40 |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 9.01 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 79.7 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 3,820 | | 99.9 | mg/L | 200 | 15-Nov-2016 11:58 |
| Magnesium | ND | | 5.00 | mg/L | 10 | 14-Nov-2016 17:57 |
| Sodium | 17,900 | | 99.9 | mg/L | 200 | 15-Nov-2016 11:58 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 5.87 | | 0.477 | mg/Kg | 1 | 09-Nov-2016 01:36 |
| Barium | 1,950 | | 9.55 | mg/Kg | 20 | 09-Nov-2016 18:35 |
| Boron | 61.0 | | 47.7 | mg/Kg | 20 | 09-Nov-2016 18:35 |
| Cadmium | ND | | 0.477 | mg/Kg | 1 | 09-Nov-2016 01:36 |
| Chromium | 9.01 | | 0.477 | mg/Kg | 1 | 09-Nov-2016 01:36 |
| Copper | 7.95 | | 0.191 | mg/Kg | 1 | 09-Nov-2016 01:36 |
| Lead | 13.6 | | 0.477 | mg/Kg | 1 | 09-Nov-2016 01:36 |
| Nickel | 7.73 | | 0.477 | mg/Kg | 1 | 09-Nov-2016 01:36 |
| Selenium | 0.977 | | 0.477 | mg/Kg | 1 | 09-Nov-2016 01:36 |
| Silver | ND | | 0.477 | mg/Kg | 1 | 09-Nov-2016 01:36 |
| Zinc | 228 | | 9.55 | mg/Kg | 20 | 09-Nov-2016 18:35 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 11.6 | | 3.38 | ug/Kg | 1 | 09-Nov-2016 15:55 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-2-11-12-102716
 Collection Date: 27-Oct-2016 13:25

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-14
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 206 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 129 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.628 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.628 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 24.4 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 1.98 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 11.7 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.2 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-2-15-16-102716
 Collection Date: 27-Oct-2016 13:35

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-15
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|-------------|---------------------------|-----------------|--|--------------------|--------------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 21:42 |
| Ethylbenzene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 21:42 |
| m,p-Xylene | ND | | 9.7 | ug/Kg | 1 | 02-Nov-2016 21:42 |
| o-Xylene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 21:42 |
| Toluene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 21:42 |
| Xylenes, Total | ND | | 9.7 | ug/Kg | 1 | 02-Nov-2016 21:42 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>105</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 21:42</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>93.3</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 21:42</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>94.0</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 21:42</i> |
| <i>Surr: Toluene-d8</i> | <i>94.5</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 21:42</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 06:48 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>85.7</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 06:48</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 5.8 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 07:43 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>80.7</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 07:43</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 22.7 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 413 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:00 |
| Magnesium | 125 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:00 |
| Sodium | 2,050 | | 50.0 | mg/L | 100 | 15-Nov-2016 12:01 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 2.14 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 01:40 |
| Barium | 829 | | 4.69 | mg/Kg | 10 | 09-Nov-2016 18:40 |
| Boron | ND | | 11.7 | mg/Kg | 5 | 09-Nov-2016 18:44 |
| Cadmium | ND | | 0.469 | mg/Kg | 1 | 09-Nov-2016 01:40 |
| Chromium | 1.90 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 01:40 |
| Copper | 5.97 | | 0.187 | mg/Kg | 1 | 09-Nov-2016 01:40 |
| Lead | 10.2 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 01:40 |
| Nickel | 12.3 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 01:40 |
| Selenium | ND | | 0.469 | mg/Kg | 1 | 09-Nov-2016 01:40 |
| Silver | ND | | 0.469 | mg/Kg | 1 | 09-Nov-2016 01:40 |
| Zinc | 117 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 01:40 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 19.4 | | 3.37 | ug/Kg | 1 | 09-Nov-2016 15:57 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-2-15-16-102716
 Collection Date: 27-Oct-2016 13:35

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-15
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 43.1 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 16.7 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.387 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.387 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 7.49 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 2.02 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.66 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.2 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-3-1-2-102716
 Collection Date: 27-Oct-2016 14:10

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-16
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|-------------|---------------------------|-----------------|--|--------------------|--------------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 22:09 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 22:09 |
| m,p-Xylene | ND | | 9.9 | ug/Kg | 1 | 02-Nov-2016 22:09 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 22:09 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 22:09 |
| Xylenes, Total | ND | | 9.9 | ug/Kg | 1 | 02-Nov-2016 22:09 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>111</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 22:09</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>91.7</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 22:09</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>112</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 22:09</i> |
| <i>Surr: Toluene-d8</i> | <i>95.4</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 22:09</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 07:05 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>82.7</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 07:05</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 3.8 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 08:07 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>75.2</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 08:07</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 6.29 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 7.02 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 430 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:03 |
| Magnesium | 25.4 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:03 |
| Sodium | 554 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:03 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 3.23 | | 0.471 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| Barium | 263 | | 4.71 | mg/Kg | 10 | 09-Nov-2016 18:49 |
| Boron | 4.02 | | 2.35 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| Cadmium | ND | | 0.471 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| Chromium | 6.29 | | 0.471 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| Copper | 7.50 | | 0.188 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| Lead | 8.07 | | 0.471 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| Nickel | 7.72 | | 0.471 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| Selenium | ND | | 0.471 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| Silver | ND | | 0.471 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| Zinc | 28.8 | | 0.471 | mg/Kg | 1 | 09-Nov-2016 03:07 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 27.3 | | 3.44 | ug/Kg | 1 | 09-Nov-2016 15:59 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-3-1-2-102716
 Collection Date: 27-Oct-2016 14:10

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-16
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 12.2 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 6.27 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.513 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.513 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 5.80 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 1.98 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.96 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.1 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-3-9-10-102716
 Collection Date: 27-Oct-2016 14:30

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-17
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|-------------|---------------------------|-----------------|--|--------------------|--------------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 22:35 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 22:35 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 22:35 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 22:35 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 22:35 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 22:35 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>91.0</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 22:35</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>92.3</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 22:35</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>104</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 22:35</i> |
| <i>Surr: Toluene-d8</i> | <i>92.2</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 22:35</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 07:21 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>85.4</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 07:21</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 02-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 1.9 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 08:31 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>76.6</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 08:31</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 6.88 | | 0.0100 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 637 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:12 |
| Magnesium | 180 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:12 |
| Sodium | 764 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:12 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 2.88 | | 0.476 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| Barium | 371 | | 4.76 | mg/Kg | 10 | 09-Nov-2016 19:06 |
| Boron | 5.86 | | 2.38 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| Cadmium | ND | | 0.476 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| Chromium | 2.65 | | 0.476 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| Copper | 6.33 | | 0.191 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| Lead | 10.1 | | 0.476 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| Nickel | 5.16 | | 0.476 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| Selenium | ND | | 0.476 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| Silver | ND | | 0.476 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| Zinc | 24.3 | | 0.476 | mg/Kg | 1 | 09-Nov-2016 03:31 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 45.6 | | 3.42 | ug/Kg | 1 | 09-Nov-2016 16:01 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-3-9-10-102716
 Collection Date: 27-Oct-2016 14:30

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-17
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 22.8 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 11.1 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.486 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.486 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 12.6 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 09-Nov-2016 Analyst: JHD | | |
| Chromium, Hexavalent | ND | | 1.99 | mg/kg | 1 | 10-Nov-2016 17:34 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.13 | H | 0.100 | pH Units | 1 | 10-Nov-2016 14:15 |
| Temp Deg C @pH | 21.1 | H | 0 | °C | 1 | 10-Nov-2016 14:15 |

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

Revision:1

Client: Kinder Morgan
Project: McElmo Dome
Sample ID: TRIP BLANK 100716-95
Collection Date: 27-Oct-2016 00:00

ANALYTICAL REPORT

WorkOrder:HS16110051
Lab ID:HS16110051-18
Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---------------------------------------|-------------|----------------------|-----------------|--------------|--------------------|--------------------------|
| LOW LEVEL VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: AKP | | |
| Benzene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:31 |
| Ethylbenzene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:31 |
| m,p-Xylene | ND | | 2.0 | ug/L | 1 | 02-Nov-2016 13:31 |
| o-Xylene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:31 |
| Toluene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:31 |
| Xylenes, Total | ND | | 3.0 | ug/L | 1 | 02-Nov-2016 13:31 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>81.1</i> | | <i>71-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:31</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>91.9</i> | | <i>70-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:31</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>97.2</i> | | <i>74-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:31</i> |
| <i>Surr: Toluene-d8</i> | <i>101</i> | | <i>75-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:31</i> |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-6-11-12-102816
 Collection Date: 28-Oct-2016 13:40

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-19
 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 | 02-Nov-2016 23:02 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 23:02 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 23:02 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 23:02 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 23:02 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 23:02 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | 111 | | 70-128 | %REC | 1 | 02-Nov-2016 23:02 |
| <i>Surr: 4-Bromofluorobenzene</i> | 93.9 | | 73-126 | %REC | 1 | 02-Nov-2016 23:02 |
| <i>Surr: Dibromofluoromethane</i> | 102 | | 71-128 | %REC | 1 | 02-Nov-2016 23:02 |
| <i>Surr: Toluene-d8</i> | 93.3 | | 73-127 | %REC | 1 | 02-Nov-2016 23:02 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 12:52 |
| <i>Surr: 4-Bromofluorobenzene</i> | 74.8 | | 70-130 | %REC | 1 | 03-Nov-2016 12:52 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 03-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 4.2 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 05:43 |
| <i>Surr: 2-Fluorobiphenyl</i> | 76.9 | | 60-135 | %REC | 1 | 04-Nov-2016 05:43 |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 18.4 | | 0.0100 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 772 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:15 |
| Magnesium | 33.9 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:15 |
| Sodium | 1,920 | | 50.0 | mg/L | 100 | 15-Nov-2016 12:10 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 4.26 | | 0.481 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| Barium | 374 | | 4.81 | mg/Kg | 10 | 09-Nov-2016 19:10 |
| Boron | 5.88 | | 2.41 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| Cadmium | ND | | 0.481 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| Chromium | 3.35 | | 0.481 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| Copper | 23.9 | | 0.192 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| Lead | 18.7 | | 0.481 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| Nickel | 6.06 | | 0.481 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| Selenium | 1.01 | | 0.481 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| Silver | ND | | 0.481 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| Zinc | 21.0 | | 0.481 | mg/Kg | 1 | 09-Nov-2016 03:35 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 103 | | 3.39 | ug/Kg | 1 | 09-Nov-2016 16:06 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-6-11-12-102816
 Collection Date: 28-Oct-2016 13:40

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-19
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 30.2 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 15.7 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.520 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.520 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 20.8 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 10-Nov-2016 Analyst: KVL | | |
| Chromium, Hexavalent | ND | | 2.00 | mg/kg | 1 | 14-Nov-2016 14:50 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.26 | H | 0.100 | pH Units | 1 | 11-Nov-2016 14:30 |
| Temp Deg C @pH | 21.2 | H | 0 | °C | 1 | 11-Nov-2016 14:30 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-6-15-16-102816
 Collection Date: 28-Oct-2016 13:50

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-20
 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 | 02-Nov-2016 23:30 |
| Ethylbenzene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 23:30 |
| m,p-Xylene | ND | | 9.7 | ug/Kg | 1 | 02-Nov-2016 23:30 |
| o-Xylene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 23:30 |
| Toluene | ND | | 4.8 | ug/Kg | 1 | 02-Nov-2016 23:30 |
| Xylenes, Total | ND | | 9.7 | ug/Kg | 1 | 02-Nov-2016 23:30 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>109</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 23:30</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>95.3</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 23:30</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>97.3</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 23:30</i> |
| <i>Surr: Toluene-d8</i> | <i>97.3</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 23:30</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 13:09 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>78.8</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 13:09</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 03-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | ND | | 1.7 | mg/Kg | 1 | 04-Nov-2016 06:07 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>74.5</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 06:07</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 7.14 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 112 | | 4.99 | mg/L | 10 | 14-Nov-2016 18:21 |
| Magnesium | 46.9 | | 4.99 | mg/L | 10 | 14-Nov-2016 18:21 |
| Sodium | 357 | | 4.99 | mg/L | 10 | 14-Nov-2016 18:21 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 0.678 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Barium | 79.1 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Boron | 4.38 | | 2.35 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Cadmium | ND | | 0.469 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Chromium | 1.22 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Copper | 4.34 | | 0.188 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Lead | 4.21 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Nickel | 1.69 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Selenium | 0.477 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Silver | ND | | 0.469 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| Zinc | 11.8 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 03:40 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 64.3 | | 3.35 | ug/Kg | 1 | 09-Nov-2016 16:07 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-6-15-16-102816
 Collection Date: 28-Oct-2016 13:50

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-20
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 5.64 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 3.36 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.596 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.596 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 14.7 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 10-Nov-2016 Analyst: KVL | | |
| Chromium, Hexavalent | ND | | 2.00 | mg/kg | 1 | 14-Nov-2016 14:50 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.37 | H | 0.100 | pH Units | 1 | 11-Nov-2016 14:30 |
| Temp Deg C @pH | 21.3 | H | 0 | °C | 1 | 11-Nov-2016 14:30 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-7-2-3-102816
 Collection Date: 28-Oct-2016 11:30

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-21
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|-------------|---------------------------|-----------------|--|--------------------|--------------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 23:57 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 23:57 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 23:57 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 23:57 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 02-Nov-2016 23:57 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 02-Nov-2016 23:57 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>105</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 23:57</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>91.8</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 23:57</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>98.0</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 23:57</i> |
| <i>Surr: Toluene-d8</i> | <i>92.2</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 23:57</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 12:04 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>81.4</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 12:04</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 03-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 1.9 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 06:31 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>71.2</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 06:31</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 7.77 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 5.02 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 814 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:23 |
| Magnesium | 11.4 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:23 |
| Sodium | 526 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:23 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 3.09 | | 0.465 | mg/Kg | 1 | 09-Nov-2016 03:55 |
| Barium | 217 | | 4.65 | mg/Kg | 10 | 09-Nov-2016 20:29 |
| Boron | 4.30 | | 2.33 | mg/Kg | 1 | 09-Nov-2016 03:55 |
| Cadmium | ND | | 0.465 | mg/Kg | 1 | 09-Nov-2016 03:55 |
| Chromium | 7.77 | | 0.465 | mg/Kg | 1 | 09-Nov-2016 03:55 |
| Copper | 6.66 | | 0.186 | mg/Kg | 1 | 09-Nov-2016 03:55 |
| Lead | 7.69 | | 0.465 | mg/Kg | 1 | 09-Nov-2016 03:55 |
| Nickel | 8.06 | | 0.465 | mg/Kg | 1 | 09-Nov-2016 03:55 |
| Selenium | ND | | 0.465 | mg/Kg | 1 | 09-Nov-2016 03:55 |
| Silver | ND | | 0.465 | mg/Kg | 1 | 09-Nov-2016 03:55 |
| Zinc | 25.2 | | 0.465 | mg/Kg | 1 | 09-Nov-2016 21:05 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 17.7 | | 3.49 | ug/Kg | 1 | 09-Nov-2016 16:09 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-7-2-3-102816
 Collection Date: 28-Oct-2016 11:30

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-21
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 15.4 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 8.08 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.524 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.524 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 7.46 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 10-Nov-2016 Analyst: KVL | | |
| Chromium, Hexavalent | ND | | 1.99 | mg/kg | 1 | 14-Nov-2016 14:50 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 7.75 | H | 0.100 | pH Units | 1 | 11-Nov-2016 14:30 |
| Temp Deg C @pH | 21.3 | H | 0 | °C | 1 | 11-Nov-2016 14:30 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-7-9-10-102816
 Collection Date: 28-Oct-2016 11:50

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-22
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|-------------|---------------------------|-----------------|--|--------------------|--------------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 01:40 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 01:40 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 03-Nov-2016 01:40 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 01:40 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 01:40 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 03-Nov-2016 01:40 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>108</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 01:40</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>97.1</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 01:40</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>87.2</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 01:40</i> |
| <i>Surr: Toluene-d8</i> | <i>97.5</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 01:40</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | 0.13 | | 0.050 | mg/Kg | 1 | 03-Nov-2016 13:25 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>84.5</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 13:25</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 03-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 47 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 06:55 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>85.6</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 06:55</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 8.11 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 25.2 | | 0.0100 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 853 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:26 |
| Magnesium | ND | | 5.00 | mg/L | 10 | 14-Nov-2016 18:26 |
| Sodium | 2,670 | | 50.0 | mg/L | 100 | 15-Nov-2016 12:16 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 4.27 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 04:00 |
| Barium | 1,260 | | 9.39 | mg/Kg | 20 | 09-Nov-2016 20:34 |
| Boron | 15.9 | | 2.35 | mg/Kg | 1 | 09-Nov-2016 04:00 |
| Cadmium | ND | | 0.469 | mg/Kg | 1 | 09-Nov-2016 04:00 |
| Chromium | 8.11 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 04:00 |
| Copper | 7.08 | | 0.188 | mg/Kg | 1 | 09-Nov-2016 04:00 |
| Lead | 12.5 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 04:00 |
| Nickel | 5.30 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 04:00 |
| Selenium | ND | | 0.469 | mg/Kg | 1 | 09-Nov-2016 04:00 |
| Silver | ND | | 0.469 | mg/Kg | 1 | 09-Nov-2016 04:00 |
| Zinc | 23.8 | | 0.469 | mg/Kg | 1 | 09-Nov-2016 21:18 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 22.5 | | 3.54 | ug/Kg | 1 | 09-Nov-2016 16:11 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-7-9-10-102816
 Collection Date: 28-Oct-2016 11:50

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-22
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 34.7 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Electrical Conductivity, 1:1 aqueous | 22.9 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| Saturation % as decimal | 0.660 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:27 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.660 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:05 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 18.7 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 10-Nov-2016 Analyst: KVL | | |
| Chromium, Hexavalent | ND | | 1.99 | mg/kg | 1 | 14-Nov-2016 14:50 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 11.3 | H | 0.100 | pH Units | 1 | 11-Nov-2016 14:30 |
| Temp Deg C @pH | 21.2 | H | 0 | °C | 1 | 11-Nov-2016 14:30 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-7-14-15-102816
 Collection Date: 28-Oct-2016 12:00

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-23
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|-------------|---------------------------|-----------------|--|--------------------|--------------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 4.8 | ug/Kg | 1 | 03-Nov-2016 02:04 |
| Ethylbenzene | ND | | 4.8 | ug/Kg | 1 | 03-Nov-2016 02:04 |
| m,p-Xylene | ND | | 9.6 | ug/Kg | 1 | 03-Nov-2016 02:04 |
| o-Xylene | ND | | 4.8 | ug/Kg | 1 | 03-Nov-2016 02:04 |
| Toluene | ND | | 4.8 | ug/Kg | 1 | 03-Nov-2016 02:04 |
| Xylenes, Total | ND | | 9.6 | ug/Kg | 1 | 03-Nov-2016 02:04 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>94.4</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 02:04</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>95.8</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 02:04</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>94.7</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 02:04</i> |
| <i>Surr: Toluene-d8</i> | <i>96.5</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 02:04</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 13:41 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>84.5</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 13:41</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 03-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 5.0 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 07:19 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>74.7</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 07:19</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 5.22 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 896 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:35 |
| Magnesium | ND | | 5.00 | mg/L | 10 | 14-Nov-2016 18:35 |
| Sodium | 568 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:35 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 1.81 | | 0.483 | mg/Kg | 1 | 09-Nov-2016 04:05 |
| Barium | 448 | | 4.83 | mg/Kg | 10 | 09-Nov-2016 20:38 |
| Boron | 6.16 | | 2.42 | mg/Kg | 1 | 09-Nov-2016 04:05 |
| Cadmium | ND | | 0.483 | mg/Kg | 1 | 09-Nov-2016 04:05 |
| Chromium | 3.47 | | 0.483 | mg/Kg | 1 | 09-Nov-2016 04:05 |
| Copper | 8.58 | | 0.193 | mg/Kg | 1 | 09-Nov-2016 04:05 |
| Lead | 34.0 | | 0.483 | mg/Kg | 1 | 09-Nov-2016 04:05 |
| Nickel | 6.82 | | 0.483 | mg/Kg | 1 | 09-Nov-2016 04:05 |
| Selenium | 0.734 | | 0.483 | mg/Kg | 1 | 09-Nov-2016 04:05 |
| Silver | ND | | 0.483 | mg/Kg | 1 | 09-Nov-2016 04:05 |
| Zinc | 47.2 | | 0.483 | mg/Kg | 1 | 09-Nov-2016 21:22 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 08-Nov-2016 Analyst: OFO | | |
| Mercury | 82.4 | | 3.43 | ug/Kg | 1 | 09-Nov-2016 15:04 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-7-14-15-102816
 Collection Date: 28-Oct-2016 12:00

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-23
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 10.3 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| Electrical Conductivity, 1:1 aqueous | 8.01 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| Saturation % as decimal | 0.774 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.774 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:25 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 12.2 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 10-Nov-2016 Analyst: KVL | | |
| Chromium, Hexavalent | ND | | 1.99 | mg/kg | 1 | 14-Nov-2016 14:50 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.29 | H | 0.100 | pH Units | 1 | 11-Nov-2016 14:30 |
| Temp Deg C @pH | 21.2 | H | 0 | °C | 1 | 11-Nov-2016 14:30 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-8-2-3-102816
 Collection Date: 28-Oct-2016 09:45

