

30-025-09594

COPY

Mr. Mark Bishop  
Operations Foreman  
CIMAREX ENERGY COMPANY OF COLORADO  
701 N. Grimes  
Hobbs, New Mexico 88240

19 July 2010

Mr. Larry Johnson  
OIL CONSERVATION DIVISION  
1625 N. French Drive  
Hobbs, NM 88240

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Re: Myers C SWD Pit Closure Plan

Dear Mr. Johnson:

Pursuant to the State of New Mexico regulatory requirements for permanent closure of lined pits enclosed herewith is the completed Form C-144, "Proposed Closure Plan" and additional information constituting the "Closure Plan" for closure of Cimarex Energy Company's (Cimarex), Myers C SWD pit (API No. 30-025-09597) located in U/L C S22 T24S, R36E, 660' FNL, 1980' FWL of Lea County, New Mexico.

#### INTRODUCTION

Remediation of the Cimarex, Myers C SWD pit is targeted to begin 20 July 2010 with completion expected by 27 July 2010, permitting weather and the occurrence of unexpected conditions not within the Operator's control do not create delays or exacerbate the proposed schedule. Cimarex intends to maintain its commitment to environmental health and safety and fully comply with the Regulatory Performa of the State of New Mexico, Oil Conservation Division (NMOCD) regarding this disposal action culminating in permanent closure of the Myers C SWD No. 2 pit.

Potential, temporary contamination from the Myers C SWD No. 2 pit site, should any exist, resulted solely from oil and gas production activities. Potential contaminates are lower levels of cut brine concentrations, polymers (such as xanthium gum and starch) and hydrocarbon. However in this case, the hydrocarbon contact zones are extremely degraded and impeded by the existing liner.

Area land use is primarily ranching with domestic pasturage commensurate with significant oil and gas production activities. The Cimarex Myers C SWD No. 2 pit is located in an area where the NMOCD map shows depth to groundwater data between 40 and 80 feet.

Compliant environmental performance and reduction of liability in this area pursuant to NMOCD regulations can be achieved with excavation and disposal at the Sundance Disposal Facility. Further, should future Regulatory interpretations mandate additional action or should the Operator choose to take additional action, the excavation and haul-off election (1) removes and at a minimum, limits the environmental impact in general and (2) allows the Operator or government immediate access to the remediated area.

## CLOSURE PLAN

Environmental health and safety regulations mandate control of pit volumes at all times. Thus, the liquid material was pumped off as needed and properly disposed of during active drilling operations. Water accumulated since this time is either due to liquids resurfacing after the hydrostatic head has been altered through the hauling of earlier fluids or the occurrence of local precipitation events. At this point, all water which can be removed has been hauled from the drilling pit and properly disposed of in accordance with NMOCD requirements.

- Contractor shall mobilize to the Myers C SWD No. 2 drilling pit site located off Highway 18 near Jal in Lea County, New Mexico. Personnel and heavy equipment necessary to provide for the initiation and completion of remediation activities presented above shall be engaged as is appropriate to the mandated exercise.
- All remediation activity shall be confined to (1) the existing pit, (2) already disturbed areas as authorized by the APD and approved Best Management Practices (BMP's) and/or (3) not beyond the lease boundaries without the express written permission of the Operator and other involved parties. Cimarex's dirt contractor assumes sole responsibility for operations in inclement weather conditions and shall cease and desist infield operations immediately when such conditions become unsafe or would in any way be destructive to Cimarex's lease or at the mandate of Cimarex's infield representative. Further, Cimarex's dirt contractor shall ensure the positioning of their equipment to provide a clear area for adequate staging, site control and safety ensuring operations shall be compliant with OSHA and NMOCD Regulatory Performance at all times.
- The Myers C SWD No. 2 pit is currently lined by a <sup>40-60</sup> ~~20~~ mil HDPE liner, which shall be removed by heavy equipment and hauled to Sundance Disposal.
- Prior to initiation of backfilling, the Operator shall take appropriate samples of the excavated pit area to ensure compliance with NMOCD Standards for remediation of possible soil chloride levels greater than 250 ppm. However if levels at the bottom of the drilling pit test hot or are not within acceptable range, a background set of samples shall be obtained for testing from the immediate vicinity and compared to those of the pit bottom. Simultaneously, more soil shall be removed from the "hot spots". Once completed, a new data acquisition shall occur and sample results will determine whether or not compliance has been reached in order to begin backfilling.
- Backfilling of the Myers C SWD No. 2 drilling pit shall be commensurate with existing topography and terrain relief features (contouring) so as to return it to its "near-as" previous condition, including a contour for prevailing wind conditions and moisture accumulation which prevents abnormal or unsustainable water impoundment resulting in erosive actions. All sites shall be seeded in compliance with BLM seed mixtures, which are currently being used by the NMOCD as well. Backfill material shall be imported from local materials obtained either from the rancher or a state resource site pursuant to Subsection H of 19.15.17.13 NMAC where appropriate. Site remediation and final

