

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application

- Type of action: Below grade tank registration
 Permit of a pit or proposed alternative method
 Closure of a pit, below-grade tank, or proposed alternative method
 Modification to an existing permit/or registration
 Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Kinder Morgan CO2 Company, L.P. OGRID #: 34945
Address: 17801 U.S. Highway 491, Cortez, Colorado 81321
Facility or well name: CC14X
API Number: 30-003-20042 OCD Permit Number: _____
U/L or Qtr/Qtr D Section 27 Township 1N Range 21W County: Catron
Center of Proposed Design: Latitude 34.28671 Longitude -109.03132 NAD: 1927 1983
Surface Owner: Federal State Private Tribal Trust or Indian Allotment

2.
 Pit: Subsection F, G or J of 19.15.17.11 NMAC
Temporary: Drilling Workover
 Permanent Emergency Cavitation P&A Multi-Well Fluid Management Low Chloride Drilling Fluid yes no
 Lined Unlined Liner type: Thickness 30 mil LLDPE HDPE PVC Other _____
 String-Reinforced
Liner Seams: Welded Factory Other _____ Volume: 2,140 bbl Dimensions: L 100' x W 15' x D 12'

3.
 Below-grade tank: Subsection I of 19.15.17.11 NMAC
Volume: _____ bbl Type of fluid: _____
Tank Construction material: _____
 Secondary containment with leak detection Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
 Visible sidewalls and liner Visible sidewalls only Other _____
Liner type: Thickness _____ mil HDPE PVC Other _____

4.
 Alternative Method:
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)
 Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
 Four foot height, four strands of barbed wire evenly spaced between one and four feet
 Alternate. Please specify _____

6.

Netting: Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- Screen Netting Other _____
- Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

- 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- Signed in compliance with 19.15.16.8 NMAC

8.

Variations and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

- Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.
- Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: *The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.*

General siting

Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

- Yes No
- NA

Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit .

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

- Yes No
- NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)**

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

- Yes No

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)**

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

- Yes No

Within an unstable area. **(Does not apply to below grade tanks)**

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

- Yes No

Within a 100-year floodplain. **(Does not apply to below grade tanks)**

- FEMA map

- Yes No

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

- Yes No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption,.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

- Yes No

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

- Topographic map; Visual inspection (certification) of the proposed site

- Yes No

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

- Yes No

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application.

NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

- Yes No

Within 100 feet of a wetland.
 - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site Yes No

Temporary Pit Non-low chloride drilling fluid

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).
 - Topographic map; Visual inspection (certification) of the proposed site Yes No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.
 - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image Yes No

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;
 - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site Yes No

Within 300 feet of a wetland.
 - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site Yes No

Permanent Pit or Multi-Well Fluid Management Pit

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).
 - Topographic map; Visual inspection (certification) of the proposed site Yes No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.
 - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image Yes No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.
 - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site Yes No

Within 500 feet of a wetland.
 - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site Yes No

10.
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
 - Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
 - Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
 - Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
 - Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
 - Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.
Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
 - Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
 - A List of wells with approved application for permit to drill associated with the pit.
 - Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
 - Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
 - Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12. **Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Climatological Factors Assessment
- Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- Quality Control/Quality Assurance Construction and Installation Plan
- Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- Nuisance or Hazardous Odors, including H₂S, Prevention Plan
- Emergency Response Plan
- Oil Field Waste Stream Characterization
- Monitoring and Inspection Plan
- Erosion Control Plan
- Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13. **Proposed Closure:** 19.15.17.13 NMAC

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Multi-well Fluid Management Pit
 Alternative
- Proposed Closure Method: Waste Excavation and Removal
 Waste Removal (Closed-loop systems only)
 On-site Closure Method (Only for temporary pits and closed-loop systems)
 In-place Burial On-site Trench Burial
 Alternative Closure Method

14. **Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15. **Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

16. **On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17. **Operator Application Certification:**
 I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

18. **OCD Approval:** Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)

OCD Representative Signature: *Paul Jones* *** Approval Date: 06/20/2016

Title: Petroleum Engineer OCD Permit Number: _____

19. **Closure Report (required within 60 days of closure completion):** 19.15.17.13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

Closure Completion Date: May 11, 2016

20. **Closure Method:**

Waste Excavation and Removal On-Site Closure Method Alternative Closure Method Waste Removal (Closed-loop systems only)

If different from approved plan, please explain.

21. **Closure Report Attachment Checklist:** *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

- Proof of Closure Notice (surface owner and division)
- Proof of Deed Notice (required for on-site closure for private land only)
- Plot Plan (for on-site closures and temporary pits)
- Confirmation Sampling Analytical Results (if applicable)
- Waste Material Sampling Analytical Results (required for on-site closure)
- Disposal Facility Name and Permit Number
- Soil Backfilling and Cover Installation
- Re-vegetation Application Rates and Seeding Technique
- Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude 34.28718 Longitude -109.03201 NAD: 1927 1983

*** **OCD acknowledges the acceptance of document, C-144, at this time.**

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Michael Hannigan, P.E. _____ Title: _____ Senior EHS Specialist _____

Signature: Michael Haj _____ Date: _____ June 13, 2016 _____

e-mail address: _____ michael_hannigan@kindermorgan.com _____ Telephone: _____ (970) 882-5532 _____

Submit To Appropriate District Office
Two Copies
District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-105
Revised August 1, 2011

1. WELL API NO.
30-003-20042
2. Type of Lease
 STATE FEE FED/INDIAN
3. State Oil & Gas Lease No. LH4757

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

4. Reason for filing:
 COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only)
 C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)

5. Lease Name or Unit Agreement Name
Cottonwood Canyon Unit

6. Well Number: CC14X

7. Type of Completion:
 NEW WELL WORKOVER DEEPENING PLUGBACK DIFFERENT RESERVOIR OTHER C-144 Closure Attachment

8. Name of Operator
Kinder Morgan CO2 Company L.P.

9. OGRID
34945

10. Address of Operator
17801 U.S. Highway 491
Cortez, CO 81321

11. Pool name or Wildcat

12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:										
BH:										

13. Date Spudded
14. Date T.D. Reached
15. Date Rig Released
5/28/2013
16. Date Completed (Ready to Produce)
17. Elevations (DF and RKB, RT, GR, etc.)