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-24
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|---------------------------|-----------------|--|--------------------|-------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 4.9 | ug/Kg | 1 | 03-Nov-2016 02:27 |
| Ethylbenzene | ND | | 4.9 | ug/Kg | 1 | 03-Nov-2016 02:27 |
| m,p-Xylene | ND | | 9.8 | ug/Kg | 1 | 03-Nov-2016 02:27 |
| o-Xylene | ND | | 4.9 | ug/Kg | 1 | 03-Nov-2016 02:27 |
| Toluene | ND | | 4.9 | ug/Kg | 1 | 03-Nov-2016 02:27 |
| Xylenes, Total | ND | | 9.8 | ug/Kg | 1 | 03-Nov-2016 02:27 |
| Surr: 1,2-Dichloroethane-d4 | 99.8 | | 70-128 | %REC | 1 | 03-Nov-2016 02:27 |
| Surr: 4-Bromofluorobenzene | 98.4 | | 73-126 | %REC | 1 | 03-Nov-2016 02:27 |
| Surr: Dibromofluoromethane | 95.9 | | 71-128 | %REC | 1 | 03-Nov-2016 02:27 |
| Surr: Toluene-d8 | 99.6 | | 73-127 | %REC | 1 | 03-Nov-2016 02:27 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 14:30 |
| Surr: 4-Bromofluorobenzene | 84.9 | | 70-130 | %REC | 1 | 03-Nov-2016 14:30 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 03-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 1.9 | | 1.7 | mg/Kg | 1 | 04-Nov-2016 07:43 |
| Surr: 2-Fluorobiphenyl | 60.6 | | 60-135 | %REC | 1 | 04-Nov-2016 07:43 |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | 7.32 | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 5.51 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 584 | | 4.99 | mg/L | 10 | 14-Nov-2016 18:38 |
| Magnesium | 79.0 | | 4.99 | mg/L | 10 | 14-Nov-2016 18:38 |
| Sodium | 535 | | 4.99 | mg/L | 10 | 14-Nov-2016 18:38 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 2.68 | | 0.459 | mg/Kg | 1 | 09-Nov-2016 04:10 |
| Barium | 185 | | 2.30 | mg/Kg | 5 | 09-Nov-2016 20:43 |
| Boron | 4.28 | | 2.30 | mg/Kg | 1 | 09-Nov-2016 04:10 |
| Cadmium | ND | | 0.459 | mg/Kg | 1 | 09-Nov-2016 04:10 |
| Chromium | 7.32 | | 0.459 | mg/Kg | 1 | 09-Nov-2016 04:10 |
| Copper | 5.85 | | 0.184 | mg/Kg | 1 | 09-Nov-2016 04:10 |
| Lead | 7.47 | | 0.459 | mg/Kg | 1 | 09-Nov-2016 04:10 |
| Nickel | 8.40 | | 0.459 | mg/Kg | 1 | 09-Nov-2016 04:10 |
| Selenium | ND | | 0.459 | mg/Kg | 1 | 09-Nov-2016 04:10 |
| Silver | ND | | 0.459 | mg/Kg | 1 | 09-Nov-2016 04:10 |
| Zinc | 23.6 | | 0.459 | mg/Kg | 1 | 09-Nov-2016 21:27 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 11-Nov-2016 Analyst: OFO | | |
| Mercury | 14.2 | | 3.43 | ug/Kg | 1 | 11-Nov-2016 15:25 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-8-2-3-102816
 Collection Date: 28-Oct-2016 09:45

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-24
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 14.2 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| Electrical Conductivity, 1:1 aqueous | 7.65 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| Saturation % as decimal | 0.540 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.540 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:25 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 7.96 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 10-Nov-2016 Analyst: KVL | | |
| Chromium, Hexavalent | ND | | 2.00 | mg/kg | 1 | 14-Nov-2016 14:50 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 7.49 | H | 0.100 | pH Units | 1 | 11-Nov-2016 14:30 |
| Temp Deg C @pH | 21.2 | H | 0 | °C | 1 | 11-Nov-2016 14:30 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-8-12-13-102816
 Collection Date: 28-Oct-2016 10:10

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-25
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|---------------------------|-----------------|--|--------------------|-------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 02:50 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 02:50 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 03-Nov-2016 02:50 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 02:50 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 02:50 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 03-Nov-2016 02:50 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | 113 | | 70-128 | %REC | 1 | 03-Nov-2016 02:50 |
| <i>Surr: 4-Bromofluorobenzene</i> | 101 | | 73-126 | %REC | 1 | 03-Nov-2016 02:50 |
| <i>Surr: Dibromofluoromethane</i> | 101 | | 71-128 | %REC | 1 | 03-Nov-2016 02:50 |
| <i>Surr: Toluene-d8</i> | 99.6 | | 73-127 | %REC | 1 | 03-Nov-2016 02:50 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | 0.45 | | 0.050 | mg/Kg | 1 | 03-Nov-2016 14:46 |
| <i>Surr: 4-Bromofluorobenzene</i> | 92.4 | | 70-130 | %REC | 1 | 03-Nov-2016 14:46 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 03-Nov-2016 Analyst: AAP | | |
| TPH (Diesel Range) | 66 | | 3.4 | mg/Kg | 2 | 04-Nov-2016 13:04 |
| <i>Surr: 2-Fluorobiphenyl</i> | 78.4 | | 60-135 | %REC | 2 | 04-Nov-2016 13:04 |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 Analyst: DQ | | |
| Sodium Adsorption Ratio | 34.0 | | 0.0100 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 Analyst: RPM | | |
| Calcium | 2,500 | | 50.0 | mg/L | 100 | 15-Nov-2016 12:19 |
| Magnesium | ND | | 5.00 | mg/L | 10 | 14-Nov-2016 18:47 |
| Sodium | 6,170 | | 50.0 | mg/L | 100 | 15-Nov-2016 12:19 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 Analyst: JCJ | | |
| Arsenic | 3.71 | | 0.486 | mg/Kg | 1 | 09-Nov-2016 04:15 |
| Barium | 324 | | 4.86 | mg/Kg | 10 | 09-Nov-2016 20:47 |
| Boron | 8.40 | | 2.43 | mg/Kg | 1 | 09-Nov-2016 04:15 |
| Cadmium | ND | | 0.486 | mg/Kg | 1 | 09-Nov-2016 04:15 |
| Chromium | 3.40 | | 0.486 | mg/Kg | 1 | 09-Nov-2016 04:15 |
| Copper | 7.19 | | 0.194 | mg/Kg | 1 | 09-Nov-2016 04:15 |
| Lead | 21.7 | | 0.486 | mg/Kg | 1 | 09-Nov-2016 04:15 |
| Nickel | 6.24 | | 0.486 | mg/Kg | 1 | 09-Nov-2016 04:15 |
| Selenium | 0.565 | | 0.486 | mg/Kg | 1 | 09-Nov-2016 04:15 |
| Silver | ND | | 0.486 | mg/Kg | 1 | 09-Nov-2016 04:15 |
| Zinc | 66.9 | | 0.486 | mg/Kg | 1 | 09-Nov-2016 21:31 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 11-Nov-2016 Analyst: OFO | | |
| Mercury | 43.7 | | 3.60 | ug/Kg | 1 | 11-Nov-2016 15:27 |

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

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-8-12-13-102816
 Collection Date: 28-Oct-2016 10:10

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-25
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 73.3 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| Electrical Conductivity, 1:1 aqueous | 54.5 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| Saturation % as decimal | 0.744 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.744 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:25 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 17.4 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 10-Nov-2016 Analyst: KVL | | |
| Chromium, Hexavalent | ND | | 2.00 | mg/kg | 1 | 14-Nov-2016 14:50 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 11.0 | H | 0.100 | pH Units | 1 | 11-Nov-2016 14:30 |
| Temp Deg C @pH | 21.2 | H | 0 | °C | 1 | 11-Nov-2016 14:30 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-8-14-15-102816
 Collection Date: 28-Oct-2016 10:20

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-26
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|-------------|---------------------------|-----------------|-------------------------------|--------------------|--------------------------|
| VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: WLR | | |
| Benzene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 03:13 |
| Ethylbenzene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 03:13 |
| m,p-Xylene | ND | | 10 | ug/Kg | 1 | 03-Nov-2016 03:13 |
| o-Xylene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 03:13 |
| Toluene | ND | | 5.0 | ug/Kg | 1 | 03-Nov-2016 03:13 |
| Xylenes, Total | ND | | 10 | ug/Kg | 1 | 03-Nov-2016 03:13 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>104</i> | | <i>70-128</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 03:13</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>95.5</i> | | <i>73-126</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 03:13</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>106</i> | | <i>71-128</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 03:13</i> |
| <i>Surr: Toluene-d8</i> | <i>95.5</i> | | <i>73-127</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 03:13</i> |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: SFE | | |
| Gasoline Range Organics | ND | | 0.050 | mg/Kg | 1 | 03-Nov-2016 15:02 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>85.6</i> | | <i>70-130</i> | <i>%REC</i> | <i>1</i> | <i>03-Nov-2016 15:02</i> |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3541 / 03-Nov-2016 | | Analyst: AAP |
| TPH (Diesel Range) | ND | | 1.7 | mg/Kg | 1 | 04-Nov-2016 09:20 |
| <i>Surr: 2-Fluorobiphenyl</i> | <i>60.4</i> | | <i>60-135</i> | <i>%REC</i> | <i>1</i> | <i>04-Nov-2016 09:20</i> |
| TRIVALENT CHROMIUM | | Method:Calculation | | Analyst: DQ | | |
| Chromium, Trivalent | ND | | 5.00 | mg/Kg | 1 | 15-Nov-2016 14:10 |
| LA29B SODIUM ADSORPTION RATIO | | Method:La29B SAR | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: DQ |
| Sodium Adsorption Ratio | 2.03 | | 0.00999 | meq/meq | 1 | 15-Nov-2016 14:57 |
| LA 29B - 1:1 SOLUBLE CATIONS FOR SAR | | Method:La29B-6020 | | Prep:La29B-6020 / 10-Nov-2016 | | Analyst: RPM |
| Calcium | 48.3 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:53 |
| Magnesium | 51.3 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:53 |
| Sodium | 84.9 | | 5.00 | mg/L | 10 | 14-Nov-2016 18:53 |
| METALS BY SW6020A | | Method:SW6020 | | Prep:SW3050A / 07-Nov-2016 | | Analyst: JCJ |
| Arsenic | 1.20 | | 0.480 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Barium | 29.7 | | 0.480 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Boron | 3.64 | | 2.40 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Cadmium | ND | | 0.480 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Chromium | 1.75 | | 0.480 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Copper | 11.4 | | 0.192 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Lead | 17.5 | | 0.480 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Nickel | 14.3 | | 0.480 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Selenium | 0.616 | | 0.480 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Silver | ND | | 0.480 | mg/Kg | 1 | 09-Nov-2016 04:19 |
| Zinc | 124 | | 0.480 | mg/Kg | 1 | 09-Nov-2016 21:35 |
| MERCURY BY SW7471B | | Method:SW7471A | | Prep:SW7471A / 11-Nov-2016 | | Analyst: OFO |
| Mercury | 34.7 | | 3.41 | ug/Kg | 1 | 11-Nov-2016 15:28 |

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

Revision:1

Client: Kinder Morgan
 Project: McElmo Dome
 Sample ID: YE-6-8-14-15-102816
 Collection Date: 28-Oct-2016 10:20

ANALYTICAL REPORT

WorkOrder:HS16110051
 Lab ID:HS16110051-26
 Matrix:Soil

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|--------|----------------------------|-----------------|---|--------------------|-------------------|
| LA29B ELECTRICAL CONDUCTIVITY | | Method:LaDNR-29B EC | | Analyst: JBA | | |
| Electrical Conductivity @ saturation | 1.84 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| Electrical Conductivity, 1:1 aqueous | 1.28 | | 0.0100 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| Saturation % as decimal | 0.698 | | 0 | mmhos/cm @25°C | 1 | 15-Nov-2016 17:40 |
| LA29B SATURATION POINT (AS FRACTION) | | Method:LaDNR-29B SP | | Analyst: KAH | | |
| Saturation Point | 0.698 | | 0.100 | SP as fraction | 1 | 15-Nov-2016 11:25 |
| MOISTURE | | Method:SW3550 | | Analyst: DFF | | |
| Percent Moisture | 13.1 | | 0.0100 | wt% | 1 | 07-Nov-2016 11:57 |
| HEXAVALENT CHROMIUM BY SW7196A | | Method:SW7196 | | Prep:SW3060A / 10-Nov-2016 Analyst: KVL | | |
| Chromium, Hexavalent | ND | | 2.00 | mg/kg | 1 | 14-Nov-2016 14:50 |
| PH SOIL BY SW9045D | | Method:SW9045B | | Analyst: SAP | | |
| pH | 8.18 | H | 0.100 | pH Units | 1 | 11-Nov-2016 14:30 |
| Temp Deg C @pH | 21.3 | H | 0 | °C | 1 | 11-Nov-2016 14:30 |

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

Revision:1

Client: Kinder Morgan
Project: McElmo Dome
Sample ID: TRIP BLANK 100716-08
Collection Date: 28-Oct-2016 00:00

ANALYTICAL REPORT

WorkOrder:HS16110051
Lab ID:HS16110051-27
Matrix:Water

| ANALYSES | RESULT | QUAL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---------------------------------------|-------------|----------------------|-----------------|--------------|--------------------|--------------------------|
| LOW LEVEL VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: AKP | | |
| Benzene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:55 |
| Ethylbenzene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:55 |
| m,p-Xylene | ND | | 2.0 | ug/L | 1 | 02-Nov-2016 13:55 |
| o-Xylene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:55 |
| Toluene | ND | | 1.0 | ug/L | 1 | 02-Nov-2016 13:55 |
| Xylenes, Total | ND | | 3.0 | ug/L | 1 | 02-Nov-2016 13:55 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>81.9</i> | | <i>71-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:55</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>92.6</i> | | <i>70-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:55</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>96.7</i> | | <i>74-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:55</i> |
| <i>Surr: Toluene-d8</i> | <i>101</i> | | <i>75-125</i> | <i>%REC</i> | <i>1</i> | <i>02-Nov-2016 13:55</i> |

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

Revision:1

WEIGHT LOG

Client: Kinder Morgan

Project: McElmo Dome

WorkOrder: HS16110051

Batch ID: 1341 Method: VOLATILES BY SW8260C

| SampleID | Container | Sample Wt/Vol | Final Volume | Weight Factor | Container Type |
|---------------|-----------|---------------|--------------|---------------|----------------|
| HS16110051-01 | 1 | 5.065 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-02 | 1 | 4.995 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-03 | 1 | 4.976 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-04 | 1 | 4.999 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-05 | 1 | 5.015 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-06 | 1 | 5.029 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-07 | 1 | 5.128 (g) | 5 (mL) | 0.98 | Bulk (5030B) |
| HS16110051-08 | 1 | 4.906 (g) | 5 (mL) | 1.02 | Bulk (5030B) |
| HS16110051-10 | 1 | 5.129 (g) | 5 (mL) | 0.97 | Bulk (5030B) |
| HS16110051-11 | 1 | 5.022 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-12 | 1 | 5.139 (g) | 5 (mL) | 0.97 | Bulk (5030B) |
| HS16110051-13 | 1 | 5.19 (g) | 5 (mL) | 0.96 | Bulk (5030B) |
| HS16110051-14 | 1 | 4.976 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-15 | 1 | 5.161 (g) | 5 (mL) | 0.97 | Bulk (5030B) |
| HS16110051-16 | 1 | 5.054 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-17 | 1 | 4.999 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-19 | 1 | 4.983 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-20 | 1 | 5.17 (g) | 5 (mL) | 0.97 | Bulk (5030B) |
| HS16110051-21 | 1 | 4.964 (g) | 5 (mL) | 1.01 | Bulk (5030B) |
| HS16110051-22 | 1 | 5.013 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-23 | 1 | 5.187 (g) | 5 (mL) | 0.96 | Bulk (5030B) |
| HS16110051-24 | 1 | 5.111 (g) | 5 (mL) | 0.98 | Bulk (5030B) |
| HS16110051-25 | 1 | 5.008 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-26 | 1 | 4.935 (g) | 5 (mL) | 1.01 | Bulk (5030B) |

Batch ID: 1345 Method: GASOLINE RANGE ORGANICS BY SW8015C Prep:

| SampleID | Container | Sample Wt/Vol | Final Volume | Prep Factor | |
|---------------|-----------|---------------|--------------|-------------|--------------|
| HS16110051-01 | 1 | 5.03 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-02 | 1 | 5.05 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-03 | 1 | 5.04 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-04 | 1 | 5.02 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-05 | 1 | 5.02 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-06 | 1 | 5.02 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-07 | 1 | 5 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-08 | 1 | 5.01 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-10 | 1 | 5.02 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-11 | 1 | 5 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-12 | 1 | 5.01 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-13 | 1 | 5.04 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-14 | 1 | 5.03 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-15 | 1 | 5.01 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-16 | 1 | 5.03 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-17 | 1 | 5.04 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-19 | 1 | 5.03 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-20 | 1 | 5.02 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-21 | 1 | 5.03 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-22 | 1 | 5.02 (g) | 5 (mL) | 1 | Bulk (5030B) |
| HS16110051-23 | 1 | 5.04 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-24 | 1 | 5.03 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-25 | 1 | 5.04 (g) | 5 (mL) | 0.99 | Bulk (5030B) |
| HS16110051-26 | 1 | 5.03 (g) | 5 (mL) | 0.99 | Bulk (5030B) |

WEIGHT LOG

Client: Kinder Morgan

Project: McElmo Dome

WorkOrder: HS16110051

Batch ID: 109453 Method: TPH DRO/ORO BY SW8015C Prep: 8015SPR_LL

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-01 | 1 | 30.07 | 1 (mL) | 0.03326 |
| HS16110051-02 | 1 | 30.04 | 1 (mL) | 0.03329 |
| HS16110051-03 | 1 | 30.06 | 1 (mL) | 0.03327 |
| HS16110051-04 | 1 | 30.02 | 1 (mL) | 0.03331 |
| HS16110051-05 | 1 | 30.05 | 1 (mL) | 0.03328 |
| HS16110051-06 | 1 | 30.09 | 1 (mL) | 0.03323 |
| HS16110051-07 | 1 | 30.07 | 1 (mL) | 0.03326 |
| HS16110051-08 | 1 | 30.02 | 1 (mL) | 0.03331 |
| HS16110051-10 | 1 | 30.05 | 1 (mL) | 0.03328 |
| HS16110051-11 | 1 | 30.03 | 1 (mL) | 0.0333 |
| HS16110051-12 | 1 | 30.06 | 1 (mL) | 0.03327 |
| HS16110051-13 | 1 | 30.08 | 1 (mL) | 0.03324 |
| HS16110051-14 | 1 | 30.01 | 1 (mL) | 0.03332 |
| HS16110051-15 | 1 | 30.04 | 1 (mL) | 0.03329 |
| HS16110051-16 | 1 | 30.08 | 1 (mL) | 0.03324 |
| HS16110051-17 | 1 | 30.02 | 1 (mL) | 0.03331 |

Batch ID: 109457 Method: METALS BY SW6020A Prep: 3050_I_LOW

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-01 | 1 | 0.5249 | 50 (mL) | 95.26 |
| HS16110051-02 | 1 | 0.5128 | 50 (mL) | 97.5 |
| HS16110051-03 | 1 | 0.5404 | 50 (mL) | 92.52 |
| HS16110051-04 | 1 | 0.5484 | 50 (mL) | 91.17 |
| HS16110051-05 | 1 | 0.5418 | 50 (mL) | 92.28 |
| HS16110051-06 | 1 | 0.5381 | 50 (mL) | 92.92 |
| HS16110051-07 | 1 | 0.5432 | 50 (mL) | 92.05 |
| HS16110051-08 | 1 | 0.5224 | 50 (mL) | 95.71 |
| HS16110051-10 | 1 | 0.5305 | 50 (mL) | 94.25 |
| HS16110051-11 | 1 | 0.5132 | 50 (mL) | 97.43 |
| HS16110051-12 | 1 | 0.5439 | 50 (mL) | 91.93 |
| HS16110051-13 | 1 | 0.5419 | 50 (mL) | 92.27 |

Batch ID: 109502 Method: TPH DRO/ORO BY SW8015C Prep: 8015SPR_LL

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-19 | 1 | 30.02 | 1 (mL) | 0.03331 |
| HS16110051-20 | 1 | 30.04 | 1 (mL) | 0.03329 |
| HS16110051-21 | 1 | 30.08 | 1 (mL) | 0.03324 |
| HS16110051-22 | 1 | 30.07 | 1 (mL) | 0.03326 |
| HS16110051-23 | 1 | 30.03 | 1 (mL) | 0.0333 |
| HS16110051-24 | 1 | 30.08 | 1 (mL) | 0.03324 |
| HS16110051-25 | 1 | 30.05 | 1 (mL) | 0.03328 |
| HS16110051-26 | 1 | 30.02 | 1 (mL) | 0.03331 |

WEIGHT LOG

Client: Kinder Morgan

Project: McElmo Dome

WorkOrder: HS16110051

Batch ID: 109608 **Method:** METALS BY SW6020A **Prep:** 3050_I_LOW

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-14 | 1 | 0.5236 | 50 (mL) | 95.49 |
| HS16110051-15 | 1 | 0.5334 | 50 (mL) | 93.74 |
| HS16110051-16 | 1 | 0.5311 | 50 (mL) | 94.14 |
| HS16110051-17 | 1 | 0.5249 | 50 (mL) | 95.26 |
| HS16110051-19 | 1 | 0.5196 | 50 (mL) | 96.23 |
| HS16110051-20 | 1 | 0.5326 | 50 (mL) | 93.88 |
| HS16110051-21 | 1 | 0.5373 | 50 (mL) | 93.06 |
| HS16110051-22 | 1 | 0.5326 | 50 (mL) | 93.88 |
| HS16110051-23 | 1 | 0.5172 | 50 (mL) | 96.67 |
| HS16110051-24 | 1 | 0.5445 | 50 (mL) | 91.83 |
| HS16110051-25 | 1 | 0.5149 | 50 (mL) | 97.11 |
| HS16110051-26 | 1 | 0.5209 | 50 (mL) | 95.99 |

Batch ID: 109678 **Method:** MERCURY BY SW7471B **Prep:** HG_S_LOWPR

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-23 | 1 | 0.5822 | 40 (mL) | 68.7 |

Batch ID: 109679 **Method:** MERCURY BY SW7471B **Prep:** HG_S_LOWPR

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-01 | 1 | 0.5842 | 40 (mL) | 68.47 |
| HS16110051-02 | 1 | 0.5725 | 40 (mL) | 69.87 |
| HS16110051-03 | 1 | 0.5779 | 40 (mL) | 69.22 |
| HS16110051-04 | 1 | 0.5714 | 40 (mL) | 70 |
| HS16110051-05 | 1 | 0.5747 | 40 (mL) | 69.6 |
| HS16110051-06 | 1 | 0.5548 | 40 (mL) | 72.1 |
| HS16110051-07 | 1 | 0.5812 | 40 (mL) | 68.82 |
| HS16110051-08 | 1 | 0.5694 | 40 (mL) | 70.25 |
| HS16110051-10 | 1 | 0.5708 | 40 (mL) | 70.08 |
| HS16110051-11 | 1 | 0.5711 | 40 (mL) | 70.04 |
| HS16110051-12 | 1 | 0.5636 | 40 (mL) | 70.97 |
| HS16110051-13 | 1 | 0.5822 | 40 (mL) | 68.7 |
| HS16110051-14 | 1 | 0.5909 | 40 (mL) | 67.69 |
| HS16110051-15 | 1 | 0.5922 | 40 (mL) | 67.54 |
| HS16110051-16 | 1 | 0.5806 | 40 (mL) | 68.89 |
| HS16110051-17 | 1 | 0.5828 | 40 (mL) | 68.63 |
| HS16110051-19 | 1 | 0.5887 | 40 (mL) | 67.95 |
| HS16110051-20 | 1 | 0.5961 | 40 (mL) | 67.1 |
| HS16110051-21 | 1 | 0.5712 | 40 (mL) | 70.03 |
| HS16110051-22 | 1 | 0.5628 | 40 (mL) | 71.07 |

