FEB - 5 2009

30-015-36340

Cimarex Energy Company of Colorado
Drilling Department
Dorsey Rogers
207 South Mesa
Carlsbad, New Mexico 8822
A wholly-owned subsidiary of Cimarex Energy Co., a NYSE Listed Company, "XEC"

Final Closure Report

Arroyo Vista 14 Federal #1 Reserve Drilling Pit, API: 30-015-36340
Sec. 14 22S 22E – Eddy County, New Mexico

DENIED

Presented to:

C-144 Final Closure Doc

New Mexico Oil Conservation Division

1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Prepared by:

Phoenix Environmental, LLC.

P.O. Box 1856
Hobbs, New Mexico 88240

TABLE OF CONTENTS

Item ***Pages(s)***

Section I

Regulatory Filing ***1-9***
C-144 ..... ***1-6***
Work Plan ***7-9***

Section II

Project Overview ***10***
Findings and Conclusions ***10***
Chronology of Operations ***11***
Certification ***12***

Section III

Soil Analysis Summary ***13***
On-Site Soil Analysis ***14***
Lab Analysis ***15-17***
Analytical QC Summary Report ***15-16***
Chain of Custody ***17***

Section IV

Site Maps/Drawings ***18-20***
Site Map Drawing ***18***
Regional TOPO Map ***19***
Local TOPO Map ***20***

IMPORTANT NOTICE:

Phoenix Environmental, LLC., with offices at 2113 French Drive, Hobbs, New Mexico 88241 (the Company), has prepared this project report for remediation of Arroyo Vista 14 Federal #1, to the best of its ability. No warranty, expressed or implied, is made or intended. The report was prepared for Cimarex Energy Company, with offices at 207 South Mesa, Carlsbad, New Mexico 88022, and (the Client). All information disclosed in this plan is for internal purposes only and is considered confidential. By accepting this document, the recipient agrees to keep confidential the information contained herein. The recipient further agrees not to copy, reproduce or distribute to any third party this project plan in whole or in part, without express written permission from the Company or Client.

SECTION I

AUG 27 2008
OCD-ARTESIA

Form C-144
July 21, 2008

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

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

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 Co._____ OGRID #:_____
Address: _PO Box 140907; Irving, TX 75014-0907_____
Facility or well name: _Arroyo Vista 14 Federal No. 1_____
API Number: _30-015-36340_____ OCD Permit Number: _____
U/L or Qtr/Qtr ___I___ Section ___14___ Township ___22S___ Range ___22E___ County: _____Eddy_____
Center of Proposed Design: Latitude ___32°-23'-21.23"-N_____ Longitude ___104°-40'-03.60"-W_____ ☐ 1927 ☐ 1983
Surface Owner: ☒ Federal ☐ 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 __20__ mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☒ Factory ☐ Other _____ Volume: __100_____ bbl Dimensions: L_80__ x W__40__ x D__10__

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	☐ Yes ☒ 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	☐ Yes ☒ 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	☐ Yes ☐ No ☒ 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	☐ Yes ☐ No ☒ 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	☐ Yes ☒ 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	☐ 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
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - 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. - FEMA map	☐ Yes ☒ 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_2S, 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: ☒ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☒ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Closed-loop System ☐ 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 (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.***

- ☒ 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
- ☒ 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 I of 19.15.17.13 NMAC
- ☒ 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 indentify 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: CRI Disposal Facility Permit Number: R9166

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	☐ Yes ☐ No ☐ 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	☐ Yes ☐ No ☐ 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	☐ Yes ☐ No ☐ 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	☐ 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 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	☐ Yes ☐ 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	☐ 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
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - 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. - FEMA map	☐ Yes ☐ 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): Dorsey Rogers Title: Drilling Supt.