18. Total Measured Depth of Well
19. Plug Back Measured Depth
20. Was Directional Survey Made?
21. Type Electric and Other Logs Run

22. Producing Interval(s), of this completion - Top, Bottom, Name

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET

26. Perforation record (interval, size, and number)

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

PRODUCTION

28. Date First Production
Production Method (Flowing, gas lift, pumping - Size and type pump)
Well Status (Prod. or Shut-in)

Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)	

29. Disposition of Gas (Sold, used for fuel, vented, etc.)
30. Test Witnessed By

31. List Attachments

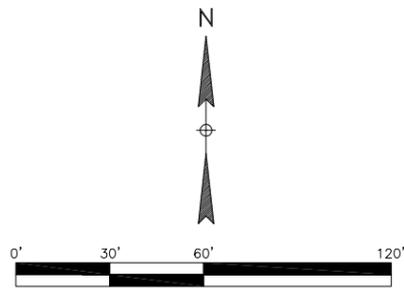
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit. SEE ATTACHED FIGURE 1

33. If an on-site burial was used at the well, report the exact location of the on-site burial:
Latitude 34.28651 Longitude -109.03234 NAD 1927 1983

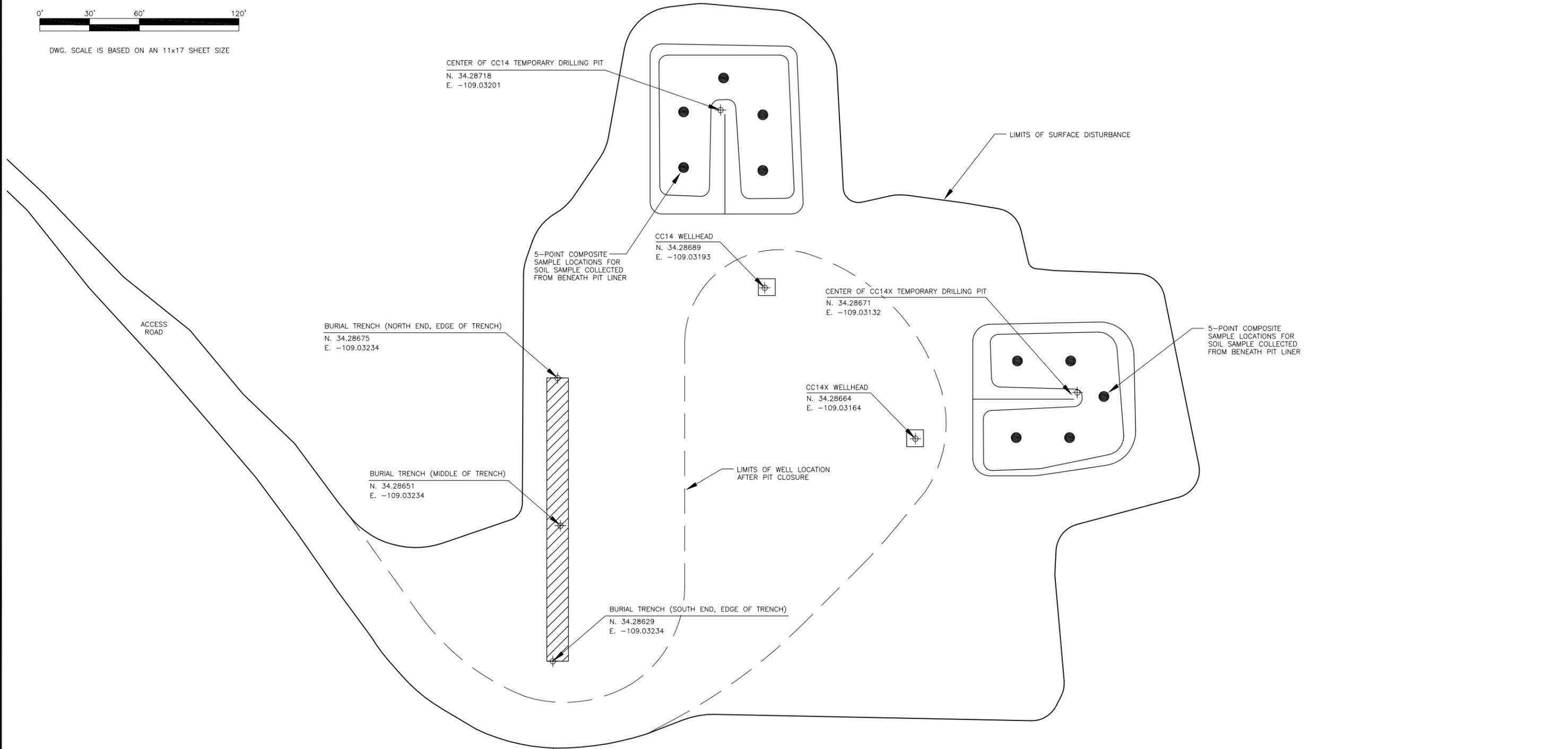
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature *Michael Hannigan* Printed Name MICHAEL HANNIGAN Title SR. EHS SPECIALIST Date 6/13/2016

E-mail Address MICHAEL_HANNIGAN@KINDERMORGAN.COM



DWG. SCALE IS BASED ON AN 11x17 SHEET SIZE



NOTES:

REVISIONS			
△			
△			
△			
△			
△			
△			
△	ISSUED FOR TESTING	CEK	3/23/16

KINDER MORGAN
CO₂ COMPANY, L.P.

17801 HWY 481
GRIFFIN, CO 81321

REFERENCE TITLE SHEET DRAWING:

FIGURE 1 - SITE PLAN
CC14 & CC14X WELL LOCATION
TEMPORARY DRILLING PIT CLOSURE PLAN

CATRON COUNTY, NEW MEXICO

DRAWN BY: CEG	6/7/16	REVIEWED BY:		SCALE: 1"=60'
CHECKED BY: MH	6/9/16	APPROVED BY:		DRAWING NUMBER WP-CC14,CC14X-SOIL

Jun 09, 2016 9:34am by gummigle1 - Path = T:\CO2 S&T CAD Vault\Projects\McElmo Dome Facilities\WP-CC14,CC14X-SOIL G.dwg

**TEMPORARY DRILLING PITS CLOSURE SUMMARY
COTTONWOOD CANYON WELLS CC14 AND CC14X LOCATION
CATRON COUNTY, NEW MEXICO**

Temporary Drilling Pit Closure Plans

The temporary drilling pits at the CC14/CC14X location were closed in accordance with the closure plans (Forms C-144 with attachments) submitted to the State of New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (NMOCD). The closure plans were approved by the OCD District IV office in Santa Fe on April 15, 2016.