WEIGHT LOG

Client: Kinder Morgan

Project: McElmo Dome

WorkOrder: HS16110051

| | | |
|------------------|--|---------------------|
| Batch ID: 109702 | Method: HEXAVALENT CHROMIUM BY SW7196A | Prep: CR6_S_PR3060A |
|------------------|--|---------------------|

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-01 | 1 | 2.4842 | 100 (mL) | 40.25 |
| HS16110051-02 | 1 | 2.4892 | 100 (mL) | 40.17 |
| HS16110051-03 | 1 | 2.5389 | 100 (mL) | 39.39 |
| HS16110051-04 | 1 | 2.536 | 100 (mL) | 39.43 |
| HS16110051-05 | 1 | 2.4872 | 100 (mL) | 40.21 |
| HS16110051-06 | 1 | 2.4936 | 100 (mL) | 40.1 |
| HS16110051-07 | 1 | 2.4869 | 100 (mL) | 40.21 |
| HS16110051-08 | 1 | 2.5111 | 100 (mL) | 39.82 |
| HS16110051-10 | 1 | 2.5598 | 100 (mL) | 39.07 |
| HS16110051-11 | 1 | 2.4863 | 100 (mL) | 40.22 |
| HS16110051-12 | 1 | 2.488 | 100 (mL) | 40.19 |
| HS16110051-13 | 1 | 2.524 | 100 (mL) | 39.62 |
| HS16110051-14 | 1 | 2.5209 | 100 (mL) | 39.67 |
| HS16110051-15 | 1 | 2.4802 | 100 (mL) | 40.32 |
| HS16110051-16 | 1 | 2.5243 | 100 (mL) | 39.61 |
| HS16110051-17 | 1 | 2.5076 | 100 (mL) | 39.88 |

| | | |
|------------------|--|---------------------|
| Batch ID: 109729 | Method: HEXAVALENT CHROMIUM BY SW7196A | Prep: CR6_S_PR3060A |
|------------------|--|---------------------|

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-19 | 1 | 2.5031 | 100 (mL) | 39.95 |
| HS16110051-20 | 1 | 2.5028 | 100 (mL) | 39.96 |
| HS16110051-21 | 1 | 2.5086 | 100 (mL) | 39.86 |
| HS16110051-22 | 1 | 2.5184 | 100 (mL) | 39.71 |
| HS16110051-23 | 1 | 2.5064 | 100 (mL) | 39.9 |
| HS16110051-24 | 1 | 2.5012 | 100 (mL) | 39.98 |
| HS16110051-25 | 1 | 2.5002 | 100 (mL) | 40 |
| HS16110051-26 | 1 | 2.5037 | 100 (mL) | 39.94 |

| | | |
|------------------|----------------------------|------------------|
| Batch ID: 109772 | Method: MERCURY BY SW7471B | Prep: HG_S_LOWPR |
|------------------|----------------------------|------------------|

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-24 | 1 | 0.5821 | 40 (mL) | 68.72 |
| HS16110051-25 | 1 | 0.5547 | 40 (mL) | 72.11 |
| HS16110051-26 | 1 | 0.5852 | 40 (mL) | 68.35 |

WEIGHT LOG

Client: Kinder Morgan

Project: McElmo Dome

WorkOrder: HS16110051

Batch ID: 109794 **Method:** LA29B SODIUM ADSORPTION RATIO **Prep:** LA29B SAR CATPR

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-01 | 1 | 75.0799 | 75 (mL) | 0.9989 |
| HS16110051-02 | 1 | 75.022 | 75 (mL) | 0.9997 |
| HS16110051-03 | 1 | 75.0445 | 75 (mL) | 0.9994 |
| HS16110051-04 | 1 | 75.055 | 75 (mL) | 0.9993 |
| HS16110051-05 | 1 | 75.093 | 75 (mL) | 0.9988 |
| HS16110051-06 | 1 | 75.09 | 75 (mL) | 0.9988 |
| HS16110051-07 | 1 | 51.07 | 51 (mL) | 0.9986 |
| HS16110051-08 | 1 | 51.08 | 51 (mL) | 0.9984 |
| HS16110051-10 | 1 | 75.055 | 75 (mL) | 0.9993 |
| HS16110051-11 | 1 | 75.0798 | 75 (mL) | 0.9989 |
| HS16110051-12 | 1 | 75.0494 | 75 (mL) | 0.9993 |
| HS16110051-13 | 1 | 75.0174 | 75 (mL) | 0.9998 |
| HS16110051-14 | 1 | 75.0664 | 75 (mL) | 0.9991 |
| HS16110051-15 | 1 | 75.058 | 75 (mL) | 0.9992 |
| HS16110051-16 | 1 | 75.0508 | 75 (mL) | 0.9993 |
| HS16110051-17 | 1 | 75.018 | 75 (mL) | 0.9998 |
| HS16110051-19 | 1 | 75.0363 | 75 (mL) | 0.9995 |
| HS16110051-20 | 1 | 75.0974 | 75 (mL) | 0.9987 |
| HS16110051-21 | 1 | 75.0556 | 75 (mL) | 0.9993 |
| HS16110051-22 | 1 | 75.018 | 75 (mL) | 0.9998 |
| HS16110051-01 | 1 | 75.0799 | 75 (mL) | 0.9989 |
| HS16110051-02 | 1 | 75.022 | 75 (mL) | 0.9997 |
| HS16110051-03 | 1 | 75.0445 | 75 (mL) | 0.9994 |
| HS16110051-04 | 1 | 75.055 | 75 (mL) | 0.9993 |
| HS16110051-05 | 1 | 75.093 | 75 (mL) | 0.9988 |
| HS16110051-06 | 1 | 75.09 | 75 (mL) | 0.9988 |
| HS16110051-07 | 1 | 51.07 | 51 (mL) | 0.9986 |
| HS16110051-08 | 1 | 51.08 | 51 (mL) | 0.9984 |
| HS16110051-10 | 1 | 75.055 | 75 (mL) | 0.9993 |
| HS16110051-11 | 1 | 75.0798 | 75 (mL) | 0.9989 |
| HS16110051-12 | 1 | 75.0494 | 75 (mL) | 0.9993 |
| HS16110051-13 | 1 | 75.0174 | 75 (mL) | 0.9998 |
| HS16110051-14 | 1 | 75.0664 | 75 (mL) | 0.9991 |
| HS16110051-15 | 1 | 75.058 | 75 (mL) | 0.9992 |
| HS16110051-16 | 1 | 75.0508 | 75 (mL) | 0.9993 |
| HS16110051-17 | 1 | 75.018 | 75 (mL) | 0.9998 |
| HS16110051-19 | 1 | 75.0363 | 75 (mL) | 0.9995 |
| HS16110051-20 | 1 | 75.0974 | 75 (mL) | 0.9987 |
| HS16110051-21 | 1 | 75.0556 | 75 (mL) | 0.9993 |
| HS16110051-22 | 1 | 75.018 | 75 (mL) | 0.9998 |

Batch ID: 109795 **Method:** LA29B SODIUM ADSORPTION RATIO **Prep:** LA29B SAR CATPR

| SamplID | Container | Sample Wt/Vol | Final Volume | Prep Factor |
|---------------|-----------|---------------|--------------|-------------|
| HS16110051-23 | 1 | 75.0575 | 75 (mL) | 0.9992 |
| HS16110051-24 | 1 | 75.095 | 75 (mL) | 0.9987 |
| HS16110051-25 | 1 | 75.0326 | 75 (mL) | 0.9996 |
| HS16110051-26 | 1 | 75.0685 | 75 (mL) | 0.9991 |
| HS16110051-23 | 1 | 75.0575 | 75 (mL) | 0.9992 |
| HS16110051-24 | 1 | 75.095 | 75 (mL) | 0.9987 |
| HS16110051-25 | 1 | 75.0326 | 75 (mL) | 0.9996 |
| HS16110051-26 | 1 | 75.0685 | 75 (mL) | 0.9991 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|------------------------|---|-------------------|-----------|---------------------|-------------------|----|
| Batch ID 109453 | Test Name : TPH DRO/ORO BY SW8015C | | | Matrix: Soil | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | 02 Nov 2016 12:38 | 04 Nov 2016 00:53 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | 02 Nov 2016 12:38 | 04 Nov 2016 01:17 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | 02 Nov 2016 12:38 | 04 Nov 2016 01:41 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | 02 Nov 2016 12:38 | 04 Nov 2016 02:05 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | 02 Nov 2016 12:38 | 04 Nov 2016 02:29 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | 02 Nov 2016 12:38 | 04 Nov 2016 03:42 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | 02 Nov 2016 12:38 | 04 Nov 2016 04:06 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | 02 Nov 2016 12:38 | 04 Nov 2016 04:30 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | 02 Nov 2016 12:38 | 04 Nov 2016 05:43 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | 02 Nov 2016 12:38 | 04 Nov 2016 06:07 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | 02 Nov 2016 12:38 | 04 Nov 2016 06:31 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | 02 Nov 2016 12:38 | 04 Nov 2016 06:55 | 1 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | 02 Nov 2016 12:38 | 04 Nov 2016 12:40 | 20 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | 02 Nov 2016 12:38 | 04 Nov 2016 07:43 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | 02 Nov 2016 12:38 | 04 Nov 2016 08:07 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | 02 Nov 2016 12:38 | 04 Nov 2016 08:31 | 1 |
| Batch ID 109457 | Test Name : METALS BY SW6020A | | | Matrix: Soil | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | 02 Nov 2016 14:35 | 03 Nov 2016 17:39 | 20 |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | 02 Nov 2016 14:35 | 03 Nov 2016 15:11 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | 02 Nov 2016 14:35 | 03 Nov 2016 17:43 | 5 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | 02 Nov 2016 14:35 | 03 Nov 2016 15:15 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | 02 Nov 2016 14:35 | 03 Nov 2016 15:20 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | 02 Nov 2016 14:35 | 03 Nov 2016 17:48 | 20 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | 02 Nov 2016 14:35 | 03 Nov 2016 15:24 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | 02 Nov 2016 14:35 | 03 Nov 2016 15:28 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | 02 Nov 2016 14:35 | 03 Nov 2016 15:33 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | 02 Nov 2016 14:35 | 03 Nov 2016 17:52 | 10 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | 02 Nov 2016 14:35 | 03 Nov 2016 15:51 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | 02 Nov 2016 14:35 | 03 Nov 2016 15:56 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | 02 Nov 2016 14:35 | 03 Nov 2016 16:00 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | 02 Nov 2016 14:35 | 03 Nov 2016 17:56 | 5 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | 02 Nov 2016 14:35 | 03 Nov 2016 16:05 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | 02 Nov 2016 14:35 | 03 Nov 2016 18:01 | 20 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | 02 Nov 2016 14:35 | 03 Nov 2016 16:09 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | 02 Nov 2016 14:35 | 03 Nov 2016 18:05 | 5 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | 02 Nov 2016 14:35 | 03 Nov 2016 16:13 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|--|---------------------|-------------------|-----------|-------------------|-------------------|----|
| Batch ID 109502 Test Name : TPH DRO/ORO BY SW8015C Matrix: Soil | | | | | | |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | 03 Nov 2016 10:40 | 04 Nov 2016 05:43 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | 03 Nov 2016 10:40 | 04 Nov 2016 06:07 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | 03 Nov 2016 10:40 | 04 Nov 2016 06:31 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | 03 Nov 2016 10:40 | 04 Nov 2016 06:55 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | 03 Nov 2016 10:40 | 04 Nov 2016 07:19 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | 03 Nov 2016 10:40 | 04 Nov 2016 07:43 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | 03 Nov 2016 10:40 | 04 Nov 2016 13:04 | 2 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | 03 Nov 2016 10:40 | 04 Nov 2016 09:20 | 1 |
| Batch ID 109608 Test Name : METALS BY SW6020A Matrix: Soil | | | | | | |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | 07 Nov 2016 14:00 | 09 Nov 2016 18:35 | 20 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | 07 Nov 2016 14:00 | 09 Nov 2016 01:36 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | 07 Nov 2016 14:00 | 09 Nov 2016 18:44 | 5 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | 07 Nov 2016 14:00 | 09 Nov 2016 18:40 | 10 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | 07 Nov 2016 14:00 | 09 Nov 2016 01:40 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | 07 Nov 2016 14:00 | 09 Nov 2016 18:49 | 10 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | 07 Nov 2016 14:00 | 09 Nov 2016 03:07 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | 07 Nov 2016 14:00 | 09 Nov 2016 19:06 | 10 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | 07 Nov 2016 14:00 | 09 Nov 2016 03:31 | 1 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | 07 Nov 2016 14:00 | 09 Nov 2016 19:10 | 10 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | 07 Nov 2016 14:00 | 09 Nov 2016 03:35 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | 07 Nov 2016 14:00 | 09 Nov 2016 03:40 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | 07 Nov 2016 14:00 | 09 Nov 2016 21:05 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | 07 Nov 2016 14:00 | 09 Nov 2016 20:29 | 10 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | 07 Nov 2016 14:00 | 09 Nov 2016 03:55 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | 07 Nov 2016 14:00 | 09 Nov 2016 21:18 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | 07 Nov 2016 14:00 | 09 Nov 2016 20:34 | 20 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | 07 Nov 2016 14:00 | 09 Nov 2016 04:00 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | 07 Nov 2016 14:00 | 09 Nov 2016 21:22 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | 07 Nov 2016 14:00 | 09 Nov 2016 20:38 | 10 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | 07 Nov 2016 14:00 | 09 Nov 2016 04:05 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | 07 Nov 2016 14:00 | 09 Nov 2016 21:27 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | 07 Nov 2016 14:00 | 09 Nov 2016 20:43 | 5 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | 07 Nov 2016 14:00 | 09 Nov 2016 04:10 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | 07 Nov 2016 14:00 | 09 Nov 2016 21:31 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | 07 Nov 2016 14:00 | 09 Nov 2016 20:47 | 10 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | 07 Nov 2016 14:00 | 09 Nov 2016 04:15 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | 07 Nov 2016 14:00 | 09 Nov 2016 21:35 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | 07 Nov 2016 14:00 | 09 Nov 2016 04:19 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|--|---------------------|-------------------|-----------|-------------------|-------------------|----|
| Batch ID 109678 Test Name : MERCURY BY SW7471B Matrix: Soil | | | | | | |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | 08 Nov 2016 17:46 | 09 Nov 2016 15:04 | 1 |
| Batch ID 109679 Test Name : MERCURY BY SW7471B Matrix: Soil | | | | | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:28 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:33 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:35 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:36 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:38 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:40 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:45 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:47 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:48 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:50 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:52 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:54 | 1 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:55 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:57 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | 08 Nov 2016 17:49 | 09 Nov 2016 15:59 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | 08 Nov 2016 17:49 | 09 Nov 2016 16:01 | 1 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | 08 Nov 2016 17:49 | 09 Nov 2016 16:06 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | 08 Nov 2016 17:49 | 09 Nov 2016 16:07 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | 08 Nov 2016 17:49 | 09 Nov 2016 16:09 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | 08 Nov 2016 17:49 | 09 Nov 2016 16:11 | 1 |
| Batch ID 109702 Test Name : HEXAVALENT CHROMIUM BY SW7196A Matrix: Soil | | | | | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | 09 Nov 2016 15:15 | 10 Nov 2016 17:34 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|------------------------|---|-------------------|-----------|---------------------|-------------------|----|
| Batch ID 109729 | Test Name : HEXAVALENT CHROMIUM BY SW7196A | | | Matrix: Soil | | |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | 10 Nov 2016 13:32 | 14 Nov 2016 14:50 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | 10 Nov 2016 13:32 | 14 Nov 2016 14:50 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | 10 Nov 2016 13:32 | 14 Nov 2016 14:50 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | 10 Nov 2016 13:32 | 14 Nov 2016 14:50 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | 10 Nov 2016 13:32 | 14 Nov 2016 14:50 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | 10 Nov 2016 13:32 | 14 Nov 2016 14:50 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | 10 Nov 2016 13:32 | 14 Nov 2016 14:50 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | 10 Nov 2016 13:32 | 14 Nov 2016 14:50 | 1 |
| Batch ID 109772 | Test Name : MERCURY BY SW7471B | | | Matrix: Soil | | |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | 11 Nov 2016 10:08 | 11 Nov 2016 15:25 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | 11 Nov 2016 10:08 | 11 Nov 2016 15:27 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | 11 Nov 2016 10:08 | 11 Nov 2016 15:28 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|------------------------|--|-------------------|-----------|---------------------|-------------------|-----|
| Batch ID 109794 | Test Name : LA29B SODIUM ADSORPTION RATIO | | | Matrix: Soil | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:15 | 10 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:18 | 10 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:21 | 10 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:24 | 10 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:27 | 10 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:36 | 10 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:39 | 10 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:42 | 10 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:45 | 10 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | 10 Nov 2016 17:42 | 15 Nov 2016 11:55 | 100 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:48 | 10 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:51 | 10 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:54 | 10 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | 10 Nov 2016 17:42 | 15 Nov 2016 11:58 | 200 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | 10 Nov 2016 17:42 | 14 Nov 2016 17:57 | 10 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | 10 Nov 2016 17:42 | 15 Nov 2016 12:01 | 100 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:00 | 10 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:03 | 10 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:12 | 10 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | 10 Nov 2016 17:42 | 15 Nov 2016 12:10 | 100 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:15 | 10 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:21 | 10 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-------------------------|----------------------|---|-----------|----------------------|-------------------|-----|
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:23 | 10 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | 10 Nov 2016 17:42 | 15 Nov 2016 12:16 | 100 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:26 | 10 |
| Batch ID 109795 | | Test Name : LA29B SODIUM ADSORPTION RATIO | | Matrix: Soil | | |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:35 | 10 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:38 | 10 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | 10 Nov 2016 17:42 | 15 Nov 2016 12:19 | 100 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:47 | 10 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | 10 Nov 2016 17:42 | 15 Nov 2016 14:57 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | 10 Nov 2016 17:42 | 14 Nov 2016 18:53 | 10 |
| Batch ID R284083 | | Test Name : LOW LEVEL VOLATILES BY SW8260C | | Matrix: Water | | |
| HS16110051-09 | TRIP BLANK 082916-74 | 27 Oct 2016 00:00 | | | 02 Nov 2016 13:06 | 1 |
| HS16110051-18 | TRIP BLANK 100716-95 | 27 Oct 2016 00:00 | | | 02 Nov 2016 13:31 | 1 |
| HS16110051-27 | TRIP BLANK 100716-08 | 28 Oct 2016 00:00 | | | 02 Nov 2016 13:55 | 1 |
| Batch ID R284085 | | Test Name : VOLATILES BY SW8260C | | Matrix: Soil | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | | 02 Nov 2016 16:43 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | | 02 Nov 2016 14:55 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | | 02 Nov 2016 17:11 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | | 02 Nov 2016 17:38 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | | 02 Nov 2016 18:05 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | | 02 Nov 2016 18:33 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | | 02 Nov 2016 19:00 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | | 02 Nov 2016 19:27 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | | 02 Nov 2016 19:54 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | | 02 Nov 2016 20:21 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | | 02 Nov 2016 20:48 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | | 02 Nov 2016 21:15 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | | 02 Nov 2016 21:42 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | | 02 Nov 2016 22:09 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | | 02 Nov 2016 22:35 | 1 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | | 02 Nov 2016 23:02 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | | 02 Nov 2016 23:30 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | | 02 Nov 2016 23:57 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|---|---------------------|-------------------|-----------|-----------|-------------------|----|
| Batch ID R284110 Test Name : VOLATILES BY SW8260C Matrix: Soil | | | | | | |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | | 03 Nov 2016 00:07 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | | 03 Nov 2016 01:40 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | | 03 Nov 2016 02:04 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | | 03 Nov 2016 02:27 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | | 03 Nov 2016 02:50 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | | 03 Nov 2016 03:13 | 1 |
| Batch ID R284153 Test Name : GASOLINE RANGE ORGANICS BY SW8015C Matrix: Soil | | | | | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | | 03 Nov 2016 04:08 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | | 03 Nov 2016 04:56 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | | 03 Nov 2016 05:12 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | | 03 Nov 2016 05:28 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | | 03 Nov 2016 05:44 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | | 03 Nov 2016 06:00 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | | 03 Nov 2016 06:16 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | | 03 Nov 2016 06:32 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | | 03 Nov 2016 09:14 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | | 03 Nov 2016 08:58 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | | 03 Nov 2016 08:42 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | | 03 Nov 2016 08:25 | 1 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | | 03 Nov 2016 08:09 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | | 03 Nov 2016 06:48 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | | 03 Nov 2016 07:05 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | | 03 Nov 2016 07:21 | 1 |
| Batch ID R284181 Test Name : GASOLINE RANGE ORGANICS BY SW8015C Matrix: Soil | | | | | | |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | | 03 Nov 2016 12:52 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | | 03 Nov 2016 13:09 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | | 03 Nov 2016 12:04 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | | 03 Nov 2016 13:25 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | | 03 Nov 2016 13:41 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | | 03 Nov 2016 14:30 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | | 03 Nov 2016 14:46 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | | 03 Nov 2016 15:02 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-------------------------|-----------------------------|-------------------|-----------|---------------------|-------------------|----|
| Batch ID R284285 | Test Name : MOISTURE | | | Matrix: Soil | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | | 04 Nov 2016 10:06 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | | 04 Nov 2016 10:06 | 1 |
| Batch ID R284379 | Test Name : MOISTURE | | | Matrix: Soil | | |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | | 07 Nov 2016 11:57 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | | 07 Nov 2016 11:57 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-------------------------|---------------------------------------|-------------------|-----------|---------------------|-------------------|----|
| Batch ID R284579 | Test Name : PH SOIL BY SW9045D | | | Matrix: Soil | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | | 10 Nov 2016 14:15 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | | 10 Nov 2016 14:15 | 1 |
| Batch ID R284643 | Test Name : PH SOIL BY SW9045D | | | Matrix: Soil | | |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | | 11 Nov 2016 14:30 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | | 11 Nov 2016 14:30 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | | 11 Nov 2016 14:30 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | | 11 Nov 2016 14:30 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | | 11 Nov 2016 14:30 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | | 11 Nov 2016 14:30 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | | 11 Nov 2016 14:30 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | | 11 Nov 2016 14:30 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-----------------|---------------------|---------------------------------------|-----------|-----------|---------------------|----|
| Batch ID | R284823 | Test Name : TRIVALENT CHROMIUM | | | Matrix: Soil | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | | 15 Nov 2016 14:10 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | | 15 Nov 2016 14:10 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-------------------------|---|-------------------|-----------|---------------------|-------------------|----|
| Batch ID R284844 | Test Name : LA29B SATURATION POINT (AS FRACTION) | | | Matrix: Soil | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | | 15 Nov 2016 11:05 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | | 15 Nov 2016 11:05 | 1 |
| Batch ID R284846 | Test Name : LA29B SATURATION POINT (AS FRACTION) | | | Matrix: Soil | | |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | | 15 Nov 2016 11:25 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | | 15 Nov 2016 11:25 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | | 15 Nov 2016 11:25 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | | 15 Nov 2016 11:25 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | TCLP Date | Prep Date | Analysis Date | DF |
|-------------------------|--|-------------------|-----------|---------------------|-------------------|----|
| Batch ID R284853 | Test Name : LA29B ELECTRICAL CONDUCTIVITY | | | Matrix: Soil | | |
| HS16110051-01 | YE-6-3-14-15-102716 | 27 Oct 2016 14:40 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-02 | YE-6-4-1-2-102716 | 27 Oct 2016 15:05 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-03 | YE-6-4-13-14-102716 | 27 Oct 2016 15:35 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-04 | YE-6-4-14-15-102716 | 27 Oct 2016 15:40 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-05 | YE-6-5-2-3-102816 | 28 Oct 2016 14:40 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-06 | YE-6-5-4-5-102816 | 28 Oct 2016 14:50 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-07 | YE-6-5-15-16-102816 | 28 Oct 2016 15:15 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-08 | YE-6-6-2-3-102816 | 28 Oct 2016 13:15 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-10 | YE-6-1-0-1-102716 | 27 Oct 2016 10:45 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-11 | YE-6-1-13-14-102716 | 27 Oct 2016 11:15 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-12 | YE-6-1-18-19-102716 | 27 Oct 2016 11:25 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-13 | YE-6-2-2-3-102716 | 27 Oct 2016 13:00 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-14 | YE-6-2-11-12-102716 | 27 Oct 2016 13:25 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-15 | YE-6-2-15-16-102716 | 27 Oct 2016 13:35 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-16 | YE-6-3-1-2-102716 | 27 Oct 2016 14:10 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-17 | YE-6-3-9-10-102716 | 27 Oct 2016 14:30 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-19 | YE-6-6-11-12-102816 | 28 Oct 2016 13:40 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-20 | YE-6-6-15-16-102816 | 28 Oct 2016 13:50 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-21 | YE-6-7-2-3-102816 | 28 Oct 2016 11:30 | | | 15 Nov 2016 17:27 | 1 |
| HS16110051-22 | YE-6-7-9-10-102816 | 28 Oct 2016 11:50 | | | 15 Nov 2016 17:27 | 1 |
| Batch ID R284856 | Test Name : LA29B ELECTRICAL CONDUCTIVITY | | | Matrix: Soil | | |
| HS16110051-23 | YE-6-7-14-15-102816 | 28 Oct 2016 12:00 | | | 15 Nov 2016 17:40 | 1 |
| HS16110051-24 | YE-6-8-2-3-102816 | 28 Oct 2016 09:45 | | | 15 Nov 2016 17:40 | 1 |
| HS16110051-25 | YE-6-8-12-13-102816 | 28 Oct 2016 10:10 | | | 15 Nov 2016 17:40 | 1 |
| HS16110051-26 | YE-6-8-14-15-102816 | 28 Oct 2016 10:20 | | | 15 Nov 2016 17:40 | 1 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109453 | | Instrument: FID-7 | | Method: SW8015M | | | | | |
|------------------|-------------------------------|---------------------|-----------------------|---|------------------------------|---------------|---------------|------|----------------|
| MBLK | Sample ID: MBLK-109453 | Units: mg/Kg | | Analysis Date: 03-Nov-2016 22:28 | | | | | |
| Client ID: | Run ID: FID-7_284272 | | SeqNo: 3882210 | | PrepDate: 02-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