Signature: [signature] Date: 8/26/2008

e-mail address: dorsey rogers @aol.com Telephone: 575 200 6605

20.
OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☒ OCD Conditions (see attachment)

OCD Representative Signature: Signed By Mike Bratcher **Approval Date** SEP 24 2008

Title: ______ **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: ______

PHOENIX ENVIRONMENTAL LLC

P.O. Box 1856 2113 French Dr. Hobbs, NM 88241-1856 Office 505-391-9685 Fax 505-391-9687

August 26, 2008

Cimarex Energy Co.
207 S. Mesa
Carlsbad, New Mexico 88220

Attn: Mr. Dorsey Rogers
Drilling Superintendent

RE: Work Plan for the Arroyo Vista 14 Fed #1 Drilling Pit Located in UL-I, Sec 14, T22S and R22E of Eddy County, New Mexico API # 30-015-36340

Dear Mr. Rogers:

Phoenix Environmental, LLC (Phoenix) would like to take this time to thank you and Cimarex Energy Co., for the opportunity to provide our professional services. Please find attached our work plan for the above listed site.

If you have any questions and/or need more data in regards to projects please call at any time. My cell phone is 575-631-8314.

Sincerely,

Allen Hodge, REM
VP Operations
Phoenix Environmental LLC

Summary/Overview

The Arroyo Vista 14 Fed #1 drilling pit should be completed and remediated in accordance with the standards of the NMOCD. It is our understanding that any potential contamination from the site was a result of activities associated with the drilling and production of oil and gas.

The potential contaminates of concern are mid to high-level concentrations of drilling mud and cuttings that were left in the pit once drilling and P&A operations and were completed.

The lands primary use is domestic pasture for ranching and the production of oil and gas.

The ground water depth data available for this area showed the depth to ground water to be in the 120' range BGS.

Pursuant to the standards of the NMOCD, the clean up level for this site will be at <2,500ppm of TPH, <50ppm for BTEX and Chlorides less than <1,000ppm.

The following scope of work was based on data from our site visit and the requirements of the NMOCD for site clean up following the new pit rule 19.15.17 NMAC that started on 6-16-08.

NOTE: The GRO & DRO Combined fraction, as determined by EPA SW-846 method 8015M not to exceed 500 mg/kg

Scope of Work for Off-Site Disposal

NOTE: Phoenix, for the purpose of this work plan, will estimate that there is approximately 1,700cyds of impacted soils at the site that needs to be addressed for site closure.

1. Phoenix will mobilize to the site located northwest of Carlsbad, NM equipment and personnel necessary to start and complete the site remediation as required, getting the site back into compliance with the requirements of subsection G of 19.15.17.13 NMAC.

2. At the site a staging area will be set up for site control and safety.

3. The impacted soils will be excavated, stabilized and loaded into trucks for off-site disposal.

4. Impacted soils at the site will then be transported to a NMOCD approved disposal facility for disposal (CRI Permit #9166).

5. Phoenix will field screen the site during the excavation, and, once the TPH BTEX and CL has dropped below clean-up requirements, final samples will be taken and sent to a third party lab for analysis and tested for BTEX 8021 B, TPH 418.1, TPH 8015 GRO/DRO and CL (chlorides) to meet the requirements of subsection D of 19.15.17.13 NMAC.

6. Once all of the remediation criteria have been met for site closure and compliance, the site will be backfilled with clean material from the site and contoured with a crown to prevent the ponding of water to meet the requirements of subsection H of 19.15.17.13 NMAC.

7. The site will be reseeded once backfilling operations have been completed to meet the requirements of subsection I of 19.15.17.13 NMAC

8. Once all of the closure criteria have been met, a final closure report will be prepared by Phoenix. This report will include a summary of remediation operations, findings on-site and lab analysis, site maps and project photos to meet the requirements of subsection K of 19.15.17.13 NMAC.

If you have any questions and/or need more data in regards to this project please call 505-631-8314 at any time.

Sincerely;

Allen Hodge, REM
VP Operations
Phoenix Environmental LLC

SECTION II

Project Overview

Phoenix Environmental, LLC. (Phoenix) was contracted for the closure of a reserve-drilling pit on the Arroyo Vista 14, Federal #1, belonging to Cimarex Energy Co... The Arroyo Vista 14 Federal #1 is located in Section 14 T22S R22E. The GPS Reading is 32°23'21.23"N & 104°40'03.60"W, with an elevation of 4381 feet above sea level. The land, in and around the site, is primarily used as domestic pasture for ranching and the production of oil and gas. The pit site is located on the south side of the location.