Closure Notifications

The surface owner (New Mexico State Trust Lands) was notified of the commencement of temporary drilling pit closure activities by letter, dated April 27, 2016, via certified mail (return receipt requested) which was received on April 29, 2016. The NMOCD District IV office was notified of closure activities on April 27, 2016 via email to Leonard Lowe. Temporary drilling pit closure activities commenced at the CC14/CC14X location on the morning of May 2, 2016. The notifications were provided in accordance with 19.15.17.13 E.(1) and (2) NMAC, respectively. Documentation of the closure notifications is attached to this closure summary.

On-Site Lined Burial Trench

The on-site burial trench was constructed on the west side of the well location as shown in Figure 1 - Site Plan, which is attached to Form C-105. The proposed dimensions of the burial trench given in the closure plans were 100 feet long by 15 feet wide by 12 feet deep. Due to an invalid assumption regarding the depth of drilling waste in both pits, which resulted in a 60 percent increase in the volume of waste to be placed in the on-site burial trench, the length of the trench was increased by approximately 60 feet after receiving verbal approval from NMOCD District IV. The final dimensions of the on-site burial trench are 160 feet long by 15 feet wide by 12 feet deep.

The on-site burial trench was excavated to the dimensions given above and then lined with a string-reinforced, 30-mil LLDPE geomembrane. The drilling waste, which did not require dewatering or drying, was transferred from the drilling pits to the on-site burial trench using an excavator and a front-end loader. After all the drilling waste was removed from the pits, the pit liners were removed and placed in the on-site burial trench. After all of the drilling waste and pit liners were placed in the burial trench, the outer edges of the trench liner were folded over the materials placed in the trench and a string-reinforced, 30-mil LLDPE geomembrane was

installed over the trench in a manner that will prevent the collection of infiltration water in the trench.

Photographs taken during construction of the lined burial trench, placement of the drilling waste and installation of the geomembrane cover are attached to this closure summary.

Waste Material and Confirmation Sampling

A summary table of drilling waste laboratory analytical results was submitted with the temporary drilling pit closure plans and is also shown in the table below. The laboratory analytical results report for the drilling waste samples is attached to this closure summary document.

SUMMARY OF DRILLING WASTE ANALYTICAL RESULTS

Sample ID	CC14XS	CC14XN	CC14E	CC14W	<i>Table II 19.15.17.13 NMAC Closure Criteria⁶</i>
Sample Collection Date	2/11/2016	2/11/2016	2/11/2016	2/11/2016	
Chloride (mg/kg) ¹	6,450	2,400	7,940	10,100	80,000
TPH ² (mg/kg)	911	1,530	1,040	528	2,500
GRO ³ + DRO ⁴ (mg/kg)	61.1	<20.0	<20.0	<20.0	1,000
BTEX ⁵ (mg/kg)	1.60	0.975	0.889	0.349	50
Benzene (mg/kg)	<0.050	<0.050	<0.050	<0.050	10

Notes:

1. Milligrams per kilogram
2. Total Petroleum Hydrocarbons
3. Gasoline Range Organics
4. Diesel Range Organics
5. Benzene, Toluene, Ethylbenzene & Xylenes (total)
6. Burial Trenches and Waste Left in Place in Temporary Pits (Depth to groundwater >100 feet)

The soil surfaces beneath the liners of the temporary drilling pits were observed after the pit liners were removed however no stained or wet areas were noted. A five-point composite soil sample was collected from beneath each pit liner and sent to Green Analytical Laboratories in Durango, Colorado for analysis of the constituents listed in Table I of 18.15.17.13 NMAC. The five-point composite sample locations are shown in attached Figure 1. A summary table of the composite soil sample laboratory analytical results is shown in the table below. The laboratory

analytical results reports for the composite soil samples are attached to this closure summary document.

SUMMARY OF SOIL SAMPLE¹ ANALYTICAL RESULTS

Sample ID	CC14	CC14X	<i>Table I 19.15.17.13 NMAC Closure Criteria⁷</i>
Sample Collection Date	5/4/2016	5/9/2016	
Chloride (mg/kg) ²	208	293	20,000
TPH ³ (mg/kg)	<30.0	<30.0	2,500
GRO ⁴ + DRO ⁵ (mg/kg)	<20.0	<20.0	1,000
BTEX ⁶ (mg/kg)	<0.300	0.139	50
Benzene (mg/kg)	<0.050	<0.050	10

Notes:

1. Five-point composite samples collected from beneath temporary drilling pit liners per 19.15.17.13 D.(9)(a) NMAC
2. Milligrams per kilogram
3. Total Petroleum Hydrocarbons
4. Gasoline Range Organics
5. Diesel Range Organics
6. Benzene, Toluene, Ethylbenzene & Xylenes (total)
7. Soil Beneath Pits where Contents are Removed (Depth to groundwater >100 feet)

Based visual observations at the site after removal of the pit liners and the laboratory analytical data summarized above, it is our conclusion that the integrity of the pit liners were not compromised while they were in service.

On-site Burial Trench and Temporary Drilling Pit Locations

Latitude and longitude coordinates were obtained from the center points of the CC14 and CC14X temporary drilling pits and the on-site lined burial trench using a *Garmin GPSmap 62stc* hand-held GPS device. A completed Form C-105 and attached Figure 1 are being submitted with the Form C-144 for each well in accordance with 19.15.17.13 F.(1) NMAC. The latitude and longitude coordinates for the lined burial trench are reported on each Form C-105 and shown in Figure 1. The latitude and longitude coordinates for the temporary drilling pits are reported on each Form C-144 and shown in Figure 1.