| | | | | | | | | | |
|------------------------|-------|------|------|---|------|----------|--|--|--|
| TPH (Diesel Range) | ND | 1.7 | | | | | | | |
| Surr: 2-Fluorobiphenyl | 3.302 | 0.10 | 3.33 | 0 | 99.2 | 60 - 135 | | | |

| LCS | Sample ID: LCS-109453 | Units: mg/Kg | | Analysis Date: 03-Nov-2016 22:52 | | | | | |
|------------|------------------------------|---------------------|-----------------------|---|------------------------------|---------------|---------------|------|----------------|
| Client ID: | Run ID: FID-7_284272 | | SeqNo: 3882211 | | PrepDate: 02-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

| | | | | | | | | | |
|------------------------|-------|------|-------|---|------|----------|--|--|--|
| TPH (Diesel Range) | 24.54 | 1.7 | 33.33 | 0 | 73.6 | 70 - 130 | | | |
| Surr: 2-Fluorobiphenyl | 3.073 | 0.10 | 3.33 | 0 | 92.3 | 60 - 135 | | | |

| MS | Sample ID: HS16110051-08MS | Units: mg/Kg | | Analysis Date: 04-Nov-2016 04:54 | | | | | |
|-------------------------------------|-----------------------------------|---------------------|-----------------------|---|------------------------------|---------------|---------------|------|----------------|
| Client ID: YE-6-6-2-3-102816 | Run ID: FID-7_284272 | | SeqNo: 3882224 | | PrepDate: 02-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

| | | | | | | | | | |
|------------------------|-------|------|-------|-------|------|----------|--|--|--|
| TPH (Diesel Range) | 29.32 | 1.7 | 33.32 | 3.374 | 77.9 | 70 - 130 | | | |
| Surr: 2-Fluorobiphenyl | 3.523 | 0.10 | 3.329 | 0 | 106 | 60 - 135 | | | |

| MSD | Sample ID: HS16110051-08MSD | Units: mg/Kg | | Analysis Date: 04-Nov-2016 05:18 | | | | | |
|-------------------------------------|------------------------------------|---------------------|-----------------------|---|------------------------------|---------------|---------------|------|----------------|
| Client ID: YE-6-6-2-3-102816 | Run ID: FID-7_284272 | | SeqNo: 3882225 | | PrepDate: 02-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

| | | | | | | | | | |
|------------------------|-------|------|-------|-------|------|----------|-------|------|----|
| TPH (Diesel Range) | 33.3 | 1.7 | 33.3 | 3.374 | 89.9 | 70 - 130 | 29.32 | 12.7 | 30 |
| Surr: 2-Fluorobiphenyl | 3.436 | 0.10 | 3.327 | 0 | 103 | 60 - 135 | 3.523 | 2.51 | 30 |

The following samples were analyzed in this batch:

| | | | |
|---------------|---------------|---------------|---------------|
| HS16110051-01 | HS16110051-02 | HS16110051-03 | HS16110051-04 |
| HS16110051-05 | HS16110051-06 | HS16110051-07 | HS16110051-08 |
| HS16110051-10 | HS16110051-11 | HS16110051-12 | HS16110051-13 |
| HS16110051-14 | HS16110051-15 | HS16110051-16 | HS16110051-17 |

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

Revision: 1

Client: Kinder Morgan
 Project: McElmo Dome
 WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109502 | | Instrument: FID-8 | | Method: SW8015M | | | | | |
|--|------------------------------------|-----------------------|---------|---|------|---------------|---------------|----------|----------------|
| MBLK | Sample ID: MBLK-109502 | Units: mg/Kg | | Analysis Date: 03-Nov-2016 23:17 | | | | | |
| Client ID: | Run ID: FID-8_284601 | SeqNo: 3889054 | | PrepDate: 03-Nov-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 | | | | | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 3.027 | 0.10 | 3.33 | 0 | 90.9 | 60 - 135 | | | |
| LCS | Sample ID: LCS-109502 | Units: mg/Kg | | Analysis Date: 03-Nov-2016 23:41 | | | | | |
| Client ID: | Run ID: FID-8_284601 | SeqNo: 3889055 | | PrepDate: 03-Nov-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) | 30.16 | 1.7 | 33.33 | 0 | 90.5 | 70 - 130 | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 3.431 | 0.10 | 3.33 | 0 | 103 | 60 - 135 | | | |
| MS | Sample ID: HS16110051-24MS | Units: mg/Kg | | Analysis Date: 04-Nov-2016 08:07 | | | | | |
| Client ID: YE-6-8-2-3-102816 | Run ID: FID-8_284601 | SeqNo: 3889074 | | PrepDate: 03-Nov-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) | 28.16 | 1.7 | 33.26 | 1.869 | 79.0 | 70 - 130 | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 2.8 | 0.10 | 3.323 | 0 | 84.2 | 60 - 135 | | | |
| MSD | Sample ID: HS16110051-24MSD | Units: mg/Kg | | Analysis Date: 04-Nov-2016 08:31 | | | | | |
| Client ID: YE-6-8-2-3-102816 | Run ID: FID-8_284601 | SeqNo: 3889075 | | PrepDate: 03-Nov-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) | 31.39 | 1.7 | 33.25 | 1.869 | 88.8 | 70 - 130 | 28.16 | 10.8 | 30 |
| <i>Surr: 2-Fluorobiphenyl</i> | 3.266 | 0.10 | 3.322 | 0 | 98.3 | 60 - 135 | 2.8 | 15.4 | 30 |
| The following samples were analyzed in this batch: | | | | | | | | | |
| HS16110051-19 | | HS16110051-20 | | HS16110051-21 | | HS16110051-22 | | | |
| HS16110051-23 | | HS16110051-24 | | HS16110051-25 | | HS16110051-26 | | | |

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

Revision: 1

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284153 | | Instrument: FID-14 | | Method: SW8015 | |
|-------------------|-------------------------------|-----------------------|---------|---|---|
| MBLK | Sample ID: GBLK-161102 | Units: mg/Kg | | Analysis Date: 03-Nov-2016 02:16 | |
| Client ID: | Run ID: FID-14_284153 | SeqNo: 3880024 | | 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 0.07848 0.0050 0.1 0 78.5 70 - 130

| | | | | | |
|------------|-------------------------------|-----------------------|---------|---|---|
| LCS | Sample ID: GLCS-161102 | Units: mg/Kg | | Analysis Date: 03-Nov-2016 01:44 | |
| Client ID: | Run ID: FID-14_284153 | SeqNo: 3880023 | | PrepDate: | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value %REC | Control Limit RPD Ref Value %RPD RPD Limit Qual |

Gasoline Range Organics 0.9628 0.050 1 0 96.3 70 - 130

Surr: 4-Bromofluorobenzene 0.09526 0.0050 0.1 0 95.3 70 - 130

| | | | | | |
|------------|-----------------------------------|-----------------------|---------|---|---|
| MS | Sample ID: HS16101413-25MS | Units: mg/Kg | | Analysis Date: 03-Nov-2016 02:48 | |
| Client ID: | Run ID: FID-14_284153 | SeqNo: 3880026 | | PrepDate: | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value %REC | Control Limit RPD Ref Value %RPD RPD Limit Qual |

Gasoline Range Organics 0.8107 0.050 1 0 81.1 70 - 130

Surr: 4-Bromofluorobenzene 0.07733 0.0050 0.1 0 77.3 70 - 130

| | | | | | |
|------------|------------------------------------|-----------------------|---------|---|---|
| MSD | Sample ID: HS16101413-25MSD | Units: mg/Kg | | Analysis Date: 03-Nov-2016 03:04 | |
| Client ID: | Run ID: FID-14_284153 | SeqNo: 3880027 | | PrepDate: | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value %REC | Control Limit RPD Ref Value %RPD RPD Limit Qual |

Gasoline Range Organics 0.7683 0.050 1 0 76.8 70 - 130 0.8107 5.37 30

Surr: 4-Bromofluorobenzene 0.07031 0.0050 0.1 0 70.3 70 - 130 0.07733 9.52 30

| | | | |
|--|---------------|---------------|---------------|
| The following samples were analyzed in this batch: | | | |
| HS16110051-01 | HS16110051-02 | HS16110051-03 | HS16110051-04 |
| HS16110051-05 | HS16110051-06 | HS16110051-07 | HS16110051-08 |
| HS16110051-10 | HS16110051-11 | HS16110051-12 | HS16110051-13 |
| HS16110051-14 | HS16110051-15 | HS16110051-16 | HS16110051-17 |

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

Revision: 1

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| | | | | | | | | | | |
|-------------------|------------------------|--------------------|---------|----------------|----------------------------------|---------------|---------------|------|-----------|------|
| Batch ID: R284181 | | Instrument: FID-14 | | Method: SW8015 | | | | | | |
| MBLK | Sample ID: GBLK-161102 | Units: mg/Kg | | | Analysis Date: 03-Nov-2016 11:47 | | | | | |
| Client ID: | Run ID: FID-14_284181 | SeqNo: 3880580 | | PrepDate: | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

Gasoline Range Organics ND 0.050

Surr: 4-Bromofluorobenzene 0.08236 0.0050 0.1 0 82.4 70 - 130

| | | | | | | | | | |
|------------|------------------------|-----------------------|----------------|---------------|----------------------------------|---------------|---------------|-------|----------------|
| LCS | Sample ID: GLCS-161102 | Units: mg/Kg | | | Analysis Date: 03-Nov-2016 11:15 | | | | |
| Client ID: | | Run ID: FID-14_284181 | SeqNo: 3880579 | | PrepDate: | | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

Gasoline Range Organics 1.159 0.050 1 0 116 70 - 130

Surr: 4-Bromofluorobenzene 0.1002 0.0050 0.1 0 100 70 - 130

| | | | | | | | | | | |
|-------------------------------------|--|------------------------------|-----|-----------------------|---------------------|------|---|---------------|--------------|----------------|
| MS | | | | | | | | | | |
| Sample ID: | | HS16110051-21MS | | | Units: mg/Kg | | Analysis Date: 03-Nov-2016 12:20 | | | |
| Client ID: YE-6-7-2-3-102816 | | Run ID: FID-14_284181 | | SeqNo: 3880582 | | | PrepDate: | | DF: 1 | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

Gasoline Range Organics 0.8426 0.050 1 0 84.3 70 - 130

Surr: 4-Bromofluorobenzene 0.08101 0.0050 0.1 0 81.0 70 - 130

| | | | | | | | | | | |
|-------------------------------------|--|------------------------------|-----|-----------------------|---------------------|------|---|---------------|--------------|----------------|
| MSD | | | | | | | | | | |
| Sample ID: | | HS16110051-21MSD | | | Units: mg/Kg | | Analysis Date: 03-Nov-2016 12:36 | | | |
| Client ID: YE-6-7-2-3-102816 | | Run ID: FID-14_284181 | | SeqNo: 3880583 | | | PrepDate: | | DF: 1 | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

Gasoline Range Organics 0.7927 0.050 1 0 79.3 70 - 130 0.8426 6.1 30

Surr: 4-Bromofluorobenzene 0.07129 0.0050 0.1 0 71.3 70 - 130 0.08101 12.8 30

| | | | | | | | |
|--|--|--|--|---------------|---------------|---------------|---------------|
| The following samples were analyzed in this batch: | | | | HS16110051-19 | HS16110051-20 | HS16110051-21 | HS16110051-22 |
| | | | | HS16110051-23 | HS16110051-24 | HS16110051-25 | HS16110051-26 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109457 | | Instrument: ICPMS04 | | Method: SW6020 | | | | | | |
|------------------|------------------------|---------------------|---------|-----------------------|----------------------------------|---------------|---------------|------|-----------|------|
| MBLK | Sample ID: MBLK-109457 | Units: mg/Kg | | | Analysis Date: 03-Nov-2016 15:03 | | | | | |
| Client ID: | Run ID: ICPMS04_284145 | SeqNo: 3880225 | | PrepDate: 02-Nov-2016 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Arsenic | ND | 0.500 | | | | | | | | |
| Barium | ND | 0.500 | | | | | | | | |
| Boron | ND | 2.50 | | | | | | | | |
| Cadmium | ND | 0.500 | | | | | | | | |
| Chromium | ND | 0.500 | | | | | | | | |
| Copper | ND | 0.200 | | | | | | | | |
| Lead | ND | 0.500 | | | | | | | | |
| Nickel | ND | 0.500 | | | | | | | | |
| Selenium | ND | 0.500 | | | | | | | | |
| Silver | ND | 0.500 | | | | | | | | |
| Zinc | ND | 0.500 | | | | | | | | |

| | | | | | | | | | | |
|------------|------------------------|----------------|---------|-----------------------|----------------------------------|---------------|---------------|------|-----------|------|
| LCS | Sample ID: LCS-109457 | Units: mg/Kg | | | Analysis Date: 03-Nov-2016 15:07 | | | | | |
| Client ID: | Run ID: ICPMS04_284145 | SeqNo: 3880226 | | PrepDate: 02-Nov-2016 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Arsenic | 9.294 | 0.500 | 10 | 0 | 92.9 | 80 - 120 | | | | |
| Barium | 9.301 | 0.500 | 10 | 0 | 93.0 | 80 - 120 | | | | |
| Boron | 50.29 | 2.50 | 50 | 0 | 101 | 80 - 120 | | | | |
| Cadmium | 9.373 | 0.500 | 10 | 0 | 93.7 | 80 - 120 | | | | |
| Chromium | 9.553 | 0.500 | 10 | 0 | 95.5 | 80 - 120 | | | | |
| Copper | 9.572 | 0.200 | 10 | 0 | 95.7 | 80 - 120 | | | | |
| Lead | 9.435 | 0.500 | 10 | 0 | 94.4 | 80 - 120 | | | | |
| Nickel | 9.792 | 0.500 | 10 | 0 | 97.9 | 80 - 120 | | | | |
| Selenium | 9.245 | 0.500 | 10 | 0 | 92.4 | 80 - 120 | | | | |
| Silver | 9.559 | 0.500 | 10 | 0 | 95.6 | 80 - 120 | | | | |
| Zinc | 9.631 | 0.500 | 10 | 0 | 96.3 | 80 - 120 | | | | |

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

Revision: 1

Client: Kinder Morgan
 Project: McElmo Dome
 WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109457 | | Instrument: ICPMS04 | | Method: SW6020 | | | | | | |
|------------------|--------|----------------------------|---------|----------------|------|----------------------------------|---------------|-------|-----------|------|
| MS | | Sample ID: HS16110065-05MS | | Units: mg/Kg | | Analysis Date: 03-Nov-2016 16:58 | | | | |
| Client ID: | | Run ID: ICPMS04_284145 | | SeqNo: 3880342 | | PrepDate: 02-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Arsenic | 16.37 | 0.473 | 9.454 | 6.243 | 107 | 75 - 125 | | | | |
| Barium | 193.5 | 0.473 | 9.454 | 105.7 | 929 | 75 - 125 | | | | SEO |
| Boron | 45.45 | 2.36 | 47.27 | 5.357 | 84.8 | 75 - 125 | | | | |
| Cadmium | 9.105 | 0.473 | 9.454 | 0.4863 | 91.2 | 75 - 125 | | | | |
| Chromium | 29.39 | 0.473 | 9.454 | 14.56 | 157 | 75 - 125 | | | | S |
| Copper | 24.33 | 0.189 | 9.454 | 14.24 | 107 | 75 - 125 | | | | |
| Lead | 20.09 | 0.473 | 9.454 | 11.74 | 88.3 | 75 - 125 | | | | |
| Nickel | 41.22 | 0.473 | 9.454 | 27.56 | 144 | 75 - 125 | | | | S |
| Selenium | 8.642 | 0.473 | 9.454 | 0.6416 | 84.6 | 75 - 125 | | | | |
| Silver | 8.896 | 0.473 | 9.454 | 0.06023 | 93.5 | 75 - 125 | | | | |
| Zinc | 57.27 | 0.473 | 9.454 | 38.89 | 194 | 75 - 125 | | | | SO |

| MSD | | Sample ID: HS16110065-05MSD | | Units: mg/Kg | | Analysis Date: 03-Nov-2016 17:02 | | | | |
|------------|--------|-----------------------------|---------|----------------|------|----------------------------------|---------------|-------|-----------|------|
| Client ID: | | Run ID: ICPMS04_284145 | | SeqNo: 3880343 | | PrepDate: 02-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Arsenic | 16.7 | 0.485 | 9.696 | 6.243 | 108 | 75 - 125 | 16.37 | 1.97 | 20 | |
| Barium | 164.9 | 0.485 | 9.696 | 105.7 | 611 | 75 - 125 | 193.5 | 16 | 20 | SO |
| Boron | 49.17 | 2.42 | 48.48 | 5.357 | 90.4 | 75 - 125 | 45.45 | 7.87 | 20 | |
| Cadmium | 9.25 | 0.485 | 9.696 | 0.4863 | 90.4 | 75 - 125 | 9.105 | 1.59 | 20 | |
| Chromium | 28.81 | 0.485 | 9.696 | 14.56 | 147 | 75 - 125 | 29.39 | 1.97 | 20 | S |
| Copper | 24.06 | 0.194 | 9.696 | 14.24 | 101 | 75 - 125 | 24.33 | 1.12 | 20 | |
| Lead | 21.07 | 0.485 | 9.696 | 11.74 | 96.2 | 75 - 125 | 20.09 | 4.75 | 20 | |
| Nickel | 46.11 | 0.485 | 9.696 | 27.56 | 191 | 75 - 125 | 41.22 | 11.2 | 20 | S |
| Selenium | 8.71 | 0.485 | 9.696 | 0.6416 | 83.2 | 75 - 125 | 8.642 | 0.773 | 20 | |
| Silver | 9.011 | 0.485 | 9.696 | 0.06023 | 92.3 | 75 - 125 | 8.896 | 1.29 | 20 | |
| Zinc | 55.85 | 0.485 | 9.696 | 38.89 | 175 | 75 - 125 | 57.27 | 2.52 | 20 | SO |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109457 | | Instrument: ICPMS04 | | Method: SW6020 | | | | | | |
|------------------|--------|----------------------------|---------|----------------|------|----------------------------------|---------------|-------|-----------|------|
| PDS | | Sample ID: HS16110065-05BS | | Units: mg/Kg | | Analysis Date: 03-Nov-2016 17:06 | | | | |
| Client ID: | | Run ID: ICPMS04_284145 | | SeqNo: 3880344 | | PrepDate: 02-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Arsenic | 14.25 | 0.462 | 9.237 | 6.243 | 86.7 | 75 - 125 | | | | |
| Barium | 106.8 | 0.462 | 9.237 | 105.7 | 11.1 | 75 - 125 | | | | SO |
| Boron | 91.47 | 2.31 | 92.37 | 5.357 | 93.2 | 75 - 125 | | | | |
| Cadmium | 8.706 | 0.462 | 9.237 | 0.4863 | 89.0 | 75 - 125 | | | | |
| Chromium | 22.32 | 0.462 | 9.237 | 14.56 | 84.0 | 75 - 125 | | | | |
| Copper | 21.81 | 0.185 | 9.237 | 14.24 | 82.0 | 75 - 125 | | | | |
| Lead | 19.67 | 0.462 | 9.237 | 11.74 | 85.8 | 75 - 125 | | | | |
| Nickel | 35.02 | 0.462 | 9.237 | 27.56 | 80.8 | 75 - 125 | | | | |
| Selenium | 8.485 | 0.462 | 9.237 | 0.6416 | 84.9 | 75 - 125 | | | | |
| Silver | 8.856 | 0.462 | 9.237 | 0.06023 | 95.2 | 75 - 125 | | | | |
| Zinc | 46.14 | 0.462 | 9.237 | 38.89 | 78.5 | 75 - 125 | | | | O |