The potential contaminates of concern were mid- to high-level concentrations of drilling mud and cuttings that were left in the pit once drilling and P&A operations were completed.

The ground water depth data available from the State of New Mexico Engineers' office showed the vertical depth to the top of water to be about 120 feet below surface.

Pursuant to the NMOCD guidelines for clean up of unlined surface impoundments, the clean up level for this site will be at <500 ppm for TPH (Total Petroleum Hydrocarbons) and <50 ppm for BTEX (Benzene, Toluene, Ethylbenzene, and Xylene). The NMOCD has also asked for CL (Chlorides) be returned back as close to background levels as possible or <1,000 ppm.

Findings and Conclusion

It appeared that in excess of 700 cubic yards of impacted soil were impacted in the pit area with the dimensions of 60x25x12. Impacted soils at the site were transported to a NMOCD approved disposal facility for disposal. (CRI Permit # 9166)

The bottom of the excavation (approximately 8 feet) was tested for TPH, BTEX & Chlorides to make certain that the target limits had been met prior to backfilling and compaction for closure. The site cleaned up well with vertical depth of impact, listed above at 8 feet and not impacting groundwater. All of the final lab analyses were below the NMOCD guidelines for unlined surface impoundments (refer to attached laboratory reports for actual levels.)

The site was backfilled and compacted with clean backfill and contoured with a crown back to grade to prevent ponding on the area. The site was reseeded and should vegetate very well with upcoming rains.

Chronology of Operations

1. *September 8, 2008 – Phoenix mobilized on-site. The first order on the agenda was a tailgate safety meeting to review any potential safety concerns of the site and to cover the clean- up operations. (Please note that a daily safety meeting is the first order of the day before any work begins on site). New Mexico One Call was notified of the intent to finish the pit closure*

2. *September 9, 2008 – Crew began excavating impacted soils from the reserve drilling pit and loaded the soils into trucks. Trucks hauled 140 cubic yards of drilling mud and cuttings off site to CRI (Permit #9166), a NMOCD disposal facility.*

3. *September 10, 2008 – Crew continued to excavate impacted soils from the reserve drilling pit and loaded into trucks. Trucks hauled 240 cubic yards of impacted soil off site for disposal.*

4. *September 11, 2008 – Crew continued to excavate contents of the reserve drilling pit and load the contents into trucks. Trucks hauled 80 cubic yards of drilling mud and cuttings off- site for disposal.*

5. *September 12, 2008 - Crew continued to excavate contents of the reserve drilling pit and load the contents into trucks. Trucks hauled 120 cubic yards of drilling mud and cuttings off- site for disposal.*

6. *September 13, 2008 - Crew continued to excavate contents of the reserve drilling pit and load the contents into trucks. Trucks hauled 100 cubic yards of drilling mud and cuttings off- site for disposal*

7. *September 15, 2008 – Crew finished hauling impacted soil, from the reserve drilling pit to disposal. A total of 20 cubic yards was taken to disposal on this date. The bottom of the work over pit was cleaned. Final samples were taken and sent to a third party laboratory for analysis of Chlorides for final verification of limits. (Please refer to attached reports, pages 13 through 17 of this report).*

8. *September 16, 2008 – Crew push in material from location to backfill work over pit. Final contouring and compactions was implemented to return the site back to grade. Contouring was completed with a crown to prevent rainwater ponding.*

Limitations

Phoenix Environmental LLC has prepared this report to the best of its ability. No other warranty expressed, implied or intended is made.

This report has been prepared for Cimarex Energy Company of Colorado our client. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent from Phoenix Environmental LLC and/or the client.

Certification

The following Phoenix/Cimarex personnel have reviewed this report and verify that to the best of their knowledge the contents are true and correct.