Soil Backfilling, Cover Installation and Reclamation

After all of the drilling waste and pit liners were placed in the burial trench, the outer edges of the trench liner were folded over the materials placed in the trench and a string-reinforced, 30-mil LLDPE geomembrane was installed over the trench in a manner that will prevent the collection of infiltration water in the trench. The on-site burial trench was then covered with non-waste containing, uncontaminated, earthen materials to a minimum depth of four feet.

The soil cover is made up of material excavated to construct the burial trench combined with the soil that was used to construct temporary drilling pits CC14 and CC14X. Soil used to cover the burial trench meets the chloride concentration standard of 600 mg/kg given in 19.15.17.13 H.(3). The undisturbed native soil excavated to construct the burial trench was obtained from an area of the well location that was not impacted by any drilling or production activities and the native soil used to construct the drilling pits was tested for chloride concentrations in accordance with EPA Method 300.0 (see *Summary of Soil Sample¹ Analytical Results* table above).

The CC14 and CC14X temporary drilling pit locations were reclaimed to a safe and stable condition that blends with the surrounding undisturbed area and the soil cover placed over the on-site burial trench was reclaimed to the site's original contours in a manner that will prevent the ponding of water and erosion. Photographs of the reclaimed condition of the location are attached to this closure summary document.

Temporary Drilling Pit and On-Site Burial Trench Markers

Final site reclamation and revegetation will be accomplished after wells CC14 and CC14X are plugged and abandoned in mid-2017. Steel location markers for the wells, temporary drilling pits and on-site burial trench will be installed after well plugging and abandonment, final reclamation and revegetation activities have been completed. The markers will be placed in the exact locations of the wells, temporary drilling pits and on-site burial trench using the GPS coordinates obtained during closure activities in accordance with 19.15.25.10 B. and 19.15.17.13 F.(3) NMAC, respectively.



April 27, 2016

Mr. Patrick L. Padilla
Assistant Commissioner for Mineral Resources
New Mexico State Trust Lands
P.O. Box 1148
Santa Fe, New Mexico 87504

**RE: Closure of Temporary Drilling Pits
Wells CC14 (API #30-003-20041) & CC14X (API #30-003-20042)
Section 27, T1N, R21W, Cottonwood Canyon Unit, Catron County, New Mexico**

Dear Mr. Padilla,

The purpose of this letter is to provide the New Mexico State Trust Lands, as surface owner of the well location referenced above, that two (2) temporary drilling pits associated with the location will be closed in accordance with 19.15.17.13 E.(1) NMAC.

The approved pit closure plans can be found on the New Mexico Minerals and Natural Resources Department, Oil Conservation Division website. Please feel free to contact me at (928) 333-0100 if you have any questions regarding this matter.

Sincerely,
Kinder Morgan CO₂ Company, L.P.

A handwritten signature in blue ink, appearing to read 'T. White', is written over a horizontal line.

Thomas White
Operations Supervisor

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr Patrick L. Padilla
 Assistant Commissioner
 New Mexico State Trust Lands
 P.O. Box 1148
 Santa Fe, New Mexico
 87504



(Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

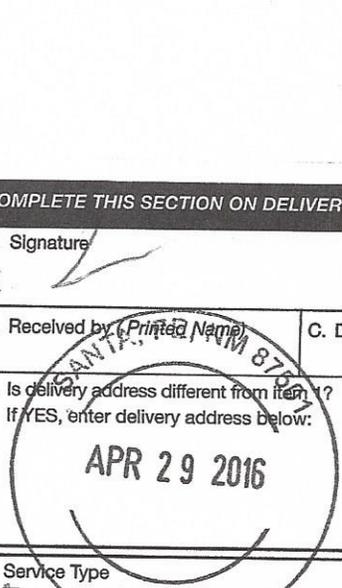
A. Signature X Agent
 Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Certified Mail Express Mail
 Registered Return Receipt for Merchandise
 Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee) Yes



7015 1730 0000 2333 4986

White, Thomas

From: Lowe, Leonard, EMNRD <Leonard.Lowe@state.nm.us>
Sent: Wednesday, April 27, 2016 12:34 PM
To: White, Thomas
Subject: RE: Notification

Mr. White,

Notification received.

This notification is for the closure of the 2 pits and building/closure of the recently approved deep trench burial of the cuttings, correct?

Leonard Lowe

Engineering Bureau

Oil Conservation Division

Energy Minerals and Natural Resources Department

1220 South St. Frances

Santa Fe, New Mexico 87004

Office: 505-476-3492

Fax: 505-476-3462

E-mail: leonard.lowe@state.nm.us

Website: <http://www.emnrd.state.nm.us/ocd/>

From: White, Thomas [<mailto:Thomas.White@kindermorgan.com>]

Sent: Wednesday, April 27, 2016 11:22 AM

To: Lowe, Leonard, EMNRD <Leonard.Lowe@state.nm.us>

Subject: Notification

Importance: High

Leonard,

This is notification that Kinder Morgan will be starting their pit burial project on Monday, May 2 2016 if there are any questions please feel free to call.

Thanks



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

23 May 2016

Michael Hannigan
Kinder Morgan
17801 Hwy 491
Cortez, CO 81321
RE: BTEX/TPH, CI

Enclosed are the results of analyses for samples received by the laboratory on 05/09/16 16:30.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Miller", is written over a light blue horizontal line.

Jacob Miller For Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at

<http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: BTEX/TPH, CI Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 05/23/16 17:22
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CC14X	1605092-01	Solid	05/09/16 11:00	05/09/16 16:30

Green Analytical Laboratories

Jacob Miller For Debbie Zufelt, Reports Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.



Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: BTEX/TPH, CI Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 05/23/16 17:22
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CC14X

1605092-01 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

% Dry Solids	89.0			%	1	05/17/16	ASA#9 & SSSA#5		JDA
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Soluble (DI Water Extraction)

Chloride	293	11.2	0.584	mg/kg dry	10	05/17/16	EPA300.0		JDA
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Subcontracted -- **Cardinal Laboratories**

Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.005	mg/kg	50	05/12/16	8021B		MS
Toluene*	0.139	0.050	0.006	mg/kg	50	05/12/16	8021B		MS
Ethylbenzene*	<0.050	0.050	0.017	mg/kg	50	05/12/16	8021B		MS
Total Xylenes*	<0.150	0.150	0.043	mg/kg	50	05/12/16	8021B		MS
Total BTEX	<0.300	0.300	0.070	mg/kg	50	05/12/16	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 73.6-140 05/12/16 8021B MS

Petroleum Hydrocarbons by GC FID

GRO C6-C10	<10.0	10.0	2.59	mg/kg	1	05/12/16	8015B		MS
DRO >C10-C28	<10.0	10.0	5.51	mg/kg	1	05/12/16	8015B		MS
EXT DRO >C28-C35	<10.0	10.0	5.51	mg/kg	1	05/12/16	8015B		MS

Surrogate: 1-Chlorooctane 84.0 % 35-147 05/12/16 8015B MS

Surrogate: 1-Chlorooctadecane 106 % 28-171 05/12/16 8015B MS

Green Analytical Laboratories

Jacob Miller For Debbie Zufelt, Reports Manager

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: BTEX/TPH, CI Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 05/23/16 17:22
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General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B605129 - General Prep - Wet Chem

Duplicate (B605129-DUP1)		Source: 1605084-01		Prepared: 05/13/16		Analyzed: 05/17/16				
% Dry Solids	83.3		%		83.4			0.120	20	
Duplicate (B605129-DUP2)		Source: 1605137-20		Prepared: 05/13/16		Analyzed: 05/17/16				
% Dry Solids	95.2		%		95.1			0.105	20	

Soluble (DI Water Extraction) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B605156 - General Prep - Wet Chem

Blank (B605156-BLK1)		Prepared & Analyzed: 05/17/16								
Chloride	ND	10.0	mg/kg wet							
LCS (B605156-BS1)		Prepared & Analyzed: 05/17/16								
Chloride	238	10.0	mg/kg wet	250		95.1	85-115			
LCS Dup (B605156-BSD1)		Prepared & Analyzed: 05/17/16								
Chloride	243	10.0	mg/kg wet	250		97.4	85-115	2.42	20	

Green Analytical Laboratories

Jacob Miller For Debbie Zufelt, Reports Manager

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: BTEX/TPH, CI Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 05/23/16 17:22
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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6051202 - Volatiles

Blank (6051202-BLK1)

Prepared & Analyzed: 05/12/16

Surrogate: 4-Bromofluorobenzene (PID)	ND		mg/kg	0.0500		99.1	73.6-140			
Benzene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

LCS (6051202-BS1)

Prepared & Analyzed: 05/12/16

Surrogate: 4-Bromofluorobenzene (PID)	0.0482		mg/kg	0.0500		96.4	73.6-140			
Benzene	1.99	0.050	mg/kg	2.00		99.5	82.6-122			
Ethylbenzene	1.79	0.050	mg/kg	2.00		89.6	65.4-131			
Toluene	1.96	0.050	mg/kg	2.00		97.8	72.9-122			
Total Xylenes	5.58	0.150	mg/kg	6.00		92.9	73.8-125			

LCS Dup (6051202-BSD1)

Prepared & Analyzed: 05/12/16

Surrogate: 4-Bromofluorobenzene (PID)	0.0485		mg/kg	0.0500		96.9	73.6-140			
Benzene	2.01	0.050	mg/kg	2.00		100	82.6-122	0.948	8.23	
Ethylbenzene	1.83	0.050	mg/kg	2.00		91.6	65.4-131	2.28	9.46	
Toluene	1.99	0.050	mg/kg	2.00		99.4	72.9-122	1.65	8.71	
Total Xylenes	5.70	0.150	mg/kg	6.00		95.0	73.8-125	2.20	8.66	

Green Analytical Laboratories

Jacob Miller For Debbie Zufelt, Reports Manager

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: BTEX/TPH, CI Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 05/23/16 17:22
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Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6051201 - General Prep - Organics

Blank (6051201-BLK1)

Prepared & Analyzed: 05/12/16

Surrogate: 1-Chlorooctadecane	49.9		mg/kg	50.0		99.8	28-171			
Surrogate: 1-Chlorooctane	40.4		mg/kg	50.0		80.9	35-147			
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
GRO C6-C10	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							

LCS (6051201-BS1)

Prepared & Analyzed: 05/12/16

Surrogate: 1-Chlorooctadecane	50.9		mg/kg	50.0		102	28-171			
Surrogate: 1-Chlorooctane	45.8		mg/kg	50.0		91.6	35-147			
DRO >C10-C28	187	10.0	mg/kg	200		93.6	78.3-122			
GRO C6-C10	187	10.0	mg/kg	200		93.6	76.7-115			
Total TPH C6-C28	374	10.0	mg/kg	400		93.6	79.8-117			

LCS Dup (6051201-BSD1)

Prepared & Analyzed: 05/12/16

Surrogate: 1-Chlorooctadecane	57.1		mg/kg	50.0		114	28-171			
Surrogate: 1-Chlorooctane	48.0		mg/kg	50.0		96.0	35-147			
DRO >C10-C28	205	10.0	mg/kg	200		102	78.3-122	9.01	13.2	
GRO C6-C10	193	10.0	mg/kg	200		96.4	76.7-115	2.95	9.42	
Total TPH C6-C28	398	10.0	mg/kg	400		99.4	79.8-117	6.03	10.7	

Green Analytical Laboratories

Jacob Miller For Debbie Zufelt, Reports Manager

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: BTEX/TPH, CI Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 05/23/16 17:22
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Notes and Definitions

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.
- RPD Relative Percent Difference
- LCS Laboratory Control Sample (Blank Spike)
- RL Report Limit
- MDL Method Detection Limit

Green Analytical Laboratories

Jacob Miller For Debbie Zufelt, Reports Manager

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Client: Kinder Morgan CO2 Company L.P.