analytical data shall be presented to the NMOCD for approval based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC prior to actual implementation of the backfilling operations.

- The "Closure Plan" shall include a final C-144 and final remediation report when infield operations are completed. All protocols and procedures based upon the appropriate requirements of 19.15.17.13 NMAC shall be met. Sampling shall be based on the requirements of Subsection F of 19.15.17.13 NMAC where and when appropriate the infield situation. Final analytical data shall also be provided to the NMOCD.

Should you have questions, please call 432-602-1002 (cell).

Sincerely,



Mark Bishop  
Operation Manager

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Enclosure: As noted above

# COPY

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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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  
July 21, 2008

**For temporary pits, closed-loop systems, and below-grade tanks,** submit to the appropriate NMOCD District Office.  
**For permanent pits and exceptions** submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

## Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

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

**Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, 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: Cimarex Energy Company of Colorado OGRID #: \_\_\_\_\_  
Address: 600 Marienfeld St., Suite 600, Midland, Texas 79701  
Facility or well name: Myers C SWD No. 2  
API Number: 30-025-09597 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr C Section 22 Township 24S Range 36E County: Lea  
Center of Proposed Design: Latitude \_\_\_\_\_ Longitude \_\_\_\_\_ NAD:  1927  1983  
Surface Owner:  Federal X State  Private  Tribal Trust or Indian Allotment

2.  
 **Pit:** Subsection F or G of 19.15.17.11 NMAC  
Temporary:  Drilling  Workover  
 Permanent  Emergency  Cavitation  P&A  
 Lined  Unlined Liner type: Thickness \_\_\_\_\_ mil  LLDPE  HDPE  PVC  Other \_\_\_\_\_  
 String-Reinforced  
Liner Seams:  Welded  Factory  Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

3.  
 **Closed-loop System:** Subsection H of 19.15.17.11 NMAC  
Type of Operation:  P&A  Drilling a new well  Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)  
 Drying Pad  Above Ground Steel Tanks  Haul-off Bins  Other \_\_\_\_\_  
 Lined  Unlined Liner type: Thickness \_\_\_\_\_ mil  LLDPE  HDPE  PVC  Other \_\_\_\_\_  
Liner Seams:  Welded  Factory  Other \_\_\_\_\_

4.  
 **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 \_\_\_\_\_

5.  
 **Alternative Method:**  
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6.

**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 \_\_\_\_\_

7.

**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)

8.

**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 19.15.3.103 NMAC

9.

**Administrative Approvals 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:**

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

10.

**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. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No
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	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
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. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 500 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 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 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 type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

11.

**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: \_\_\_\_\_

12.

**Closed-loop Systems 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.*

- Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- Siting Criteria Compliance Demonstrations (only for on-site closure) - 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: \_\_\_\_\_

Previously Approved Operating and Maintenance Plan    API Number: \_\_\_\_\_ *(Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)*

13.

**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 H<sub>2</sub>S, 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

14.