| SD | | Sample ID: HS16110065-05 DIL SX | | Units: mg/Kg | | Analysis Date: 03-Nov-2016 16:53 | | | | |
|------------|--------|---------------------------------|---------|----------------|------|----------------------------------|---------------|-------|----------|------|
| Client ID: | | Run ID: ICPMS04_284145 | | SeqNo: 3880341 | | PrepDate: 02-Nov-2016 | | DF: 5 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %D | %D Limit | Qual |
| Arsenic | 6.309 | 2.31 | | | | | 6.243 | 1.05 | 10 | |
| Barium | 97.48 | 2.31 | | | | | 105.7 | 7.81 | 10 | |
| Boron | ND | 11.5 | | | | | 5.357 | 0 | 10 | |
| Cadmium | 0.4618 | 2.31 | | | | | 0.4863 | 0 | 10 | J |
| Chromium | 14.45 | 2.31 | | | | | 14.56 | 0.744 | 10 | |
| Copper | 14.79 | 0.924 | | | | | 14.24 | 3.88 | 10 | |
| Lead | 10.96 | 2.31 | | | | | 11.74 | 6.66 | 10 | |
| Nickel | 28.94 | 2.31 | | | | | 27.56 | 5 | 10 | |
| Selenium | 1.417 | 2.31 | | | | | 0.6416 | 0 | 10 | J |
| Silver | ND | 2.31 | | | | | 0.06023 | 0 | 10 | |
| Zinc | 41.42 | 2.31 | | | | | 38.89 | 6.52 | 10 | |

| | | | |
|--|---------------|---------------|---------------|
| The following samples were analyzed in this batch: | | | |
| HS16110051-01 | HS16110051-02 | HS16110051-03 | HS16110051-04 |
| HS16110051-05 | HS16110051-06 | HS16110051-07 | HS16110051-08 |
| HS16110051-10 | HS16110051-11 | HS16110051-12 | HS16110051-13 |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109608 | | | | | | | | | | | Instrument: ICPMS04 | | | Method: SW6020 | | |
|------------------|--|------------------------|-----|---------|----------------|------|---------------|----------------------------------|------|-----------|---------------------|--|--|----------------|--|--|
| MBLK | | Sample ID: MBLK-109608 | | | Units: mg/Kg | | | Analysis Date: 09-Nov-2016 01:08 | | | | | | | | |
| Client ID: | | Run ID: ICPMS04_284404 | | | SeqNo: 3886183 | | | PrepDate: 07-Nov-2016 | | DF: 1 | | | | | | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | | | | | |

| | | | | | | | | | | |
|----------|----|-------|--|--|--|--|--|--|--|--|
| Arsenic | ND | 0.500 | | | | | | | | |
| Barium | ND | 0.500 | | | | | | | | |
| 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-109608 | Units: mg/Kg | | | Analysis Date: 09-Nov-2016 17:39 | | | | | |
| Client ID: | | Run ID: ICPMS04_284488 | SeqNo: 3887403 | | PrepDate: 07-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|-------|----|------|--|--|--|--|--|--|--|--|
| Boron | ND | 2.50 | | | | | | | | |
|-------|----|------|--|--|--|--|--|--|--|--|

| | | | | | | | | | | |
|------------|-----------------------|------------------------|----------------|---------------|----------------------------------|---------------|---------------|------|-----------|------|
| LCS | Sample ID: LCS-109608 | Units: mg/Kg | | | Analysis Date: 09-Nov-2016 01:13 | | | | | |
| Client ID: | | Run ID: ICPMS04_284404 | SeqNo: 3886184 | | PrepDate: 07-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |

| | | | | | | | | | | |
|----------|-------|-------|----|---|------|----------|--|--|--|--|
| Arsenic | 9.58 | 0.500 | 10 | 0 | 95.8 | 80 - 120 | | | | |
| Barium | 10.39 | 0.500 | 10 | 0 | 104 | 80 - 120 | | | | |
| Cadmium | 10.08 | 0.500 | 10 | 0 | 101 | 80 - 120 | | | | |
| Chromium | 9.393 | 0.500 | 10 | 0 | 93.9 | 80 - 120 | | | | |
| Copper | 9.672 | 0.200 | 10 | 0 | 96.7 | 80 - 120 | | | | |
| Lead | 10.29 | 0.500 | 10 | 0 | 103 | 80 - 120 | | | | |
| Nickel | 9.652 | 0.500 | 10 | 0 | 96.5 | 80 - 120 | | | | |
| Selenium | 9.45 | 0.500 | 10 | 0 | 94.5 | 80 - 120 | | | | |
| Silver | 10.39 | 0.500 | 10 | 0 | 104 | 80 - 120 | | | | |
| Zinc | 9.64 | 0.500 | 10 | 0 | 96.4 | 80 - 120 | | | | |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109608 | | Instrument: ICPMS04 | | Method: SW6020 | | | | | | |
|------------------------------|--------|-----------------------------|---------|----------------|-------|----------------------------------|---------------|-------|-----------|------|
| LCS | | Sample ID: LCS-109608 | | Units: mg/Kg | | Analysis Date: 09-Nov-2016 18:19 | | | | |
| Client ID: | | Run ID: ICPMS04_284488 | | SeqNo: 3887431 | | PrepDate: 07-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Boron | 59.03 | 2.50 | 50 | 0 | 118 | 80 - 120 | | | | |
| MS | | Sample ID: HS16110051-16MS | | Units: mg/Kg | | Analysis Date: 09-Nov-2016 03:16 | | | | |
| Client ID: YE-6-3-1-2-102716 | | Run ID: ICPMS04_284404 | | SeqNo: 3886210 | | PrepDate: 07-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Arsenic | 10.74 | 0.472 | 9.43 | 3.23 | 79.6 | 75 - 125 | | | | |
| Barium | 240.7 | 0.472 | 9.43 | 245.7 | -52.8 | 75 - 125 | | | | SEO |
| Boron | 48.35 | 2.36 | 47.15 | 4.025 | 94.0 | 75 - 125 | | | | |
| Cadmium | 8.415 | 0.472 | 9.43 | 0.1034 | 88.1 | 75 - 125 | | | | |
| Chromium | 14.52 | 0.472 | 9.43 | 6.292 | 87.3 | 75 - 125 | | | | |
| Copper | 14.84 | 0.189 | 9.43 | 7.502 | 77.8 | 75 - 125 | | | | |
| Lead | 16.67 | 0.472 | 9.43 | 8.068 | 91.2 | 75 - 125 | | | | |
| Nickel | 15.32 | 0.472 | 9.43 | 7.721 | 80.6 | 75 - 125 | | | | |
| Selenium | 7.757 | 0.472 | 9.43 | 0.3938 | 78.1 | 75 - 125 | | | | |
| Silver | 8.04 | 0.472 | 9.43 | 0.06948 | 84.5 | 75 - 125 | | | | |
| Zinc | 32.93 | 0.472 | 9.43 | 28.83 | 43.5 | 75 - 125 | | | | S |
| MSD | | Sample ID: HS16110051-16MSD | | Units: mg/Kg | | Analysis Date: 09-Nov-2016 03:21 | | | | |
| Client ID: YE-6-3-1-2-102716 | | Run ID: ICPMS04_284404 | | SeqNo: 3886211 | | PrepDate: 07-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Arsenic | 10.44 | 0.468 | 9.351 | 3.23 | 77.1 | 75 - 125 | 10.74 | 2.78 | 20 | |
| Barium | 229.2 | 0.468 | 9.351 | 245.7 | -176 | 75 - 125 | 240.7 | 4.9 | 20 | SEO |
| Boron | 46.64 | 2.34 | 46.76 | 4.025 | 91.1 | 75 - 125 | 48.35 | 3.6 | 20 | |
| Cadmium | 7.906 | 0.468 | 9.351 | 0.1034 | 83.4 | 75 - 125 | 8.415 | 6.24 | 20 | |
| Chromium | 13.92 | 0.468 | 9.351 | 6.292 | 81.6 | 75 - 125 | 14.52 | 4.22 | 20 | |
| Copper | 13.61 | 0.187 | 9.351 | 7.502 | 65.3 | 75 - 125 | 14.84 | 8.66 | 20 | S |
| Lead | 15.46 | 0.468 | 9.351 | 8.068 | 79.1 | 75 - 125 | 16.67 | 7.54 | 20 | |
| Nickel | 15.44 | 0.468 | 9.351 | 7.721 | 82.6 | 75 - 125 | 15.32 | 0.77 | 20 | |
| Selenium | 7.167 | 0.468 | 9.351 | 0.3938 | 72.4 | 75 - 125 | 7.757 | 7.92 | 20 | S |
| Silver | 7.421 | 0.468 | 9.351 | 0.06948 | 78.6 | 75 - 125 | 8.04 | 8.01 | 20 | |
| Zinc | 31.37 | 0.468 | 9.351 | 28.83 | 27.2 | 75 - 125 | 32.93 | 4.86 | 20 | S |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109608 | | Instrument: ICPMS04 | | Method: SW6020 | | | | | | |
|-------------------------------------|--------|-----------------------------------|---------|-----------------------|------|---|---------------|--------------|-----------|------|
| PDS | | Sample ID: HS16110051-16BS | | Units: mg/Kg | | Analysis Date: 09-Nov-2016 03:26 | | | | |
| Client ID: YE-6-3-1-2-102716 | | Run ID: ICPMS04_284404 | | SeqNo: 3886212 | | PrepDate: 07-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Arsenic | 11.96 | 0.471 | 9.414 | 3.23 | 92.8 | 75 - 125 | | | | |
| Cadmium | 8.843 | 0.471 | 9.414 | 0.1034 | 92.8 | 75 - 125 | | | | |
| Chromium | 14.95 | 0.471 | 9.414 | 6.292 | 92.0 | 75 - 125 | | | | |
| Copper | 16.04 | 0.188 | 9.414 | 7.502 | 90.7 | 75 - 125 | | | | |
| Lead | 16.7 | 0.471 | 9.414 | 8.068 | 91.7 | 75 - 125 | | | | |
| Nickel | 16.34 | 0.471 | 9.414 | 7.721 | 91.6 | 75 - 125 | | | | |
| Selenium | 9.091 | 0.471 | 9.414 | 0.3938 | 92.4 | 75 - 125 | | | | |
| Silver | 7.509 | 0.471 | 9.414 | 0.06948 | 79.0 | 75 - 125 | | | | |
| Zinc | 36.26 | 0.471 | 9.414 | 28.83 | 78.9 | 75 - 125 | | | | |

| PDS | | Sample ID: HS16110051-16BS | | Units: mg/Kg | | Analysis Date: 09-Nov-2016 18:57 | | | | |
|-------------------------------------|--------|-----------------------------------|---------|-----------------------|------|---|---------------|---------------|-----------|------|
| Client ID: YE-6-3-1-2-102716 | | Run ID: ICPMS04_284488 | | SeqNo: 3887564 | | PrepDate: 07-Nov-2016 | | DF: 10 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Barium | 362.4 | 4.71 | 94.14 | 263.3 | 105 | 75 - 125 | | | | |

| PDS | | Sample ID: HS16110051-16BS | | Units: mg/Kg | | Analysis Date: 09-Nov-2016 19:02 | | | | |
|-------------------------------------|--------|-----------------------------------|---------|-----------------------|------|---|---------------|--------------|-----------|------|
| Client ID: YE-6-3-1-2-102716 | | Run ID: ICPMS04_284488 | | SeqNo: 3887565 | | PrepDate: 07-Nov-2016 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Boron | 66.42 | 2.35 | 94.14 | 4.025 | 66.3 | 75 - 125 | | | | S |

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

Revision: 1

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| | | | | | | | | | | |
|------------------------------|---------------------------------|---------------------|----------------|----------------|----------------------------------|---------------|---------------|----|-------|------|
| Batch ID: 109608 | | Instrument: ICPMS04 | | Method: SW6020 | | | | | | |
| SD | Sample ID: HS16110051-16 DIL SX | Units: mg/Kg | | | Analysis Date: 09-Nov-2016 03:12 | | | | | |
| Client ID: YE-6-3-1-2-102716 | Run ID: ICPMS04_284404 | | SeqNo: 3886209 | | PrepDate: 07-Nov-2016 | | DF: 5 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %D | Limit | Qual |

| | | | | | | | | | | |
|----------|-------|-------|--|--|--|--|---------|-------|----|--|
| Arsenic | 3.252 | 2.35 | | | | | 3.23 | 0.679 | 10 | |
| Boron | ND | 11.8 | | | | | 4.025 | 0 | 10 | |
| Cadmium | ND | 2.35 | | | | | 0.1034 | 0 | 10 | |
| Chromium | 6.319 | 2.35 | | | | | 6.292 | 0.435 | 10 | |
| Copper | 7.672 | 0.941 | | | | | 7.502 | 2.27 | 10 | |
| Lead | 7.998 | 2.35 | | | | | 8.068 | 0.861 | 10 | |
| Nickel | 7.981 | 2.35 | | | | | 7.721 | 3.37 | 10 | |
| Selenium | ND | 2.35 | | | | | 0.3938 | 0 | 10 | |
| Silver | ND | 2.35 | | | | | 0.06948 | 0 | 10 | |
| Zinc | 29.45 | 2.35 | | | | | 28.83 | 2.15 | 10 | |

| | | | | | | | | | | |
|-------------------------------------|--|-----|-----------------------|---------------|---|---------------|---------------|----|-------|------|
| SD | Sample ID: HS16110051-16 DIL SX | | Units: mg/Kg | | Analysis Date: 09-Nov-2016 18:53 | | | | | |
| Client ID: YE-6-3-1-2-102716 | Run ID: ICPMS04_284488 | | SeqNo: 3887563 | | PrepDate: 07-Nov-2016 | | DF: 50 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %D | Limit | Qual |

| | | | | | | | | | | |
|--------|-------|------|--|--|--|--|-------|-------|----|--|
| Barium | 263.8 | 23.5 | | | | | 263.3 | 0.172 | 10 | |
|--------|-------|------|--|--|--|--|-------|-------|----|--|

| | | | | | |
|--|--|---------------|---------------|---------------|---------------|
| The following samples were analyzed in this batch: | | HS16110051-14 | HS16110051-15 | HS16110051-16 | HS16110051-17 |
| | | HS16110051-19 | HS16110051-20 | HS16110051-21 | HS16110051-22 |
| | | HS16110051-23 | HS16110051-24 | HS16110051-25 | HS16110051-26 |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109678 | | Instrument: HG03 | | Method: SW7471A | | | | | | |
|--|------------------------------------|---------------------|-----------------------|---|------------------------------|---------------|---------------|------|-----------|------|
| MBLK | Sample ID: MBLK-109678 | Units: ug/Kg | | Analysis Date: 09-Nov-2016 14:24 | | | | | | |
| Client ID: | Run ID: HG03_284518 | | SeqNo: 3887286 | | PrepDate: 08-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | ND | 3.36 | | | | | | | | |
| LCS | Sample ID: LCS-109678 | Units: ug/Kg | | Analysis Date: 09-Nov-2016 14:26 | | | | | | |
| Client ID: | Run ID: HG03_284518 | | SeqNo: 3887287 | | PrepDate: 08-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 350.3 | 3.34 | 334.9 | 0 | 105 | 85 - 115 | | | | |
| MS | Sample ID: HS16101120-04MS | Units: ug/Kg | | Analysis Date: 09-Nov-2016 14:30 | | | | | | |
| Client ID: | Run ID: HG03_284518 | | SeqNo: 3887289 | | PrepDate: 08-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 390.4 | 3.46 | 347.3 | 24.8 | 105 | 85 - 115 | | | | |
| MSD | Sample ID: HS16101120-04MSD | Units: ug/Kg | | Analysis Date: 09-Nov-2016 14:31 | | | | | | |
| Client ID: | Run ID: HG03_284518 | | SeqNo: 3887290 | | PrepDate: 08-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 387.8 | 3.45 | 345.6 | 24.8 | 105 | 85 - 115 | 390.4 | 0.68 | 20 | |
| The following samples were analyzed in this batch: HS16110051-23 | | | | | | | | | | |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109679 | | Instrument: HG03 | | Method: SW7471A | | | | | | |
|--|------------------------------------|-----------------------|---------|---|------|---------------|---------------|-------|-----------|------|
| MBLK | Sample ID: MBLK-109679 | Units: ug/Kg | | Analysis Date: 09-Nov-2016 15:24 | | | | | | |
| Client ID: | Run ID: HG03_284518 | SeqNo: 3887318 | | PrepDate: 08-Nov-2016 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | ND | 3.37 | | | | | | | | |
| LCS | Sample ID: LCS-109679 | Units: ug/Kg | | Analysis Date: 09-Nov-2016 15:26 | | | | | | |
| Client ID: | Run ID: HG03_284518 | SeqNo: 3887319 | | PrepDate: 08-Nov-2016 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 354.6 | 3.38 | 338.4 | 0 | 105 | 85 - 115 | | | | |
| MS | Sample ID: HS16110051-01MS | Units: ug/Kg | | Analysis Date: 09-Nov-2016 15:29 | | | | | | |
| Client ID: YE-6-3-14-15-102716 | Run ID: HG03_284518 | SeqNo: 3887321 | | PrepDate: 08-Nov-2016 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 388.8 | 3.40 | 341.1 | 27.8 | 106 | 85 - 115 | | | | |
| MSD | Sample ID: HS16110051-01MSD | Units: ug/Kg | | Analysis Date: 09-Nov-2016 15:31 | | | | | | |
| Client ID: YE-6-3-14-15-102716 | Run ID: HG03_284518 | SeqNo: 3887322 | | PrepDate: 08-Nov-2016 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Mercury | 388.3 | 3.40 | 340.6 | 27.8 | 106 | 85 - 115 | 388.8 | 0.136 | 20 | |
| The following samples were analyzed in this batch: | | | | | | | | | | |
| HS16110051-01 | | HS16110051-02 | | HS16110051-03 | | HS16110051-04 | | | | |
| HS16110051-05 | | HS16110051-06 | | HS16110051-07 | | HS16110051-08 | | | | |
| HS16110051-10 | | HS16110051-11 | | HS16110051-12 | | HS16110051-13 | | | | |
| HS16110051-14 | | HS16110051-15 | | HS16110051-16 | | HS16110051-17 | | | | |
| HS16110051-19 | | HS16110051-20 | | HS16110051-21 | | HS16110051-22 | | | | |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109772 | | Instrument: HG03 | | Method: SW7471A | | | | | |
|--|------------------------------------|-----------------------|---------|---|------|---------------|---------------|----------|----------------|
| MBLK | Sample ID: MBLK-109772 | Units: ug/Kg | | Analysis Date: 11-Nov-2016 15:16 | | | | | |
| Client ID: | Run ID: HG03_284656 | SeqNo: 3890234 | | PrepDate: 11-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual |
| Mercury | ND | 3.32 | | | | | | | |
| LCS | Sample ID: LCS-109772 | Units: ug/Kg | | Analysis Date: 11-Nov-2016 15:18 | | | | | |
| Client ID: | Run ID: HG03_284656 | SeqNo: 3890235 | | PrepDate: 11-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual |
| Mercury | 344.7 | 3.32 | 333.3 | 0 | 103 | 85 - 115 | | | |
| MS | Sample ID: HS16110427-01MS | Units: ug/Kg | | Analysis Date: 11-Nov-2016 15:21 | | | | | |
| Client ID: | Run ID: HG03_284656 | SeqNo: 3890237 | | PrepDate: 11-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual |
| Mercury | 372.4 | 3.45 | 346.1 | 6.322 | 106 | 85 - 115 | | | |
| MSD | Sample ID: HS16110427-01MSD | Units: ug/Kg | | Analysis Date: 11-Nov-2016 15:23 | | | | | |
| Client ID: | Run ID: HG03_284656 | SeqNo: 3890238 | | PrepDate: 11-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual |
| Mercury | 381.7 | 3.47 | 348.3 | 6.322 | 108 | 85 - 115 | 372.4 | 2.47 | 20 |
| The following samples were analyzed in this batch: | | | | | | | | | |
| HS16110051-24 | | HS16110051-25 | | HS16110051-26 | | | | | |

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

Client: Kinder Morgan
 Project: McElmo Dome
 WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109794 | | | | | | | | | | | Instrument: ICPMS05 | | | Method: La29B-6020 | | |
|------------------|--|------------------------|-----|---------|----------------|------|-----------------------|----------------------------------|-------|-----------|---------------------|--|--|--------------------|--|--|
| MBLK | | Sample ID: MBLK-109794 | | | Units: mg/L | | | Analysis Date: 14-Nov-2016 17:12 | | | | | | | | |
| Client ID: | | Run ID: ICPMS05_284738 | | | SeqNo: 3892135 | | PrepDate: 10-Nov-2016 | | DF: 1 | | | | | | | |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | | | | | |

| | | | | | | | | | | |
|-----------|----|-------|--|--|--|--|--|--|--|--|
| Calcium | ND | 0.500 | | | | | | | | |
| Magnesium | ND | 0.500 | | | | | | | | |
| Sodium | ND | 0.500 | | | | | | | | |

| | | | | | | | | | | |
|------------|--|----------------------------|-----|-------------------------------|--------------------|-----------------------|---|------------------------------|------|----------------|
| DUP | | | | | | | | | | |
| Sample ID: | | HS16110051-19DUP | | | Units: mg/L | | Analysis Date: 14-Nov-2016 18:18 | | | |
| Client ID: | | YE-6-6-11-12-102816 | | Run ID: ICPMS05_284738 | | SeqNo: 3892157 | | PrepDate: 10-Nov-2016 | | DF: 10 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

| | | | | | | | | | | |
|-----------|-------|------|--|--|--|--|-------|------|----|--|
| Calcium | 762.5 | 5.00 | | | | | 772 | 1.24 | 30 | |
| Magnesium | 35.07 | 5.00 | | | | | 33.88 | 3.46 | 30 | |

| | | | | | | | | | | |
|------------|--|----------------------------|-----|-------------------------------|--------------------|-----------------------|---|------------------------------|------|----------------|
| DUP | | | | | | | | | | |
| Sample ID: | | HS16110051-19DUP | | | Units: mg/L | | Analysis Date: 15-Nov-2016 12:13 | | | |
| Client ID: | | YE-6-6-11-12-102816 | | Run ID: ICPMS05_284814 | | SeqNo: 3892722 | | PrepDate: 10-Nov-2016 | | DF: 100 |
| Analyte | | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

| | | | | | | | | | | |
|--------|------|------|--|--|--|--|------|-------|----|--|
| Sodium | 1914 | 50.0 | | | | | 1924 | 0.517 | 30 | |
|--------|------|------|--|--|--|--|------|-------|----|--|