Contact: Michael Hannigan

Address: 17801 U.S. Highway 491

Cortez, CO 81321

Phone Number: (970) 882-5532

Email: Michael_Hannigan@kindermorgan.com

CHAIN OF CUSTODY RECORD

NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO#

Project Name: COTTONWOOD CANYON

Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil
 6 = Waste, 7 = Other (Specify) _____

Samplers Signature: Michael Hannigan

FOR GAL USE ONLY

GAL JOB #

1605-092

Page 1 of 1

Lab Name: Green Analytical Laboratories

(970) 247-4220 FAX (970) 247-4227

Address: 75 Suttle Street, Durango, CO 81303

www.greenanalytical.com

Sample ID	Date	Time	Collected by: (Init.)	Miscellaneous			Preservative(s)					Analyses Required	Comments	
				Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH			Other (Specify)
1. CC14X	5/9/16	11:00	MH	3	3	N	X							2.1cc on ice
2.														
3.														
4.														
5.														
6.														
7.														
8.														
9.														
10.														
Relinquished by: <u>M. Hannigan</u>			Date: <u>5/9/16</u>	Time: <u>16:30</u>	Received by: <u>Michael Hannigan</u>			Date: <u>5-9-16</u>	Time: <u>16:30</u>					
Relinquished by:			Date:	Time:	Received by:			Date:	Time:					

* Sample Reject: [] Return [] Dispose [] Store (30 Days)

(d) Other regulatory requirements. The re-vegetation and reclamation obligations imposed by other applicable federal or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of any operator subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.

(e) The operator shall notify the division when reclamation and re-vegetation are complete.

Table I
Closure Criteria for Soils Beneath Below-Grade Tanks, Drying Pads Associated with Closed-Loop Systems and Pits where Contents are Removed

Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent	Method*	Limit**
≤50 feet	Chloride	EPA 300.0	600 mg/kg
	TPH	EPA SW-846 Method 418.1	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
51 feet-100 feet	Chloride	EPA 300.0	10,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
> 100 feet	Chloride	EPA 300.0	20,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

*Or other test methods approved by the division

**Numerical limits or natural background level, whichever is greater

Table II
Closure Criteria for Burial Trenches and Waste Left in Place in Temporary Pits

Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent	Method*	Limit**
25-50 feet	Chloride	EPA Method 300.0	20,000 mg/kg
	TPH	EPA SW-846 Method 418.1	100 mg/kg
	BTEX	EPA SW-846 Method	50 mg/kg



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

09 March 2016

Michael Hannigan
Kinder Morgan
17801 Hwy 491
Cortez, CO 81321
RE: Misc.

Enclosed are the results of analyses for samples received by the laboratory on 02/12/16 11:05.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Debbie Zufelt". The signature is written in a cursive, flowing style.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: Misc. Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 03/09/16 16:02
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CC14XS	1602107-01	Solid	02/11/16 14:10	02/12/16 11:05
CC14XN	1602107-02	Solid	02/11/16 14:20	02/12/16 11:05
CC14E	1602107-03	Solid	02/11/16 14:30	02/12/16 11:05
CC14W	1602107-04	Solid	02/11/16 14:40	02/12/16 11:05

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: Misc. Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 03/09/16 16:02
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CC14XS

1602107-01 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

% Dry Solids	81.2			%	1	02/24/16	ASA#9 & SSSA#5	H2	LLG
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Soluble (DI Water Extraction)

Chloride	6540	493	25.6	mg/kg dry	400	02/25/16	EPA300.0		JDA
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Subcontracted -- **Cardinal Laboratories**

Organic Compounds

TPH 418.1	911	100	13.5	mg/kg	10	03/09/16	418.1		CK
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.005	mg/kg	50	02/19/16	8021B		MS
Toluene*	1.60	0.050	0.006	mg/kg	50	02/19/16	8021B		MS
Ethylbenzene*	<0.050	0.050	0.017	mg/kg	50	02/19/16	8021B		MS
Total Xylenes*	<0.150	0.150	0.043	mg/kg	50	02/19/16	8021B		MS
Total BTEX	1.60	0.300	0.070	mg/kg	50	02/19/16	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.6-140 02/19/16 8021B MS

Petroleum Hydrocarbons by GC FID

GRO C6-C10	<10.0	10.0	2.59	mg/kg	1	02/17/16	8015B		MS
DRO >C10-C28	61.1	10.0	5.51	mg/kg	1	02/17/16	8015B		MS
EXT DRO >C28-C35	72.5	10.0	5.51	mg/kg	1	02/17/16	8015B		MS

Surrogate: 1-Chlorooctane 101 % 35-147 02/17/16 8015B MS

Surrogate: 1-Chlorooctadecane 113 % 28-171 02/17/16 8015B MS

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: Misc. Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 03/09/16 16:02
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CC14XN

1602107-02 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

% Dry Solids	71.7			%	1	02/24/16	ASA#9 & SSSA#5	H2	LLG
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Soluble (DI Water Extraction)

Chloride	2400	112	5.80	mg/kg dry	80	02/25/16	EPA300.0		JDA
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Subcontracted -- **Cardinal Laboratories**

Organic Compounds

TPH 418.1	1530	100	13.5	mg/kg	10	03/09/16	418.1		CK
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.005	mg/kg	50	02/19/16	8021B		MS
Toluene*	0.975	0.050	0.006	mg/kg	50	02/19/16	8021B		MS
Ethylbenzene*	<0.050	0.050	0.017	mg/kg	50	02/19/16	8021B		MS
Total Xylenes*	<0.150	0.150	0.043	mg/kg	50	02/19/16	8021B		MS
Total BTEX	0.975	0.300	0.070	mg/kg	50	02/19/16	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID)		112 %	73.6-140			02/19/16	8021B		MS
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Petroleum Hydrocarbons by GC FID

GRO C6-C10	<10.0	10.0	2.59	mg/kg	1	02/17/16	8015B		MS
DRO >C10-C28	<10.0	10.0	5.51	mg/kg	1	02/17/16	8015B		MS
EXT DRO >C28-C35	<10.0	10.0	5.51	mg/kg	1	02/17/16	8015B		MS

Surrogate: 1-Chlorooctane		98.6 %	35-147			02/17/16	8015B		MS
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Surrogate: 1-Chlorooctadecane		108 %	28-171			02/17/16	8015B		MS
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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: Misc. Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 03/09/16 16:02
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CC14E

1602107-03 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

% Dry Solids	74.3			%	1	02/24/16	ASA#9 & SSSA#5	H2	LLG
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Soluble (DI Water Extraction)