**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: X Drilling  Workover  Emergency  Cavitation  P&A  Permanent Pit  Below-grade Tank  Closed-loop System  
 Alternative

Proposed Closure Method: X 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 (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

**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.*

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

16.  
**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19.15.17.13.D NMAC)  
*Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.*

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_  
 Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?  
 Yes (If yes, please provide the information below)  No

*Required for impacted areas which will not be used for future service and operations:*

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 I of 19.15.17.13 NMAC  
 Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.  
**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 may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.*

Ground water is less than 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 type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 50 and 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 type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
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	<input type="checkbox"/> Yes <input 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 type="checkbox"/> No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, 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 type="checkbox"/> No
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. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 500 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 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 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 type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

18.  
**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 F of 19.15.17.13 NMAC  
 Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements 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 Subsection F of 19.15.17.13 NMAC  
 Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F 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 I of 19.15.17.13 NMAC  
 Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.

**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): Mark Bishop *Mark Bishop* Title: Production Foreman

Signature: \_\_\_\_\_ Date: 19 July 2010

e-mail address: mbishop@cimarex.com Telephone: 575-602-1002

20.

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

OCD Representative Signature: *Jeffrey Sekimay* Approval Date: 07/27/10

Title: environmental engineer OCD Permit Number: \_\_\_\_\_

21.

**Closure Report (required within 60 days of closure completion):** Subsection K of 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: \_\_\_\_\_

22.

**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.

23.

**Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**

*Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.*

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?

Yes (If yes, please demonstrate compliance to the items below)  No

Required for impacted areas which will not be used for future service and operations:

- Site Reclamation (Photo Documentation)
- Soil Backfilling and Cover Installation
- Re-vegetation Application Rates and Seeding Technique

24.

**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)
- 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 \_\_\_\_\_ Longitude \_\_\_\_\_ NAD:  1927  1983

25.

**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): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

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6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298  
 200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944  
 5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313  
 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260  
 E-Mail: lab@traceanalysis.com

### Certifications

WBENC: 237019

HUB: 1752439743100-86536  
NCTRCA WFWB38444Y0909

DBE: VN 20657

### NELAP Certifications

Lubbock: T104704219-08-TX  
LELAP-02003  
Kansas E-10317

El Paso: T104704221-08-TX  
LELAP-02002

Midland: T104704392-08-TX

## Analytical and Quality Control Report

Cheryl Winkler  
Cimarex-Midland  
600 N. Maryfield Street  
Suite 600  
Midland, TX, 79701-4405

Report Date: May 17, 2010

Work Order: 10043017



Project Name: Myers C SWD No. 2  
Project Number: Pit Closure Sample Assessment

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
230124	Baseline No. 1 (Pit)	soil	2010-04-27	11:00	2010-04-30
230125	Background	soil	2010-04-27	11:00	2010-04-30
230126	Regulatory Mix	soil	2010-04-27	11:20	2010-04-30

#### Comment(s)

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 7 pages and shall not be reproduced except in its entirety, without written approval of

TraceAnalysis, Inc.

**Notes:**

*For inorganic analyses, the term MQL should actually read PQL.*

**Standard Flags**

- U** - Not detected. The analyte is not detected above the SDL.
- J** - Estimated. The analyte is positively identified and the value is approximated between the SDL and MQL.
- B** - The sample contains less than ten times the concentration found in the method blank.
- JB** - The analyte is positively identified and the value is approximated between the SDL and MQL.  
The sample contains less than ten times the concentration found in the method blank.  
The result should be considered non-detect to the SDL.

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Dr. Blair Leftwich, Director  
Dr. Michael Abel, Project Manager

## Case Narrative

Samples for project Myers C SWD No. 2 were received by TraceAnalysis, Inc. on 2010-04-30 and assigned to work order 10043017. Samples for work order 10043017 were received intact at a temperature of 8.2 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	59566	2010-05-03 at 09:40	69593	2010-05-03 at 09:41
SPLP Cl	E 300.0	59856	2010-05-10 at 12:13	69927	2010-05-10 at 17:49

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10043017 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

## Analytical Report

**Sample: 230124 - Baseline No. 1 (Pit)**

Laboratory: Lubbock	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2010-05-03	Analyzed By: KV
QC Batch: 69593	Sample Preparation: 2010-05-03	Prepared By: KV
Prep Batch: 59566		