The following samples were analyzed in this batch:

| | | | |
|---------------|---------------|---------------|---------------|
| HS16110051-01 | HS16110051-02 | HS16110051-03 | HS16110051-04 |
| HS16110051-05 | HS16110051-06 | HS16110051-07 | HS16110051-08 |
| HS16110051-10 | HS16110051-11 | HS16110051-12 | HS16110051-13 |
| HS16110051-14 | HS16110051-15 | HS16110051-16 | HS16110051-17 |
| HS16110051-19 | HS16110051-20 | HS16110051-21 | HS16110051-22 |

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

Revision: 1

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109795 | | Instrument: ICPMS05 | | Method: La29B-6020 | | | | | | |
|------------------|------------------------|------------------------|----------------|--------------------|----------------------------------|---------------|---------------|------|-----------|------|
| MBLK | Sample ID: MBLK-109795 | Units: mg/L | | | Analysis Date: 14-Nov-2016 18:32 | | | | | |
| Client ID: | | Run ID: ICPMS05_284738 | SeqNo: 3892162 | | PrepDate: 10-Nov-2016 | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | ND | 0.500 | | | | | | | | |
| Magnesium | ND | 0.500 | | | | | | | | |
| Sodium | ND | 0.500 | | | | | | | | |

| | | | | | | | | | | |
|--------------------------------|-----------------------------|------------------------|----------------|---------------|----------------------------------|---------------|---------------|--------|-----------|------|
| DUP | Sample ID: HS16110051-25DUP | Units: mg/L | | | Analysis Date: 15-Nov-2016 12:22 | | | | | |
| Client ID: YE-6-8-12-13-102816 | | Run ID: ICPMS05_284814 | SeqNo: 3892725 | | PrepDate: 10-Nov-2016 | | DF: 100 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | 2495 | 50.0 | | | | | 2497 | 0.0738 | 30 | |
| Sodium | 6207 | 50.0 | | | | | 6170 | 0.59 | 30 | |

| | | | | | | | | | | |
|--------------------------------|-----------------------------|------------------------|----------------|---------------|----------------------------------|---------------|---------------|------|-----------|------|
| DUP | Sample ID: HS16110051-25DUP | Units: mg/L | | | Analysis Date: 14-Nov-2016 18:50 | | | | | |
| Client ID: YE-6-8-12-13-102816 | | Run ID: ICPMS05_284738 | SeqNo: 3892168 | | PrepDate: 10-Nov-2016 | | DF: 10 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Magnesium | ND | 5.00 | | | | | 0.4091 | | 0 | 30 |

| | | | | | |
|--|--|---------------|---------------|---------------|---------------|
| The following samples were analyzed in this batch: | | HS16110051-23 | HS16110051-24 | HS16110051-25 | HS16110051-26 |
|--|--|---------------|---------------|---------------|---------------|

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

Client: Kinder Morgan
 Project: McElmo Dome
 WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284083 | | Instrument: VOA2 | | Method: SW8260 | | | | | |
|-----------------------------|-------------------------|------------------|---------|----------------------------------|------|---------------|---------------|------|----------------|
| MBLK | Sample ID: VBLKW-161102 | Units: ug/L | | Analysis Date: 02-Nov-2016 12:41 | | | | | |
| Client ID: | Run ID: VOA2_284083 | SeqNo: 3878862 | | PrepDate: | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | ND | 1.0 | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | |
| m,p-Xylene | ND | 2.0 | | | | | | | |
| o-Xylene | ND | 1.0 | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | |
| Xylenes, Total | ND | 3.0 | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 40.33 | 1.0 | 50 | 0 | 80.7 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 45.83 | 1.0 | 50 | 0 | 91.7 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 48.2 | 1.0 | 50 | 0 | 96.4 | 74 - 125 | | | |
| Surr: Toluene-d8 | 49.66 | 1.0 | 50 | 0 | 99.3 | 75 - 125 | | | |

| LCS | Sample ID: VLCSW-161102 | Units: ug/L | | Analysis Date: 02-Nov-2016 11:52 | | | | | |
|-----------------------------|-------------------------|----------------|---------|----------------------------------|------|---------------|---------------|------|----------------|
| Client ID: | Run ID: VOA2_284083 | SeqNo: 3878861 | | PrepDate: | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 41.08 | 1.0 | 50 | 0 | 82.2 | 75 - 122 | | | |
| Ethylbenzene | 42.75 | 1.0 | 50 | 0 | 85.5 | 80 - 120 | | | |
| m,p-Xylene | 101.4 | 2.0 | 100 | 0 | 101 | 80 - 120 | | | |
| o-Xylene | 43.96 | 1.0 | 50 | 0 | 87.9 | 80 - 120 | | | |
| Toluene | 49.82 | 1.0 | 50 | 0 | 99.6 | 75 - 121 | | | |
| Xylenes, Total | 145.3 | 3.0 | 150 | 0 | 96.9 | 79 - 124 | | | |
| Surr: 1,2-Dichloroethane-d4 | 42.08 | 1.0 | 50 | 0 | 84.2 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 47 | 1.0 | 50 | 0 | 94.0 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 47.1 | 1.0 | 50 | 0 | 94.2 | 74 - 125 | | | |
| Surr: Toluene-d8 | 49.47 | 1.0 | 50 | 0 | 98.9 | 75 - 125 | | | |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284083 | | Instrument: VOA2 | | Method: SW8260 | | | | | |
|-----------------------------|--------|----------------------------|---------|----------------|------|----------------------------------|---------------|-------|----------------|
| MS | | Sample ID: HS16110013-01MS | | Units: ug/L | | Analysis Date: 02-Nov-2016 15:34 | | | |
| Client ID: | | Run ID: VOA2_284083 | | SeqNo: 3879089 | | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 42.77 | 1.0 | 50 | 0 | 85.5 | 75 - 122 | | | |
| Ethylbenzene | 43.86 | 1.0 | 50 | 0 | 87.7 | 80 - 120 | | | |
| m,p-Xylene | 103.1 | 2.0 | 100 | 0 | 103 | 80 - 120 | | | |
| o-Xylene | 43.96 | 1.0 | 50 | 0 | 87.9 | 80 - 120 | | | |
| Toluene | 58.09 | 1.0 | 50 | 5.005 | 106 | 75 - 121 | | | |
| Xylenes, Total | 147 | 3.0 | 150 | 0 | 98.0 | 80 - 124 | | | |
| Surr: 1,2-Dichloroethane-d4 | 41.75 | 1.0 | 50 | 0 | 83.5 | 71 - 125 | | | |
| Surr: 4-Bromofluorobenzene | 47.46 | 1.0 | 50 | 0 | 94.9 | 70 - 125 | | | |
| Surr: Dibromofluoromethane | 46.08 | 1.0 | 50 | 0 | 92.2 | 74 - 125 | | | |
| Surr: Toluene-d8 | 49.66 | 1.0 | 50 | 0 | 99.3 | 75 - 125 | | | |

| MSD | | Sample ID: HS16110013-01MSD | | Units: ug/L | | Analysis Date: 02-Nov-2016 15:59 | | | |
|-----------------------------|--------|-----------------------------|---------|----------------|------|----------------------------------|---------------|-------|----------------|
| Client ID: | | Run ID: VOA2_284083 | | SeqNo: 3879090 | | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 40.6 | 1.0 | 50 | 0 | 81.2 | 75 - 122 | 42.77 | 5.22 | 20 |
| Ethylbenzene | 42.36 | 1.0 | 50 | 0 | 84.7 | 80 - 120 | 43.86 | 3.5 | 20 |
| m,p-Xylene | 100.1 | 2.0 | 100 | 0 | 100 | 80 - 120 | 103.1 | 2.9 | 20 |
| o-Xylene | 42.64 | 1.0 | 50 | 0 | 85.3 | 80 - 120 | 43.96 | 3.06 | 20 |
| Toluene | 55.87 | 1.0 | 50 | 5.005 | 102 | 75 - 121 | 58.09 | 3.89 | 20 |
| Xylenes, Total | 142.8 | 3.0 | 150 | 0 | 95.2 | 80 - 124 | 147 | 2.95 | 20 |
| Surr: 1,2-Dichloroethane-d4 | 43.03 | 1.0 | 50 | 0 | 86.1 | 71 - 125 | 41.75 | 3.01 | 20 |
| Surr: 4-Bromofluorobenzene | 47.09 | 1.0 | 50 | 0 | 94.2 | 70 - 125 | 47.46 | 0.801 | 20 |
| Surr: Dibromofluoromethane | 47.47 | 1.0 | 50 | 0 | 94.9 | 74 - 125 | 46.08 | 2.98 | 20 |
| Surr: Toluene-d8 | 48.28 | 1.0 | 50 | 0 | 96.6 | 75 - 125 | 49.66 | 2.82 | 20 |

The following samples were analyzed in this batch: HS16110051-09 HS16110051-18 HS16110051-27

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

Client: Kinder Morgan
 Project: McElmo Dome
 WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284085 | | Instrument: VOA8 | | Method: SW8260 | | | | | |
|------------------------------------|---------------------------------|-----------------------|-----------|---|-------------|-----------------|---------------|------|----------------|
| MBLK | Sample ID: VBLKS1-110216 | Units: ug/Kg | | Analysis Date: 02-Nov-2016 14:00 | | | | | |
| Client ID: | Run ID: VOA8_284085 | SeqNo: 3878872 | | 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 | | | | | | | |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>51.42</i> | <i>0</i> | <i>50</i> | <i>0</i> | <i>103</i> | <i>70 - 128</i> | | | |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>46.39</i> | <i>0</i> | <i>50</i> | <i>0</i> | <i>92.8</i> | <i>73 - 126</i> | | | |
| <i>Surr: Dibromofluoromethane</i> | <i>49.36</i> | <i>0</i> | <i>50</i> | <i>0</i> | <i>98.7</i> | <i>71 - 128</i> | | | |
| <i>Surr: Toluene-d8</i> | <i>48.94</i> | <i>0</i> | <i>50</i> | <i>0</i> | <i>97.9</i> | <i>73 - 127</i> | | | |

| LCS | Sample ID: VLCSS1-110216 | Units: ug/Kg | | Analysis Date: 02-Nov-2016 13:34 | | | | | |
|------------------------------------|---------------------------------|-----------------------|-----------|---|-------------|-----------------|---------------|------|----------------|
| Client ID: | Run ID: VOA8_284085 | SeqNo: 3878871 | | PrepDate: | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 46.88 | 5.0 | 50 | 0 | 93.8 | 79 - 122 | | | |
| Ethylbenzene | 46.13 | 5.0 | 50 | 0 | 92.3 | 80 - 122 | | | |
| m,p-Xylene | 91.09 | 10 | 100 | 0 | 91.1 | 79 - 122 | | | |
| o-Xylene | 44.49 | 5.0 | 50 | 0 | 89.0 | 80 - 123 | | | |
| Toluene | 43.7 | 5.0 | 50 | 0 | 87.4 | 79 - 120 | | | |
| Xylenes, Total | 135.6 | 10 | 150 | 0 | 90.4 | 79 - 123 | | | |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>54.28</i> | <i>0</i> | <i>50</i> | <i>0</i> | <i>109</i> | <i>70 - 128</i> | | | |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>49.17</i> | <i>0</i> | <i>50</i> | <i>0</i> | <i>98.3</i> | <i>73 - 126</i> | | | |
| <i>Surr: Dibromofluoromethane</i> | <i>49.71</i> | <i>0</i> | <i>50</i> | <i>0</i> | <i>99.4</i> | <i>71 - 128</i> | | | |
| <i>Surr: Toluene-d8</i> | <i>47.45</i> | <i>0</i> | <i>50</i> | <i>0</i> | <i>94.9</i> | <i>73 - 127</i> | | | |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284085 | | Instrument: VOA8 | | Method: SW8260 | | | | | | |
|-------------------------------------|--------|-----------------------------------|---------|-----------------------|------|---|---------------|--------------|-----------|------|
| MS | | Sample ID: HS16110051-02MS | | Units: ug/Kg | | Analysis Date: 02-Nov-2016 15:49 | | | | |
| Client ID: YE-6-4-1-2-102716 | | Run ID: VOA8_284085 | | SeqNo: 3879247 | | PrepDate: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 35.72 | 4.9 | 49 | 0 | 72.9 | 79 - 122 | | | | S |
| Ethylbenzene | 33.51 | 4.9 | 49 | 0 | 68.4 | 80 - 122 | | | | S |
| m,p-Xylene | 66.24 | 9.8 | 98 | 0 | 67.6 | 79 - 122 | | | | S |
| o-Xylene | 33.01 | 4.9 | 49 | 0 | 67.4 | 80 - 123 | | | | S |
| Toluene | 33.05 | 4.9 | 49 | 0 | 67.4 | 79 - 120 | | | | S |
| Xylenes, Total | 99.26 | 9.8 | 147 | 0 | 67.5 | 79 - 123 | | | | S |
| Surr: 1,2-Dichloroethane-d4 | 53.08 | 0 | 49 | 0 | 108 | 70 - 128 | | | | |
| Surr: 4-Bromofluorobenzene | 51.23 | 0 | 49 | 0 | 105 | 73 - 126 | | | | |
| Surr: Dibromofluoromethane | 49.63 | 0 | 49 | 0 | 101 | 71 - 128 | | | | |
| Surr: Toluene-d8 | 47.71 | 0 | 49 | 0 | 97.4 | 73 - 127 | | | | |

| MSD | | Sample ID: HS16110051-02MSD | | Units: ug/Kg | | Analysis Date: 02-Nov-2016 16:16 | | | | |
|-------------------------------------|--------|------------------------------------|---------|-----------------------|------|---|---------------|--------------|-----------|------|
| Client ID: YE-6-4-1-2-102716 | | Run ID: VOA8_284085 | | SeqNo: 3879248 | | PrepDate: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 35.52 | 4.8 | 48.5 | 0 | 73.2 | 79 - 122 | 35.72 | 0.541 | 30 | S |
| Ethylbenzene | 32.38 | 4.8 | 48.5 | 0 | 66.8 | 80 - 122 | 33.51 | 3.46 | 30 | S |
| m,p-Xylene | 63.77 | 9.7 | 97 | 0 | 65.7 | 79 - 122 | 66.24 | 3.8 | 30 | S |
| o-Xylene | 32.06 | 4.8 | 48.5 | 0 | 66.1 | 80 - 123 | 33.01 | 2.93 | 30 | S |
| Toluene | 32.41 | 4.8 | 48.5 | 0 | 66.8 | 79 - 120 | 33.05 | 1.96 | 30 | S |
| Xylenes, Total | 95.83 | 9.7 | 145.5 | 0 | 65.9 | 79 - 123 | 99.26 | 3.51 | 30 | S |
| Surr: 1,2-Dichloroethane-d4 | 50.32 | 0 | 48.5 | 0 | 104 | 70 - 128 | 53.08 | 5.34 | 30 | |
| Surr: 4-Bromofluorobenzene | 50.52 | 0 | 48.5 | 0 | 104 | 73 - 126 | 51.23 | 1.39 | 30 | |
| Surr: Dibromofluoromethane | 50 | 0 | 48.5 | 0 | 103 | 71 - 128 | 49.63 | 0.737 | 30 | |
| Surr: Toluene-d8 | 46.37 | 0 | 48.5 | 0 | 95.6 | 73 - 127 | 47.71 | 2.86 | 30 | |

| | | | | | | | |
|--|--|--|--|---------------|---------------|---------------|---------------|
| The following samples were analyzed in this batch: | | | | HS16110051-01 | HS16110051-02 | HS16110051-03 | HS16110051-04 |
| | | | | HS16110051-05 | HS16110051-06 | HS16110051-07 | HS16110051-08 |
| | | | | HS16110051-10 | HS16110051-11 | HS16110051-12 | HS16110051-13 |
| | | | | HS16110051-15 | HS16110051-16 | HS16110051-17 | HS16110051-19 |
| | | | | HS16110051-20 | HS16110051-21 | | |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284110 | | Instrument: VOA5 | | Method: SW8260 | | | | | |
|-----------------------------|--------------------------|------------------|---------|----------------------------------|------|---------------|---------------|------|----------------|
| MBLK | Sample ID: VBLKS2-110216 | Units: ug/Kg | | Analysis Date: 02-Nov-2016 22:34 | | | | | |
| Client ID: | Run ID: VOA5_284110 | SeqNo: 3879270 | | 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 | 57.12 | 0 | 50 | 0 | 114 | 70 - 128 | | | |
| Surr: 4-Bromofluorobenzene | 49.12 | 0 | 50 | 0 | 98.2 | 73 - 126 | | | |
| Surr: Dibromofluoromethane | 57.12 | 0 | 50 | 0 | 114 | 71 - 128 | | | |
| Surr: Toluene-d8 | 49.25 | 0 | 50 | 0 | 98.5 | 73 - 127 | | | |

| LCS | Sample ID: VLCSS2-110216 | Units: ug/Kg | | Analysis Date: 02-Nov-2016 21:48 | | | | | |
|-----------------------------|--------------------------|----------------|---------|----------------------------------|------|---------------|---------------|------|----------------|
| Client ID: | Run ID: VOA5_284110 | SeqNo: 3879269 | | PrepDate: | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 51 | 5.0 | 50 | 0 | 102 | 79 - 122 | | | |
| Ethylbenzene | 46.33 | 5.0 | 50 | 0 | 92.7 | 80 - 122 | | | |
| m,p-Xylene | 90.44 | 10 | 100 | 0 | 90.4 | 79 - 122 | | | |
| o-Xylene | 46.43 | 5.0 | 50 | 0 | 92.9 | 80 - 123 | | | |
| Toluene | 45.27 | 5.0 | 50 | 0 | 90.5 | 79 - 120 | | | |
| Xylenes, Total | 136.9 | 10 | 150 | 0 | 91.2 | 79 - 123 | | | |
| Surr: 1,2-Dichloroethane-d4 | 62.35 | 0 | 50 | 0 | 125 | 70 - 128 | | | |
| Surr: 4-Bromofluorobenzene | 52.42 | 0 | 50 | 0 | 105 | 73 - 126 | | | |
| Surr: Dibromofluoromethane | 60.88 | 0 | 50 | 0 | 122 | 71 - 128 | | | |
| Surr: Toluene-d8 | 49.52 | 0 | 50 | 0 | 99.0 | 73 - 127 | | | |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284110 | | Instrument: VOA5 | | Method: SW8260 | | | | | |
|--------------------------------|--------|----------------------------|---------|----------------|------|----------------------------------|---------------|-------|----------------|
| MS | | Sample ID: HS16110051-14MS | | Units: ug/Kg | | Analysis Date: 03-Nov-2016 00:31 | | | |
| Client ID: YE-6-2-11-12-102716 | | Run ID: VOA5_284110 | | SeqNo: 3879275 | | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 34.94 | 5.0 | 49.5 | 0 | 70.6 | 79 - 122 | | | S |
| Ethylbenzene | 24.13 | 5.0 | 49.5 | 2.63 | 43.4 | 80 - 122 | | | S |
| m,p-Xylene | 47.08 | 9.9 | 99 | 5.417 | 42.1 | 79 - 122 | | | S |
| o-Xylene | 23.37 | 5.0 | 49.5 | 2.668 | 41.8 | 80 - 123 | | | S |
| Toluene | 26.47 | 5.0 | 49.5 | 0.9464 | 51.6 | 79 - 120 | | | S |
| Xylenes, Total | 70.45 | 9.9 | 148.5 | 8.085 | 42.0 | 79 - 123 | | | S |
| Surr: 1,2-Dichloroethane-d4 | 62.44 | 0 | 49.5 | 0 | 126 | 70 - 128 | | | |
| Surr: 4-Bromofluorobenzene | 51.53 | 0 | 49.5 | 0 | 104 | 73 - 126 | | | |
| Surr: Dibromofluoromethane | 38.92 | 0 | 49.5 | 0 | 78.6 | 71 - 128 | | | |
| Surr: Toluene-d8 | 47.15 | 0 | 49.5 | 0 | 95.3 | 73 - 127 | | | |

| MSD | | Sample ID: HS16110051-14MSD | | Units: ug/Kg | | Analysis Date: 03-Nov-2016 00:54 | | | |
|--------------------------------|--------|-----------------------------|---------|----------------|------|----------------------------------|---------------|-------|----------------|
| Client ID: YE-6-2-11-12-102716 | | Run ID: VOA5_284110 | | SeqNo: 3879276 | | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 42.52 | 5.0 | 49.5 | 0 | 85.9 | 79 - 122 | 34.94 | 19.6 | 30 S |
| Ethylbenzene | 29.61 | 5.0 | 49.5 | 2.63 | 54.5 | 80 - 122 | 24.13 | 20.4 | 30 S |
| m,p-Xylene | 56.41 | 9.9 | 99 | 5.417 | 51.5 | 79 - 122 | 47.08 | 18 | 30 S |
| o-Xylene | 28.84 | 5.0 | 49.5 | 2.668 | 52.9 | 80 - 123 | 23.37 | 21 | 30 S |
| Toluene | 32.87 | 5.0 | 49.5 | 0.9464 | 64.5 | 79 - 120 | 26.47 | 21.5 | 30 S |
| Xylenes, Total | 85.26 | 9.9 | 148.5 | 8.085 | 52.0 | 79 - 123 | 70.45 | 19 | 30 S |
| Surr: 1,2-Dichloroethane-d4 | 60.18 | 0 | 49.5 | 0 | 122 | 70 - 128 | 62.44 | 3.68 | 30 |
| Surr: 4-Bromofluorobenzene | 52.43 | 0 | 49.5 | 0 | 106 | 73 - 126 | 51.53 | 1.74 | 30 |
| Surr: Dibromofluoromethane | 43.54 | 0 | 49.5 | 0 | 88.0 | 71 - 128 | 38.92 | 11.2 | 30 |
| Surr: Toluene-d8 | 49.45 | 0 | 49.5 | 0 | 99.9 | 73 - 127 | 47.15 | 4.76 | 30 |

The following samples were analyzed in this batch:

| | | | |
|---------------|---------------|---------------|---------------|
| HS16110051-14 | HS16110051-22 | HS16110051-23 | HS16110051-24 |
| HS16110051-25 | HS16110051-26 | | |