Chloride	7940	538	27.9	mg/kg dry	400	02/25/16	EPA300.0		JDA
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Subcontracted -- **Cardinal Laboratories**

Organic Compounds

TPH 418.1	1040	100	13.5	mg/kg	10	03/09/16	418.1		CK
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.005	mg/kg	50	02/19/16	8021B		MS
Toluene*	0.889	0.050	0.006	mg/kg	50	02/19/16	8021B		MS
Ethylbenzene*	<0.050	0.050	0.017	mg/kg	50	02/19/16	8021B		MS
Total Xylenes*	<0.150	0.150	0.043	mg/kg	50	02/19/16	8021B		MS
Total BTEX	0.889	0.300	0.070	mg/kg	50	02/19/16	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID)			108 %	73.6-140		02/19/16	8021B		MS
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Petroleum Hydrocarbons by GC FID

GRO C6-C10	<10.0	10.0	2.59	mg/kg	1	02/17/16	8015B		MS
DRO >C10-C28	<10.0	10.0	5.51	mg/kg	1	02/17/16	8015B		MS
EXT DRO >C28-C35	<10.0	10.0	5.51	mg/kg	1	02/17/16	8015B		MS

Surrogate: 1-Chlorooctane			89.7 %	35-147		02/17/16	8015B		MS
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Surrogate: 1-Chlorooctadecane			97.6 %	28-171		02/17/16	8015B		MS
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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: Misc. Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 03/09/16 16:02
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CC14W

1602107-04 (Solid)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

% Dry Solids	65.7			%	1	02/24/16	ASA#9 & SSSA#5	H2	LLG
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Soluble (DI Water Extraction)

Chloride	10100	609	31.6	mg/kg dry	400	02/25/16	EPA300.0		JDA
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Subcontracted -- Cardinal Laboratories

Organic Compounds

TPH 418.1	528	100	13.5	mg/kg	10	03/09/16	418.1		CK
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050	0.050	0.005	mg/kg	50	02/19/16	8021B		MS
Toluene*	0.349	0.050	0.006	mg/kg	50	02/19/16	8021B		MS
Ethylbenzene*	<0.050	0.050	0.017	mg/kg	50	02/19/16	8021B		MS
Total Xylenes*	<0.150	0.150	0.043	mg/kg	50	02/19/16	8021B		MS
Total BTEX	0.349	0.300	0.070	mg/kg	50	02/19/16	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID)			107 %	73.6-140		02/19/16	8021B		MS
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Petroleum Hydrocarbons by GC FID

GRO C6-C10	<10.0	10.0	2.59	mg/kg	1	02/17/16	8015B		MS
DRO >C10-C28	<10.0	10.0	5.51	mg/kg	1	02/17/16	8015B		MS
EXT DRO >C28-C35	<10.0	10.0	5.51	mg/kg	1	02/17/16	8015B		MS

Surrogate: 1-Chlorooctane			89.6 %	35-147		02/17/16	8015B		MS
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Surrogate: 1-Chlorooctadecane			99.7 %	28-171		02/17/16	8015B		MS
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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: Misc. Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 03/09/16 16:02
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General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B602186 - General Prep - Wet Chem

Duplicate (B602186-DUP1) Source: 1602107-01 Prepared & Analyzed: 02/24/16

% Dry Solids	82.3		%		81.2			1.42	20	
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Soluble (DI Water Extraction) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B602184 - General Prep - Wet Chem

Blank (B602184-BLK1) Prepared: 02/24/16 Analyzed: 02/26/16

Chloride	ND	1.00	mg/kg wet							
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LCS (B602184-BS1) Prepared: 02/24/16 Analyzed: 02/25/16

Chloride	108	4.00	mg/kg wet	100		108	85-115			
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LCS Dup (B602184-BSD1) Prepared: 02/24/16 Analyzed: 02/25/16

Chloride	108	4.00	mg/kg wet	100		108	85-115	0.148	20	
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Organic Compounds - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6030803 - Solvent Extraction

Blank (6030803-BLK1) Prepared: 03/08/16 Analyzed: 03/09/16

TPH 418.1	ND	100	mg/kg							
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LCS (6030803-BS1) Prepared: 03/08/16 Analyzed: 03/09/16

TPH 418.1	5820	100	mg/kg	5000		116	70-130			
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LCS Dup (6030803-BSD1) Prepared: 03/08/16 Analyzed: 03/09/16

TPH 418.1	5790	100	mg/kg	5000		116	70-130	0.551	20	
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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: Misc. Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 03/09/16 16:02
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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6021901 - Volatiles

Blank (6021901-BLK1)

Prepared & Analyzed: 02/19/16

Surrogate: 4-Bromofluorobenzene (PID)	0.0534		mg/kg	0.0500		107	73.6-140			
Benzene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

LCS (6021901-BS1)

Prepared & Analyzed: 02/19/16

Surrogate: 4-Bromofluorobenzene (PID)	0.0525		mg/kg	0.0500		105	73.6-140			
Benzene	2.04	0.050	mg/kg	2.00		102	82.6-122			
Ethylbenzene	1.82	0.050	mg/kg	2.00		91.1	65.4-131			
Toluene	2.01	0.050	mg/kg	2.00		101	72.9-122			
Total Xylenes	5.64	0.150	mg/kg	6.00		94.0	73.8-125			

LCS Dup (6021901-BSD1)

Prepared & Analyzed: 02/19/16

Surrogate: 4-Bromofluorobenzene (PID)	0.0514		mg/kg	0.0500		103	73.6-140			
Benzene	2.06	0.050	mg/kg	2.00		103	82.6-122	0.658	8.23	
Ethylbenzene	1.82	0.050	mg/kg	2.00		91.0	65.4-131	0.118	9.46	
Toluene	2.02	0.050	mg/kg	2.00		101	72.9-122	0.555	8.71	
Total Xylenes	5.63	0.150	mg/kg	6.00		93.8	73.8-125	0.224	8.66	

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: Misc. Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 03/09/16 16:02
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Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6021705 - General Prep - Organics

Blank (6021705-BLK1)

Prepared & Analyzed: 02/17/16

Surrogate: 1-Chlorooctadecane	58.4		mg/kg	50.0		117	28-171			
Surrogate: 1-Chlorooctane	54.1		mg/kg	50.0		108	35-147			
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
GRO C6-C10	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							