Parameter	Flag	SDL Based Result	SQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Chloride		<b>1830</b>	<b>1830</b>	<795	mg/Kg	500	795	3.25	1.59

**Sample: 230125 - Background**

Laboratory: Lubbock	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2010-05-03	Analyzed By: KV
QC Batch: 69593	Sample Preparation: 2010-05-03	Prepared By: KV
Prep Batch: 59566		

Parameter	Flag	SDL Based Result	SQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
Chloride	J	<b>270</b>	<325	<159	mg/Kg	100	159	3.25	1.59

**Sample: 230126 - Regulatory Mix**

Laboratory: Lubbock	Analytical Method: E 300.0	Prep Method: SPLP 1312
Analysis: SPLP Cl	Date Analyzed: 2010-05-10	Analyzed By: SS
QC Batch: 69927	SPLP Extraction: 2010-05-06	Prepared By: SS
Prep Batch: 59856	Sample Preparation: 2010-05-10	Prepared By: SS

Parameter	Flag	SDL Based Result	SQL Based Result	Method Blank Result	Units	Dilution	SDL	MQL (Unadjusted)	MDL (Unadjusted)
SPLP Chloride		<b>2.84</b>	<b>2.84</b>	<0.137	mg/L	1	0.137	0.5	0.137

**Method Blank (1)**

QC Batch: 69593	Date Analyzed: 2010-05-03	Analyzed By: KV
Prep Batch: 59566	QC Preparation: 2010-05-03	Prepared By: KV

Parameter	Flag	Result	Units	Reporting Limits
Chloride		<1.59	mg/Kg	1.59

**Method Blank (1)**

QC Batch: 69927                      Date Analyzed: 2010-05-10                      Analyzed By: SS  
Prep Batch: 59856                      QC Preparation: 2010-05-10                      Prepared By: SS

Parameter	Flag	Result	Units	Reporting Limits
SPLP Chloride		0.616	mg/L	0.137

**Laboratory Control Spike (LCS-1)**

QC Batch: 69927                      Date Analyzed: 2010-05-10                      Analyzed By: SS  
Prep Batch: 59856                      QC Preparation: 2010-05-10                      Prepared By: SS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	23.5	mg/L	1	25.0	<0.137	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Chloride	23.6	mg/L	1	25.0	<0.137	94	90 - 110	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1)    Spiked Sample: 230125**

QC Batch: 69593                      Date Analyzed: 2010-05-03                      Analyzed By: KV  
Prep Batch: 59566                      QC Preparation: 2010-05-03                      Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	830	mg/Kg	100	500	270	112	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	772	mg/Kg	100	500	270	100	80 - 120	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1)** Spiked Sample: 230126

QC Batch: 69927 Date Analyzed: 2010-05-10 Analyzed By: SS  
Prep Batch: 59856 QC Preparation: 2010-05-10 Prepared By: SS

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
SPLP Chloride	22.4	mg/L	1	25.0	2.84	78	49.8 - 149

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
SPLP Chloride	23.3	mg/L	1	25.0	2.84	82	49.8 - 149	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Standard (ICV-1)**

QC Batch: 69593 Date Analyzed: 2010-05-03 Analyzed By: KV

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-05-03

**Standard (CCV-1)**

QC Batch: 69593 Date Analyzed: 2010-05-03 Analyzed By: KV

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.8	100	85 - 115	2010-05-03

**Standard (CCV-1)**

QC Batch: 69927 Date Analyzed: 2010-05-10 Analyzed By: SS

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	25.0	23.6	94	90 - 110	2010-05-10

**Standard (CCV-2)**

QC Batch: 69927 Date Analyzed: 2010-05-10 Analyzed By: SS

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
SPLP Chloride		mg/L	25.0	23.3	93	90 - 110	2010-05-10

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Report Date: May 20, 2010

Work Order: 10043017

Page Number: 1 of 4

### Summary Report

Mark Bishop  
Cimarex-Midland  
600 N. Maryfield Street  
Suite 600  
Midland, TX 79701-4405