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

Revision: 1

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109702 | | Instrument: UV-2450 | | Method: SW7196 | | | | | | |
|----------------------|-------------------------------|-------------------------------|---------|---|------------------------------|---------------|---------------|------|-----------|------|
| MBLK | Sample ID: MBLK-109702 | Units: mg/kg | | Analysis Date: 10-Nov-2016 17:34 | | | | | | |
| Client ID: | | Run ID: UV-2450_284732 | | SeqNo: 3891227 | PrepDate: 09-Nov-2016 | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chromium, Hexavalent | ND | 2.00 | | | | | | | | |

| | | | | | | | | | | |
|----------------------|------------------------------|-------------------------------|---------|---|------------------------------|---------------|---------------|------|-----------|------|
| LCS | Sample ID: LCS-109702 | Units: mg/kg | | Analysis Date: 10-Nov-2016 17:34 | | | | | | |
| Client ID: | | Run ID: UV-2450_284732 | | SeqNo: 3891226 | PrepDate: 09-Nov-2016 | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chromium, Hexavalent | 8.52 | 2.00 | 10 | 0 | 85.2 | 80 - 120 | | | | |

| | | | | | | | | | | |
|---------------------------------------|-----------------------------------|-------------------------------|---------|---|------------------------------|---------------|---------------|------|-----------|------|
| MS | Sample ID: HS16110051-14MS | Units: mg/kg | | Analysis Date: 10-Nov-2016 17:34 | | | | | | |
| Client ID: YE-6-2-11-12-102716 | | Run ID: UV-2450_284732 | | SeqNo: 3891224 | PrepDate: 09-Nov-2016 | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chromium, Hexavalent | 8.282 | 1.99 | 9.954 | 0.1587 | 81.6 | 75 - 125 | | | | |

| | | | | | | | | | | |
|---------------------------------------|------------------------------------|-------------------------------|---------|---|------------------------------|---------------|---------------|------|-----------|------|
| MSD | Sample ID: HS16110051-14MSD | Units: mg/kg | | Analysis Date: 10-Nov-2016 17:34 | | | | | | |
| Client ID: YE-6-2-11-12-102716 | | Run ID: UV-2450_284732 | | SeqNo: 3891225 | PrepDate: 09-Nov-2016 | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chromium, Hexavalent | 9.143 | 1.98 | 9.896 | 0.1587 | 90.8 | 75 - 125 | 8.282 | 9.89 | 20 | |

| | | | | | | | | | | |
|---|--|---------------|--|---------------|--|---------------|--|--|--|--|
| The following samples were analyzed in this batch: | | | | | | | | | | |
| HS16110051-01 | | HS16110051-02 | | HS16110051-03 | | HS16110051-04 | | | | |
| HS16110051-05 | | HS16110051-06 | | HS16110051-07 | | HS16110051-08 | | | | |
| HS16110051-10 | | HS16110051-11 | | HS16110051-12 | | HS16110051-13 | | | | |
| HS16110051-14 | | HS16110051-15 | | HS16110051-16 | | HS16110051-17 | | | | |

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

Revision: 1

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: 109729 | | Instrument: UV-2450 | | Method: SW7196 | | | | | | |
|--|------------------------------------|-------------------------------|---------|---|------------------------------|---------------|---------------|------|-----------|------|
| MBLK | Sample ID: MBLK-109729 | Units: mg/kg | | Analysis Date: 14-Nov-2016 14:50 | | | | | | |
| Client ID: | | Run ID: UV-2450_284803 | | SeqNo: 3892478 | PrepDate: 10-Nov-2016 | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chromium, Hexavalent | ND | 2.00 | | | | | | | | |
| LCS | Sample ID: LCS-109729 | Units: mg/kg | | Analysis Date: 14-Nov-2016 14:50 | | | | | | |
| Client ID: | | Run ID: UV-2450_284803 | | SeqNo: 3892477 | PrepDate: 10-Nov-2016 | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chromium, Hexavalent | 9.72 | 2.00 | 10 | 0 | 97.2 | 80 - 120 | | | | |
| MS | Sample ID: HS16110099-13MS | Units: mg/kg | | Analysis Date: 14-Nov-2016 14:50 | | | | | | |
| Client ID: | | Run ID: UV-2450_284803 | | SeqNo: 3892475 | PrepDate: 10-Nov-2016 | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chromium, Hexavalent | 8.253 | 1.99 | 9.967 | -0.03996 | 83.2 | 75 - 125 | | | | |
| MSD | Sample ID: HS16110099-13MSD | Units: mg/kg | | Analysis Date: 14-Nov-2016 14:50 | | | | | | |
| Client ID: | | Run ID: UV-2450_284803 | | SeqNo: 3892476 | PrepDate: 10-Nov-2016 | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Chromium, Hexavalent | 9.277 | 2.00 | 9.996 | -0.03996 | 93.2 | 75 - 125 | 8.253 | 11.7 | 20 | |
| The following samples were analyzed in this batch: | | | | | | | | | | |
| HS16110051-19 | | HS16110051-20 | | HS16110051-21 | | HS16110051-22 | | | | |
| HS16110051-23 | | HS16110051-24 | | HS16110051-25 | | HS16110051-26 | | | | |

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

Revision: 1

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284285 | | Instrument: Balance1 | | Method: SW3550 | |
|-------------------|-----------------------------|----------------------|---------|----------------------------------|---|
| DUP | Sample ID: HS16110179-01DUP | Units: wt% | | Analysis Date: 04-Nov-2016 10:06 | |
| Client ID: | Run ID: Balance1_284285 | SeqNo: 3882670 | | PrepDate: | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value %REC | Control Limit RPD Ref Value %RPD RPD Limit Qual |
| Percent Moisture | 14.4 | 0.0100 | | | 14.9 3.41 20 |

The following samples were analyzed in this batch:

| | | | |
|---------------|---------------|---------------|---------------|
| HS16110051-01 | HS16110051-02 | HS16110051-03 | HS16110051-04 |
| HS16110051-05 | HS16110051-06 | HS16110051-07 | HS16110051-08 |
| HS16110051-10 | HS16110051-11 | HS16110051-12 | HS16110051-13 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284379 | | Instrument: Balance1 | | Method: SW3550 | |
|-------------------|-----------------------------|----------------------|---------|----------------------------------|---|
| DUP | Sample ID: HS16110099-08DUP | Units: wt% | | Analysis Date: 07-Nov-2016 11:57 | |
| Client ID: | Run ID: Balance1_284379 | SeqNo: 3884499 | | PrepDate: | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value %REC | Control Limit RPD Ref Value %RPD RPD Limit Qual |
| Percent Moisture | 11.3 | 0.0100 | | | 12.3 8.47 20 |

The following samples were analyzed in this batch:

| | | | |
|---------------|---------------|---------------|---------------|
| HS16110051-14 | HS16110051-15 | HS16110051-16 | HS16110051-17 |
| HS16110051-19 | HS16110051-20 | HS16110051-21 | HS16110051-22 |
| HS16110051-23 | HS16110051-24 | HS16110051-25 | HS16110051-26 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284579 | | Instrument: WetChem_HS | | Method: SW9045B | | | | | | |
|------------------------------|-----------------------------|------------------------|----------------|-----------------|----------------------------------|---------------|---------------|-------|-----------|------|
| DUP | Sample ID: HS16110051-16DUP | Units: pH Units | | | Analysis Date: 10-Nov-2016 14:15 | | | | | |
| Client ID: YE-6-3-1-2-102716 | Run ID: WetChem_HS_284579 | | SeqNo: 3888711 | | PrepDate: | | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| pH | 8.97 | 0.100 | | | | | 8.96 | 0.112 | 10 | |
| Temp Deg C @pH | 21.2 | 0 | | | | | 21.1 | 0.473 | 10 | |

The following samples were analyzed in this batch:

| | | | |
|---------------|---------------|---------------|---------------|
| HS16110051-01 | HS16110051-02 | HS16110051-03 | HS16110051-04 |
| HS16110051-05 | HS16110051-06 | HS16110051-07 | HS16110051-08 |
| HS16110051-10 | HS16110051-11 | HS16110051-12 | HS16110051-13 |
| HS16110051-14 | HS16110051-15 | HS16110051-16 | HS16110051-17 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284643 | | Instrument: WetChem_HS | | Method: SW9045B | |
|--|-----------------------------|------------------------|---------|----------------------------------|--|
| DUP | Sample ID: HS16110520-01DUP | Units: pH Units | | Analysis Date: 11-Nov-2016 14:30 | |
| Client ID: | Run ID: WetChem_HS_284643 | SeqNo: 3890220 | | PrepDate: | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC Control Limit RPD Ref Value %RPD Limit Qual |
| pH | 8.12 | 0.100 | | | 8.09 0.37 10 |
| Temp Deg C @pH | 21.7 | 0 | | | 21.4 1.39 10 |
| The following samples were analyzed in this batch: | | | | | |
| HS16110051-19 | | HS16110051-20 | | HS16110051-21 | |
| HS16110051-23 | | HS16110051-24 | | HS16110051-25 | |
| | | | | HS16110051-22 | |
| | | | | HS16110051-26 | |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284844 | | Instrument: Balance1 | | Method: LaDNR-29B SP | |
|--------------------------------|-----------------------------|-----------------------|---------|----------------------------------|---|
| DUP | Sample ID: HS16110051-19DUP | Units: SP as fraction | | Analysis Date: 15-Nov-2016 11:05 | |
| Client ID: YE-6-6-11-12-102816 | Run ID: Balance1_284844 | SeqNo: 3893341 | | PrepDate: | DF: 1 |
| Analyte | Result | PQL | SPK Val | SPK Ref Value %REC | Control Limit RPD Ref Value %RPD RPD Limit Qual |

| | | | | | | |
|------------------|-------|-------|--|------|------|----|
| Saturation Point | 0.506 | 0.100 | | 0.52 | 2.73 | 30 |
|------------------|-------|-------|--|------|------|----|

The following samples were analyzed in this batch:

| | | | |
|---------------|---------------|---------------|---------------|
| HS16110051-01 | HS16110051-02 | HS16110051-03 | HS16110051-04 |
| HS16110051-05 | HS16110051-06 | HS16110051-07 | HS16110051-08 |
| HS16110051-10 | HS16110051-11 | HS16110051-12 | HS16110051-13 |
| HS16110051-14 | HS16110051-15 | HS16110051-16 | HS16110051-17 |
| HS16110051-19 | HS16110051-20 | HS16110051-21 | HS16110051-22 |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284846 | | Instrument: Balance1 | | Method: LaDNR-29B SP | | | | | |
|---|-----------------------------|-----------------------|---------|----------------------------------|------|---------------|---------------|------|----------------|
| DUP | Sample ID: HS16110051-25DUP | Units: SP as fraction | | Analysis Date: 15-Nov-2016 11:25 | | | | | |
| Client ID: YE-6-8-12-13-102816 | Run ID: Balance1_284846 | SeqNo: 3893355 | | PrepDate: | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Saturation Point | 0.711 | 0.100 | | | | | 0.744 | 4.54 | 30 |
| The following samples were analyzed in this batch: | | | | | | | | | |
| HS16110051-23 HS16110051-24 HS16110051-25 HS16110051-26 | | | | | | | | | |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284853 | | Instrument: WetChem_HS | | Method: LaDNR-29B EC | | | | | | |
|--|-----------------------------|---------------------------|------------------------|----------------------|----------------------------------|---------------|---------------|-------|----------------|--|
| DUP | Sample ID: HS16110051-19DUP | | Units: mmhos/cm @25° C | | Analysis Date: 15-Nov-2016 17:27 | | | | | |
| Client ID: YE-6-6-11-12-102816 | | Run ID: WetChem_HS_284853 | | SeqNo: 3893410 | | PrepDate: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual | |
| Electrical Conductivity @ saturation | 30.74 | 0.0100 | | | | | 30.25 | 1.6 | 20 | |
| Electrical Conductivity, 1:1 aqueous | 15.54 | 0.0100 | | | | | 15.72 | 1.15 | 20 | |
| Saturation % as decimal | 0.506 | 0 | | | | | 0.52 | 2.73 | 20 | |
| The following samples were analyzed in this batch: | | | | | | | | | | |
| HS16110051-01 | | | HS16110051-02 | | HS16110051-03 | | HS16110051-04 | | | |
| HS16110051-05 | | | HS16110051-06 | | HS16110051-07 | | HS16110051-08 | | | |
| HS16110051-10 | | | HS16110051-11 | | HS16110051-12 | | HS16110051-13 | | | |
| HS16110051-14 | | | HS16110051-15 | | HS16110051-16 | | HS16110051-17 | | | |
| HS16110051-19 | | | HS16110051-20 | | HS16110051-21 | | HS16110051-22 | | | |

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

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

QC BATCH REPORT

| Batch ID: R284856 | | Instrument: WetChem_HS | | Method: LaDNR-29B EC | | | | | |
|--|--------|-----------------------------|---------|------------------------|------|----------------------------------|---------------|-------|----------------|
| DUP | | Sample ID: HS16110051-25DUP | | Units: mmhos/cm @25° C | | Analysis Date: 15-Nov-2016 17:40 | | | |
| Client ID: YE-6-8-12-13-102816 | | Run ID: WetChem_HS_284856 | | SeqNo: 3893421 | | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Electrical Conductivity @ saturation | 76.19 | 0.0100 | | | | | 73.28 | 3.9 | 20 |
| Electrical Conductivity, 1:1 aqueous | 54.2 | 0.0100 | | | | | 54.5 | 0.552 | 20 |
| Saturation % as decimal | 0.711 | 0 | | | | | 0.744 | 4.54 | 20 |
| The following samples were analyzed in this batch: | | | | | | | | | |
| HS16110051-23 | | HS16110051-24 | | HS16110051-25 | | HS16110051-26 | | | |

Client: Kinder Morgan
Project: McElmo Dome
WorkOrder: HS16110051

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

Client: Kinder Morgan
Project: McElmo Dome
Work Order: HS16110051

SAMPLE TRACKING

| Lab Samp ID | Client Sample ID | Action | Date | Person | New Location |
|---------------|----------------------|--------|----------------------|--------|--------------|
| HS16110051-01 | YE-6-3-14-15-102716 | Login | 11/1/2016 3:01:14 PM | KRM | 19D |
| HS16110051-01 | YE-6-3-14-15-102716 | Login | 11/1/2016 3:01:14 PM | KRM | VW-2 |
| HS16110051-01 | YE-6-3-14-15-102716 | Login | 11/1/2016 3:01:14 PM | KRM | BTEX B1 |
| HS16110051-01 | YE-6-3-14-15-102716 | Login | 11/1/2016 3:01:14 PM | KRM | 19D |
| HS16110051-02 | YE-6-4-1-2-102716 | Login | 11/1/2016 3:32:25 PM | KRM | 19D |
| HS16110051-02 | YE-6-4-1-2-102716 | Login | 11/1/2016 3:32:25 PM | KRM | VW-2 |
| HS16110051-02 | YE-6-4-1-2-102716 | Login | 11/1/2016 3:32:25 PM | KRM | BTEX B1 |
| HS16110051-02 | YE-6-4-1-2-102716 | Login | 11/1/2016 3:32:25 PM | KRM | 19D |
| HS16110051-03 | YE-6-4-13-14-102716 | Login | 11/1/2016 3:32:27 PM | KRM | 19D |
| HS16110051-03 | YE-6-4-13-14-102716 | Login | 11/1/2016 3:32:27 PM | KRM | VW-2 |
| HS16110051-03 | YE-6-4-13-14-102716 | Login | 11/1/2016 3:32:27 PM | KRM | BTEX B1 |
| HS16110051-03 | YE-6-4-13-14-102716 | Login | 11/1/2016 3:32:27 PM | KRM | 19D |
| HS16110051-04 | YE-6-4-14-15-102716 | Login | 11/1/2016 3:32:29 PM | KRM | 19D |
| HS16110051-04 | YE-6-4-14-15-102716 | Login | 11/1/2016 3:32:29 PM | KRM | VW-2 |
| HS16110051-04 | YE-6-4-14-15-102716 | Login | 11/1/2016 3:32:29 PM | KRM | BTEX B1 |
| HS16110051-04 | YE-6-4-14-15-102716 | Login | 11/1/2016 3:32:29 PM | KRM | 19D |
| HS16110051-05 | YE-6-5-2-3-102816 | Login | 11/1/2016 3:32:31 PM | KRM | 19D |
| HS16110051-05 | YE-6-5-2-3-102816 | Login | 11/1/2016 3:32:31 PM | KRM | VW-2 |
| HS16110051-05 | YE-6-5-2-3-102816 | Login | 11/1/2016 3:32:31 PM | KRM | BTEX B1 |
| HS16110051-05 | YE-6-5-2-3-102816 | Login | 11/1/2016 3:32:31 PM | KRM | 19D |
| HS16110051-06 | YE-6-5-4-5-102816 | Login | 11/1/2016 3:32:33 PM | KRM | 19D |
| HS16110051-06 | YE-6-5-4-5-102816 | Login | 11/1/2016 3:32:33 PM | KRM | VW-2 |
| HS16110051-06 | YE-6-5-4-5-102816 | Login | 11/1/2016 3:32:33 PM | KRM | BTEX B1 |
| HS16110051-06 | YE-6-5-4-5-102816 | Login | 11/1/2016 3:32:33 PM | KRM | 19D |
| HS16110051-07 | YE-6-5-15-16-102816 | Login | 11/1/2016 3:32:35 PM | KRM | 19D |
| HS16110051-07 | YE-6-5-15-16-102816 | Login | 11/1/2016 3:32:35 PM | KRM | VW-2 |
| HS16110051-07 | YE-6-5-15-16-102816 | Login | 11/1/2016 3:32:35 PM | KRM | BTEX B1 |
| HS16110051-07 | YE-6-5-15-16-102816 | Login | 11/1/2016 3:32:35 PM | KRM | 19D |
| HS16110051-08 | YE-6-6-2-3-102816 | Login | 11/1/2016 3:32:38 PM | KRM | 19D |
| HS16110051-08 | YE-6-6-2-3-102816 | Login | 11/1/2016 3:32:38 PM | KRM | VW-2 |
| HS16110051-08 | YE-6-6-2-3-102816 | Login | 11/1/2016 3:32:38 PM | KRM | BTEX B1 |
| HS16110051-08 | YE-6-6-2-3-102816 | Login | 11/1/2016 3:32:38 PM | KRM | 19D |
| HS16110051-09 | TRIP BLANK 082916-74 | Login | 11/1/2016 3:33:26 PM | KRM | VW-3 |
| HS16110051-10 | YE-6-1-0-1-102716 | Login | 11/1/2016 3:35:10 PM | KRM | 19D |
| HS16110051-10 | YE-6-1-0-1-102716 | Login | 11/1/2016 3:35:10 PM | KRM | VW-2 |
| HS16110051-10 | YE-6-1-0-1-102716 | Login | 11/1/2016 3:35:10 PM | KRM | BTEX B1 |
| HS16110051-10 | YE-6-1-0-1-102716 | Login | 11/1/2016 3:35:10 PM | KRM | 19D |
| HS16110051-11 | YE-6-1-13-14-102716 | Login | 11/1/2016 3:35:13 PM | KRM | 19D |
| HS16110051-11 | YE-6-1-13-14-102716 | Login | 11/1/2016 3:35:13 PM | KRM | VW-2 |
| HS16110051-11 | YE-6-1-13-14-102716 | Login | 11/1/2016 3:35:13 PM | KRM | BTEX B1 |

Client: Kinder Morgan
Project: McElmo Dome
Work Order: HS16110051

SAMPLE TRACKING

| | | | | | |
|---------------|----------------------|-------|----------------------|-----|---------|
| HS16110051-11 | YE-6-1-13-14-102716 | Login | 11/1/2016 3:35:13 PM | KRM | 19D |
| HS16110051-12 | YE-6-1-18-19-102716 | Login | 11/1/2016 3:35:15 PM | KRM | 19D |
| HS16110051-12 | YE-6-1-18-19-102716 | Login | 11/1/2016 3:35:15 PM | KRM | VW-2 |
| HS16110051-12 | YE-6-1-18-19-102716 | Login | 11/1/2016 3:35:15 PM | KRM | BTEX B1 |
| HS16110051-12 | YE-6-1-18-19-102716 | Login | 11/1/2016 3:35:15 PM | KRM | 19D |
| HS16110051-13 | YE-6-2-2-3-102716 | Login | 11/1/2016 3:35:17 PM | KRM | 19D |
| HS16110051-13 | YE-6-2-2-3-102716 | Login | 11/1/2016 3:35:17 PM | KRM | VW-2 |
| HS16110051-13 | YE-6-2-2-3-102716 | Login | 11/1/2016 3:35:17 PM | KRM | BTEX B1 |
| HS16110051-13 | YE-6-2-2-3-102716 | Login | 11/1/2016 3:35:17 PM | KRM | 19D |
| HS16110051-14 | YE-6-2-11-12-102716 | Login | 11/1/2016 3:35:19 PM | KRM | 19D |
| HS16110051-14 | YE-6-2-11-12-102716 | Login | 11/1/2016 3:35:19 PM | KRM | VW-2 |
| HS16110051-14 | YE-6-2-11-12-102716 | Login | 11/1/2016 3:35:19 PM | KRM | BTEX B1 |
| HS16110051-14 | YE-6-2-11-12-102716 | Login | 11/1/2016 3:35:19 PM | KRM | 19D |
| HS16110051-15 | YE-6-2-15-16-102716 | Login | 11/1/2016 3:35:22 PM | KRM | 19D |
| HS16110051-15 | YE-6-2-15-16-102716 | Login | 11/1/2016 3:35:22 PM | KRM | VW-2 |
| HS16110051-15 | YE-6-2-15-16-102716 | Login | 11/1/2016 3:35:22 PM | KRM | BTEX B1 |
| HS16110051-15 | YE-6-2-15-16-102716 | Login | 11/1/2016 3:35:22 PM | KRM | 19D |
| HS16110051-16 | YE-6-3-1-2-102716 | Login | 11/1/2016 3:35:24 PM | KRM | 19D |
| HS16110051-16 | YE-6-3-1-2-102716 | Login | 11/1/2016 3:35:24 PM | KRM | VW-2 |
| HS16110051-16 | YE-6-3-1-2-102716 | Login | 11/1/2016 3:35:24 PM | KRM | BTEX B1 |
| HS16110051-16 | YE-6-3-1-2-102716 | Login | 11/1/2016 3:35:24 PM | KRM | 19D |
| HS16110051-17 | YE-6-3-9-10-102716 | Login | 11/1/2016 3:35:26 PM | KRM | 19D |
| HS16110051-17 | YE-6-3-9-10-102716 | Login | 11/1/2016 3:35:26 PM | KRM | VW-2 |
| HS16110051-17 | YE-6-3-9-10-102716 | Login | 11/1/2016 3:35:26 PM | KRM | BTEX B1 |
| HS16110051-17 | YE-6-3-9-10-102716 | Login | 11/1/2016 3:35:26 PM | KRM | 19D |
| HS16110051-18 | TRIP BLANK 100716-95 | Login | 11/1/2016 3:36:00 PM | KRM | VW-3 |
| HS16110051-19 | YE-6-6-11-12-102816 | Login | 11/1/2016 3:38:03 PM | KRM | 19D |
| HS16110051-19 | YE-6-6-11-12-102816 | Login | 11/1/2016 3:38:03 PM | KRM | VW-2 |
| HS16110051-19 | YE-6-6-11-12-102816 | Login | 11/1/2016 3:38:03 PM | KRM | BTEX B1 |
| HS16110051-19 | YE-6-6-11-12-102816 | Login | 11/1/2016 3:38:03 PM | KRM | 19D |
| HS16110051-20 | YE-6-6-15-16-102816 | Login | 11/1/2016 3:38:05 PM | KRM | 19D |
| HS16110051-20 | YE-6-6-15-16-102816 | Login | 11/1/2016 3:38:05 PM | KRM | VW-2 |
| HS16110051-20 | YE-6-6-15-16-102816 | Login | 11/1/2016 3:38:05 PM | KRM | BTEX B1 |
| HS16110051-20 | YE-6-6-15-16-102816 | Login | 11/1/2016 3:38:05 PM | KRM | 19D |
| HS16110051-21 | YE-6-7-2-3-102816 | Login | 11/1/2016 3:38:08 PM | KRM | 19D |
| HS16110051-21 | YE-6-7-2-3-102816 | Login | 11/1/2016 3:38:08 PM | KRM | VW-2 |
| HS16110051-21 | YE-6-7-2-3-102816 | Login | 11/1/2016 3:38:08 PM | KRM | BTEX B1 |
| HS16110051-21 | YE-6-7-2-3-102816 | Login | 11/1/2016 3:38:08 PM | KRM | 19D |
| HS16110051-22 | YE-6-7-9-10-102816 | Login | 11/1/2016 3:38:10 PM | KRM | 19D |
| HS16110051-22 | YE-6-7-9-10-102816 | Login | 11/1/2016 3:38:10 PM | KRM | VW-2 |
| HS16110051-22 | YE-6-7-9-10-102816 | Login | 11/1/2016 3:38:10 PM | KRM | BTEX B1 |
| HS16110051-22 | YE-6-7-9-10-102816 | Login | 11/1/2016 3:38:10 PM | KRM | 19D |