LCS (6021705-BS1)

Prepared & Analyzed: 02/17/16

Surrogate: 1-Chlorooctadecane	60.9		mg/kg	50.0		122	28-171			
Surrogate: 1-Chlorooctane	57.3		mg/kg	50.0		115	35-147			
DRO >C10-C28	238	10.0	mg/kg	200		119	78.3-122			
GRO C6-C10	224	10.0	mg/kg	200		112	76.7-115			
Total TPH C6-C28	462	10.0	mg/kg	400		116	79.8-117			

LCS Dup (6021705-BSD1)

Prepared & Analyzed: 02/17/16

Surrogate: 1-Chlorooctadecane	45.1		mg/kg	50.0		90.2	28-171			
Surrogate: 1-Chlorooctane	50.4		mg/kg	50.0		101	35-147			
DRO >C10-C28	197	10.0	mg/kg	200		98.5	78.3-122	18.8	13.2	QR-02
GRO C6-C10	209	10.0	mg/kg	200		104	76.7-115	7.24	9.42	
Total TPH C6-C28	406	10.0	mg/kg	400		101	79.8-117	13.0	10.7	QR-02

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Kinder Morgan 17801 Hwy 491 Cortez CO, 81321	Project: Misc. Project Name / Number: Cottonwood Canyon Project Manager: Michael Hannigan	Reported: 03/09/16 16:02
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Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- H2 Sample analysis performed past hold time specified by the method.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.
- RPD Relative Percent Difference
- LCS Laboratory Control Sample (Blank Spike)
- RL Report Limit
- MDL Method Detection Limit

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51-100 feet	Chloride	or 8015M EPA Method 300.0	40,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
> 100 feet	Chloride	EPA Method 300.0	80,000 mg/kg
	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

*Or other test methods approved by the division

**Numerical limits or natural background level, whichever is greater

[19.15.17.13 NMAC - Rp, 19.15.17.13 NMAC, 6/28/13]

19.15.17.14 EMERGENCY ACTIONS:

A. Permit not required. In an emergency an operator may construct a pit without a permit to contain fluids, solids or wastes, if an immediate danger to fresh water, public health or the environment exists.

B. Construction standards. The operator shall construct an emergency pit, to the extent possible given the emergency, in a manner that is consistent with the requirements for a temporary pit specified in 19.15.17 NMAC and that prevents the contamination of fresh water and protects public health and the environment.

C. Notice. The operator shall notify the appropriate division district office as soon as possible (if possible before construction begins) of the need for such pit's construction.

D. Use and duration. A pit constructed in an emergency may be used only for the emergency's duration. If the emergency lasts more than 48 hours, then the operator shall seek the appropriate division district office's approval for the pit's continued use. The operator shall remove all fluids, solids or wastes within 48 hours after cessation of use unless the appropriate division district office extends that time period.

[19.15.17.14 NMAC - Rp, 19.15.17.14 NMAC, 6/28/13]

19.15.17.15 EXCEPTIONS AND VARIANCES:

A. Variances.

(1) An operator shall demonstrate with a complete application to the appropriate division district office that the requested variance provides equal or better protection of fresh water, public health and the environment. The appropriate division district office shall approve or deny the variance within 60 days of receipt of the complete application.

(2) If the appropriate division district office denies the variance then it shall notify the operator within 60 days of receipt of the complete application for the reasons of denial by certified mail, return receipt requested. If the operator requests a hearing within 10 days after receipt of such notice, the division shall set the matter for hearing, with notice to the operator and the appropriate division district office.

(3) An application for a variance shall include:

- (a) a statement in detail explaining why the applicant wants to vary from the requirement of 19.15.17 NMAC, and
- (b) a detailed written demonstration that the variance will provide equal or better protection of fresh water, public health and the environment.

(4) If a variance goes to hearing pursuant to Paragraph (2) of Subsection A of 19.15.17.15 NMAC, in addition to the hearing process required by 19.15.4 NMAC, the application for hearing shall include:

- (a) a copy of the complete application submitted for a variance under Paragraph (3) of Subsection A of 19.15.17.15 NMAC;
- (b) proof of notification to the surface owner of the location of the requested variance.

(5) The division clerk will set the application for hearing as soon as practicable.

B. Exceptions.

(1) An operator may apply to the division's Santa Fe office for an exception that is allowed by a provision of 19.15.17 NMAC.

(2) The operator shall give written notice by certified mail, return receipt requested, to:

- (a) the surface owner of record where the exception is requested, or will be located;
- (b) surface owners of record within one-half mile of such location;



Burial trench excavation.



Installation of 30 mil LLDPE liner in burial trench excavation.



Outer edges of trench liner folded over waste material prior to installation of geomembrane cover.



Installation of geomembrane cover over waste material in the lined burial trench.



Soil cover being placed over lined burial trench.



Interim reclamation of lined burial trench and temporary drilling pit CC14 areas.



Interim reclamation of lined burial trench and CC14X temporary drilling pit areas.



Interim reclamation of CC14 temporary drilling pit area.



Interim reclamation of CC14X temporary drilling pit area.

From: [Hannigan, Michael](#)
To: [Lowe, Leonard, EMNRD](#)
Subject: Cottonwood Canyon Pit Closure Reports
Date: Tuesday, June 14, 2016 10:18:15 AM
Attachments: [CC14 Closure Report Package.pdf](#)
[CC14X Closure Report Package.pdf](#)

Leonard,

Attached are the pit closure report packages for the CC14 and CC14X temporary drilling pits. Each package contains a completed Form C-144 and C-105, a plat drawing as an attachment to the Form C-105, a summary of pit closure activities, summary tables of soil and waste sample analytical data, documentation of closure notifications, laboratory analytical reports for soil samples collected from beneath the liners and waste samples collected from the pits, and photos taken during the closure activities. Please review the report packages and let me know if I've left anything out or if any of the forms need revision. Thank you for your help with the closure of these temporary pits and I look forward to working with you until the wells are plugged/abandoned and final reclamation/revegetation of the location is complete.

Mike

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Senior EHS Specialist



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