Report Date: May 20, 2010

Work Order: 10043017



Project Name: Myers C SWD No. 2  
Project Number: Pit Closure Sample Assessment

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
230124	Baseline No. 1 (Pit)	soil	2010-04-27	11:00	2010-04-30
230125	Background	soil	2010-04-27	11:00	2010-04-30
230126	Regulatory Mix	soil	2010-04-27	11:20	2010-04-30

Sample - Field Code	BTEX				TPH 418.1	TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TRPHC (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
230126 - Regulatory Mix	<0.0400	<0.0400	<0.0400	<0.0400	3140	1740	<4.00

**Sample: 230124 - Baseline No. 1 (Pit)**

Param	Flag	Result	Units	RL
Chloride		1830	mg/Kg	3.25

**Sample: 230125 - Background**

Param	Flag	Result	Units	RL
Chloride		<325	mg/Kg	3.25

**Sample: 230126 - Regulatory Mix**

Param	Flag	Result	Units	RL
SPLP Silver		<0.00500	mg/L	0.00500
SPLP Arsenic		<0.0100	mg/L	0.0100

continued ...

*sample 230126 continued ...*

Param	Flag	Result	Units	RL
SPLP Barium		<b>1.59</b>	mg/L	0.0100
SPLP Cadmium		<0.00500	mg/L	0.00500
SPLP Chloride		<b>2.84</b>	mg/L	0.500
SPLP Chromium		<0.00500	mg/L	0.00500
SPLP Cyanide		<0.0150	mg/L	0.0150
SPLP Fluoride		<0.200	mg/L	0.200
SPLP Mercury		<0.000200	mg/L	0.000200
Nitrate-N		<b>0.270</b>	mg/L	0.200
Naphthalene		<0.000200	mg/L	0.000200
Acenaphthylene		<0.000200	mg/L	0.000200
Acenaphthene		<0.000200	mg/L	0.000200
Dibenzofuran		<0.000200	mg/L	0.000200
Fluorene		<0.000200	mg/L	0.000200
Anthracene		<0.000200	mg/L	0.000200
Phenanthrene		<0.000200	mg/L	0.000200
Fluoranthene		<0.000200	mg/L	0.000200
Pyrene		<0.000200	mg/L	0.000200
Benzo(a)anthracene		<0.000200	mg/L	0.000200
Chrysene		<0.000200	mg/L	0.000200
Benzo(b)fluoranthene		<0.000200	mg/L	0.000200
Benzo(k)fluoranthene		<0.000200	mg/L	0.000200
Benzo(a)pyrene		<0.000200	mg/L	0.000200
Indeno(1,2,3-cd)pyrene		<0.000200	mg/L	0.000200
Dibenzo(a,h)anthracene		<0.000200	mg/L	0.000200
Benzo(g,h,i)perylene		<0.000200	mg/L	0.000200
SPLP Lead		<b>0.0270</b>	mg/L	0.00500
Total PCB		<0.000500	mg/L	0.000500
Aroclor 1016 (PCB-1016)		<0.000500	mg/L	0.000500
Aroclor 1221 (PCB-1221)		<0.000500	mg/L	0.000500
Aroclor 1232 (PCB-1232)		<0.000500	mg/L	0.000500
Aroclor 1242 (PCB-1242)		<0.000500	mg/L	0.000500
Aroclor 1248 (PCB-1248)		<0.000500	mg/L	0.000500
Aroclor 1254 (PCB-1254)		<0.000500	mg/L	0.000500
Aroclor 1260 (PCB-1260)		<0.000500	mg/L	0.000500
Aroclor 1268 (PCB-1268)		<0.000500	mg/L	0.000500
SPLP Selenium		<0.0200	mg/L	0.0200
SPLP U		<0.0300	mg/L	0.0300
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00

*continued ...*

*sample 230126 continued ...*

Param	Flag	Result	Units	RL
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00

*continued ...*

sample 230126 continued ...

Param	Flag	Result	Units	RL
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00