Client: Kinder Morgan
Project: McElmo Dome
Work Order: HS16110051

SAMPLE TRACKING

| | | | | | |
|---------------|----------------------|--------|-----------------------|-----|---------|
| HS16110051-23 | YE-6-7-14-15-102816 | Login | 11/1/2016 3:38:11 PM | KRM | 19D |
| HS16110051-23 | YE-6-7-14-15-102816 | Login | 11/1/2016 3:38:11 PM | KRM | VW-2 |
| HS16110051-23 | YE-6-7-14-15-102816 | Login | 11/1/2016 3:38:11 PM | KRM | BTEX B1 |
| HS16110051-23 | YE-6-7-14-15-102816 | Login | 11/1/2016 3:38:11 PM | KRM | 19D |
| HS16110051-24 | YE-6-8-2-3-102816 | Login | 11/1/2016 3:38:14 PM | KRM | 19D |
| HS16110051-24 | YE-6-8-2-3-102816 | Login | 11/1/2016 3:38:14 PM | KRM | VW-2 |
| HS16110051-24 | YE-6-8-2-3-102816 | Login | 11/1/2016 3:38:14 PM | KRM | BTEX B1 |
| HS16110051-24 | YE-6-8-2-3-102816 | Login | 11/1/2016 3:38:14 PM | KRM | 19D |
| HS16110051-25 | YE-6-8-12-13-102816 | Login | 11/1/2016 3:38:16 PM | KRM | 19D |
| HS16110051-25 | YE-6-8-12-13-102816 | Login | 11/1/2016 3:38:16 PM | KRM | VW-2 |
| HS16110051-25 | YE-6-8-12-13-102816 | Login | 11/1/2016 3:38:16 PM | KRM | BTEX B1 |
| HS16110051-25 | YE-6-8-12-13-102816 | Login | 11/1/2016 3:38:16 PM | KRM | 19D |
| HS16110051-26 | YE-6-8-14-15-102816 | Login | 11/1/2016 3:38:18 PM | KRM | 19D |
| HS16110051-26 | YE-6-8-14-15-102816 | Login | 11/1/2016 3:38:18 PM | KRM | VW-2 |
| HS16110051-26 | YE-6-8-14-15-102816 | Login | 11/1/2016 3:38:18 PM | KRM | BTEX B1 |
| HS16110051-26 | YE-6-8-14-15-102816 | Login | 11/1/2016 3:38:18 PM | KRM | 19D |
| HS16110051-27 | TRIP BLANK 100716-08 | Login | 11/1/2016 3:38:57 PM | KRM | VW-3 |
| HS16110051-01 | YE-6-3-14-15-102716 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-02 | YE-6-4-1-2-102716 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-03 | YE-6-4-13-14-102716 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-04 | YE-6-4-14-15-102716 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-05 | YE-6-5-2-3-102816 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-06 | YE-6-5-4-5-102816 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-07 | YE-6-5-15-16-102816 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-08 | YE-6-6-2-3-102816 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-10 | YE-6-1-0-1-102716 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-11 | YE-6-1-13-14-102716 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-12 | YE-6-1-18-19-102716 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-13 | YE-6-2-2-3-102716 | Out | 11/2/2016 12:55:31 PM | PVL | METPREP |
| HS16110051-01 | YE-6-3-14-15-102716 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-02 | YE-6-4-1-2-102716 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-03 | YE-6-4-13-14-102716 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-04 | YE-6-4-14-15-102716 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-05 | YE-6-5-2-3-102816 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-06 | YE-6-5-4-5-102816 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-07 | YE-6-5-15-16-102816 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-08 | YE-6-6-2-3-102816 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-10 | YE-6-1-0-1-102716 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-11 | YE-6-1-13-14-102716 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-12 | YE-6-1-18-19-102716 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-13 | YE-6-2-2-3-102716 | Return | 11/2/2016 12:55:55 PM | PVL | 19D |
| HS16110051-14 | YE-6-2-11-12-102716 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |

Client: Kinder Morgan
Project: McElmo Dome
Work Order: HS16110051

SAMPLE TRACKING

| | | | | | |
|---------------|---------------------|--------|----------------------|-----|---------|
| HS16110051-15 | YE-6-2-15-16-102716 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-16 | YE-6-3-1-2-102716 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-17 | YE-6-3-9-10-102716 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-19 | YE-6-6-11-12-102816 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-20 | YE-6-6-15-16-102816 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-21 | YE-6-7-2-3-102816 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-22 | YE-6-7-9-10-102816 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-23 | YE-6-7-14-15-102816 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-24 | YE-6-8-2-3-102816 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-25 | YE-6-8-12-13-102816 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-26 | YE-6-8-14-15-102816 | Out | 11/7/2016 2:28:06 PM | PVL | METPREP |
| HS16110051-14 | YE-6-2-11-12-102716 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-15 | YE-6-2-15-16-102716 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-16 | YE-6-3-1-2-102716 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-17 | YE-6-3-9-10-102716 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-19 | YE-6-6-11-12-102816 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-20 | YE-6-6-15-16-102816 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-21 | YE-6-7-2-3-102816 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-22 | YE-6-7-9-10-102816 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-23 | YE-6-7-14-15-102816 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-24 | YE-6-8-2-3-102816 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-25 | YE-6-8-12-13-102816 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |
| HS16110051-26 | YE-6-8-14-15-102816 | Return | 11/7/2016 2:28:34 PM | PVL | 19D |

Sample Receipt Checklist

Client Name: Kinder Morgan
Work Order: HS16110051

Date/Time Received: **01-Nov-2016 08:45**
Received by: **Raegen Giga**

Checklist completed by: Krysta Mathis 1-Nov-2016 Reviewed by: Sonia West 2-Nov-2016
eSignature Date eSignature Date

Matrices: **SOLIDS**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 checked="" type="checkbox"/> | No <input 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): 1.1/1.6, 1.3/1.8, 1.0/1.5 U/C 5

Cooler(s)/Kit(s): 25329 24386, 25612

Date/Time sample(s) sent to storage: 11/01/2016 17:00

Water - VOA vials have zero headspace? Yes ☒ No ☐ No VOA vials submitted ☐Water - pH acceptable upon receipt? Yes ☒ No ☐ N/A ☐pH adjusted? Yes ☐ No ☒ N/A ☐

pH adjusted by:

Login Notes: Sample Collection time differs on YE-6-8-14-15-102816 16OZ jar COC: 10:20 Jar 10:28 logged in per COC

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



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Fort Collins, CO
+1 970 490 1511

Holland, MI
+1 616 399 6070

Chain of Custody

Page ____ of ____

COC ID: 1481

HS16110051

Kinder Morgan

McElmo Dome

harleston, WV
356 3168

505 5280

ALS Project Manag



| Customer Information | | Project Information | |
|----------------------|-------------------------------------|---------------------|---------------------------------|
| Purchase Order | Workorder Dir. 47971 | Project Name | McElmo Dome |
| Work Order | | Project Number | CO002255.0001 |
| Company Name | Kinder Morgan | Bill To Company | Kinder Morgan CO2 Company, L.P. |
| Send Report To | Aaron Hale | Invoice Attn | Mike Hannigan |
| Address | 1001 Louisiana Street Suite 740D | Address | 17801 Highway 491 |
| City/State/Zip | Houston, TX 77002 | City/State/Zip | Cortez, CO 81321 |
| Phone | (713) 369-9193 | Phone | (970) 882-5532 |
| Fax | (713) 485-2835 | Fax | |
| e-Mail Address | | e-Mail Address | |

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

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|-----|---------------------|----------|------|--------|-------|-----------|---|---|---|---|---|---|---|---|---|---|------|
| 1 | YE-6-3-14-15-102716 | 10/27/16 | 1440 | Soil | n/a | 4 | X | X | X | X | X | X | X | X | X | X | |
| 2 | YE-6-4-1-2-102716 | ↓ | 1505 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 3 | YE-6-4-13-14-102716 | ↓ | 1535 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 4 | YE-6-4-14-15-102716 | ↓ | 1540 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 5 | YE-6-5-2-3-102816 | 10/28/16 | 1440 | Soil | n/a | 4 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 6 | YE-6-5-4-5-102816 | ↓ | 1450 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 7 | YE-6-5-15-16-102816 | ↓ | 1515 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 8 | YE-6-6-2-3-102816 | ↓ | 1315 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 9 | Trip Blank | n/a | n/a | | | | X | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | | | |
|--|--|---------------------------------|-------------------|--|--|---------------------------------|--|
| Sampler(s) Please Print & Sign <i>Kaelynn Rose</i> | | Shipment Method <i>FedEx</i> | | Required Turnaround Time: (Check Box) TAT <u>10 days</u> Other: _____ | | Results Due Date: _____ | |
| Relinquished by: <i>Kaelynn Rose</i> | | Date: <i>10/31/16</i> | Time: <i>1100</i> | Received by: _____ | | Notes: [KM CO2 RFP 16MDLRFP077] | |
| Relinquished by: _____ | | Date: _____ | Time: _____ | Received by (Laboratory): _____ | | Cooler ID: <i>24386</i> | |
| Logged by (Laboratory): _____ | | Date: _____ | Time: _____ | Checked by (Laboratory): <i>RG 11/01/16 08:45</i> | | Cooler Temp: <i>1.3</i> | |
| 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) | | QC Level: <u>STD</u> | |
| | | | | Other: _____ | | Other: _____ | |

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

Page ____ of ____

COC ID: 14813

HS16110051

Kinder Morgan

McElmo Dome

arleston, WV
56 3168

05 5280

ALS Project Manage



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

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

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|-----|---------------------|----------|------|--------|-------|-----------|---|---|---|---|---|---|---|---|---|---|------|
| 1 | YE-6-1-0-1-102716 | 10/27/16 | 1045 | soil | n/a | 4 | X | X | X | X | X | X | X | X | X | X | |
| 2 | YE-6-1-13-14-102716 | | 1115 | | | | | | | | | | | | | | |
| 3 | YE-6-1-18-19-102716 | | 1125 | | | | | | | | | | | | | | |
| 4 | YE-6-2-2-3-102716 | | 1300 | | | | | | | | | | | | | | |
| 5 | YE-6-2-11-12-102716 | | 1325 | | | | | | | | | | | | | | |
| 6 | YE-6-2-15-16-102716 | | 1335 | | | | | | | | | | | | | | |
| 7 | YE-6-3-1-2-102716 | | 1410 | | | | | | | | | | | | | | |
| 8 | YE-6-3-9-10-102716 | | 1430 | | | | | | | | | | | | | | |
| 9 | Trip Blank | n/a | n/a | | | | X | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | | | |
|--|--------------------------|---------------------------------|--|---|------------------------------------|----------------------------|-----------------|
| Sampler(s) Please Print & Sign <i>Kaelynn Rose</i> | | Shipment Method <i>FedEx</i> | | Required Turnaround Time: (Check Box) TAT <u>10 days</u> Other _____ | | Results Due Date: _____ | |
| Relinquished by: <i>Kaelynn Rose</i> | Date: <i>10/31/16</i> | Time: <i>1100</i> | Received by: <i>RG 11/01/16 08:45</i> | | Notes: [KM CO2 RFP 16MDLRFP077] | | |
| Relinquished by: | Date: | Time: | Received by (Laboratory): | | QC Package: (Check One Box Below) | | |
| Logged by (Laboratory): | Date: | Time: | Checked by (Laboratory): | | Cooler ID <i>25612</i> | Cooler Temp. <i>1.0</i> | QC Level STD |
| 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 | | | | | Other: <i>CRD-5</i> | | |

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Chain of Custody

Page 1 of 1

COC ID: 140

HS16110051

Kinder Morgan

McElmo Dome

South Charleston, WV
304 356 3168

York, PA
717 505 5280

ALS Project Ma



sis


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

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|-----|---------------------|----------|------|--------|-------|-----------|---|---|---|---|---|---|---|---|---|---|------|
| 1 | YE-6-6-11-12-102816 | 10/28/16 | 1340 | Soil | n/a | 4 | X | X | X | X | X | X | X | X | X | X | |
| 2 | YE-6-6-15-16-102816 | | 1350 | | | | | | | | | | | | | | |
| 3 | YE-6-7-2-3-102816 | | 1130 | | | | | | | | | | | | | | |
| 4 | YE-6-7-9-10-102816 | | 1150 | | | | | | | | | | | | | | |
| 5 | YE-6-7-14-15-102816 | | 1200 | | | | | | | | | | | | | | |
| 6 | YE-6-8-2-3-102816 | | 0945 | | | | | | | | | | | | | | |
| 7 | YE-6-8-12-13-102816 | | 1010 | | | | | | | | | | | | | | |
| 8 | YE-6-8-14-15-102816 | ↓ | 1020 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | |
| 9 | Trip Blank | n/a | n/a | | | | X | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |


| | | | | | | | |
|--|--------------------------|---------------------------------|---|---|----------------------------|-----------------------------------|--|
| Sampler(s) Please Print & Sign <i>Kaelynn Rose</i> | | Shipment Method <i>FedEx</i> | | Required Turnaround Time: (Check Box) TAT <u>10 days</u> Other _____ | | Results Due Date: _____ | |
| Relinquished by: <i>Kaelynn Rose</i> | Date: <i>10/31/16</i> | Time: <i>1100</i> | Received by: | Notes: [KM CO2 RFP 16MDLRFP077] | | | |
| Relinquished by: | Date: | Time: | Received by (Laboratory): <i>RG 11/01/16 08:45</i> | Cooler ID <i>25329</i> | Cooler Temp. <i>1.1</i> | QC Package: (Check One Box Below) | |
| Logged by (Laboratory): | Date: | Time: | Checked by (Laboratory): | | <i>1/25</i> | QC Level <u>STD</u> | |
| 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 | | | | | <i>0.5</i> | Other: _____ | |

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 - The Chain of Custody is a legal document. All information provided is for informational purposes only.

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| | | | |
|--|-------------------------|-------------------|---------------------------|
|  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: CC |
| | Date: 10/31/16 | Time: 0800 | Date: 11-1-16 |
| | Name: K. Rose | | |
| | Company: Arcadis | | |

25329


| | | | |
|--|-------------------------|-------------------|---------------------------|
|  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: CC |
| | Date: 10/31/16 | Time: 0800 | Date: 11-1-16 |
| | Name: K. Rose | | |
| | Company: Arcadis | | |

25329

| | |
|---|---|
| FedEx TRK# 0221 6786 7201 4337 | TUE - 01 NOV 10:30A PRIORITY OVERNIGHT |
| XH SGRA | 25329 |
| 77099 TX-US IAH | |
|  | |
| FTD 962703 310CT16 DRDA 544C2/25C6/8EBA | |

| | | | |
|--|--------------------------|-------------------|---------------------------|
|  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: CL |
| | Date: <u>10/31/10</u> | Time: <u>0800</u> | Date: <u>11-1-10</u> |
| | Name: <u>K. Rose</u> | | |
| | Company: <u>Arceadis</u> | | |

24386

| | | | |
|--|--------------------------|-------------------|---------------------------|
|  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: CL |
| | Date: <u>10/31/10</u> | Time: <u>0800</u> | Date: <u>11-1-10</u> |
| | Name: <u>K. Rose</u> | | |
| | Company: <u>Arceadis</u> | | |

24386

| | |
|--|---|
| FedEx TRK# 0221 6786 7200 4266 | TUE - 01 NOV 10:30A PRIORITY OVERNIGHT |
| XH SGRA | 24386 77099 TX-US IAH |
|  | |
| FID 962703 310CT16 DROA 544C2/25C5/BEBA | |

ALS Environmental
 10450 Stancliff Rd., Suite 210
 Houston, Texas 77099
 Tel. +1 281 530 5656
 Fax. +1 281 530 5887

25612

CUSTODY SEAL

Date: 10/31/16 Time: 0800
 Name: K. Rose
 Company: Arcadis

Seal Broken By: [Signature]
 Date: 11-1-16

ALS Environmental
 10450 Stancliff Rd., Suite 210
 Houston, Texas 77099
 Tel. +1 281 530 5656
 Fax. +1 281 530 5887

25612

CUSTODY SEAL

Date: 10/31/16 Time: 0800
 Name: K. Rose
 Company: Arcadis

Seal Broken By: [Signature]
 Date: 11-1-16

FedEx
 TRK# 6786 7200 4428
 0221

TUE - 01 NOV 10:30A
PRIORITY OVERNIGHT

XH SGRA **25612** **77099**
 TX-US
 IAH

[Barcode]

FTD: 962783.31OCT16 DRDA 544C2/25C6/8EBA

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>.

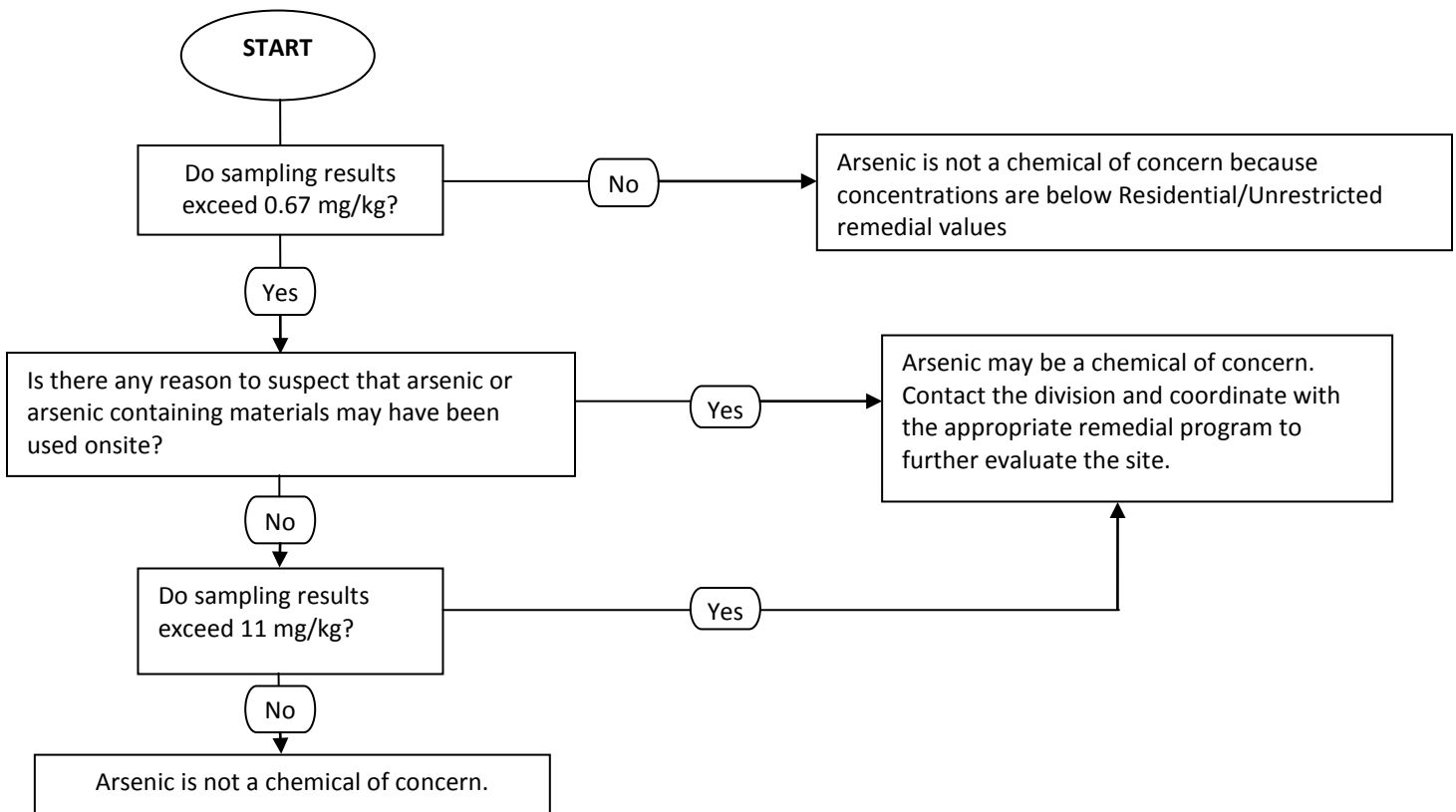
Region 8 U.S. EPA 95% UCLM Background Soil Arsenic Concentrations in Colorado

| 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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