Name: ***Allen Hodge, REM # 7096***

Signature: _____

Title: VP Operations
Phoenix Environmental LLC

Name: ***Dorsey Rogers***

Signature: _____

Title: Drilling Superintendent
Cimarex Energy Company of Colorado

SECTION III

SUMMARY SOIL ANALYSIS REPORT

Client: Cimarex Energy Co.
Supervisor: Allen Hodge
Sample Matrix: Soil

Facility: Arroyo Vista 14 Fed. #1
Order No.: Dorsey Rogers
Samples Received: Intact on site

Initial Project Screening

Sample	Date	Depth	Chlorides	TPH	BTEX	Location	Test Method
#1							
#2							
#3							
#4							
#5							
#6							

Samples reported in parts per million (ppm) and depth is in feet (') and inches (")

Interim Project Screening

Sample	Date	Depth	Chlorides	PID TPH	PID BTEX	Location	Test Method
#1	9/15/08	8'	150			Southeast quarter	EPA 325.3
#2	9/15/08	8'	150			Northeast quarter	EPA 325.3
#3	9/15/08	8'	170			Center	EPA 325.3
#4	9/15/08	8'	160			Northwest quarter	EPA 325.3
#5	9/15/08	8'	150			Southwest quarter	
#6	9/15/08	0-6"	<50			Background	
#7							
#8							
#9							
#10							
#11							
#12							
#13							
#14							
#15							
#16							

Samples reported in parts per million (ppm) and depth is in feet (') and inches (")

Final (Third Party Laboratory) Project Screening Verification

Sample	Date	Depth	Chlorides	TPH	BTEX	Location	Test Method
#1	9/29/08	8'	176	<1.00	<0.01	Southeast quarter	See Report
#2	9/29/08	8'	160	<1.00	<0.01	Northeast quarter	See Report
#3	9/29/08	8'	202	<1.00	<0.01	Center	See Report
#4	9/29/08	8'	137	<1.00	<0.01	Northwest quarter	See Report
#5	9/29/08	8'	158	<1.00	<0.01	Southwest quarter	See Report
#6	9/29/08	0-6"	104	<1.00	<0.01	Background	See Report
#7							

Samples reported in parts per million (ppm) and depth is in feet (') and inches (")

Phoenix Environmental, LLC.
P.O. Box 1856 – 2113 French Drive
Hobbs, New Mexico 88241
505.391.9685 – FAX: 505.391.9687

SOIL ANALYSIS REPORT

Date: 9/15/08
Client: Cimarex Energy Co.
Supervisor: Allen Hodge
Sample Matrix: Soil

Facility: Arroyo Vista 14, Fed #1
Test Method: EPA 325.3
Order No.: Dorsey Rogers
Sample Received: Intact on site

Sample	Cl (ppm)	Depth (feet)	Location
#1	150	8′	Southeast Quarter
#2	150	8′	Northeast Quarter
#3	170	8′	Center
#4	160	8′	Northwest Quarter
#5	150	8′	Southwest Quarter
#6	<50	0-6″	Background

COMMENTS: Sample does not meet limits for NMOCD guidelines for unlined pit closure.

Summary Report

Dorsey Rogers
Cimarex
207 S. Mesa
Carlsbad, NM, 88220

Report Date: October 1, 2008

Work Order: 8092928

Project Location: UL-I-Sec. 14, T22S-R22E, Eddy Co., NM
Project Name: Arroyo Vista 14 Fed. #1
Project Number: API 30-015-36340

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
174954	Southeast 1/4 @ 8'	soil	2008-09-26	14:00	2008-09-29
174955	Northeast 1/4 @ 8'	soil	2008-09-26	14:15	2008-09-29
174956	Center @ 8'	soil	2008-09-26	14:30	2008-09-29
174957	Northwest 1/4 @ 8'	soil	2008-09-26	14:45	2008-09-29
174958	Southwest 1/4 @ 8'	soil	2008-09-26	15:00	2008-09-29
174959	Background @ 0-6"	soil	2008-09-26	15:30	2008-09-29

	BTEX				MTBE	TPH 418.1	TPH DRO	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	TRPHC	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
174954 - Southeast 1/4 @ 8'	<0.0100	<0.0100	<0.0100	<0.0100		<10.0	<50.0	<1.00
174955 - Northeast 1/4 @ 8'	<0.0100	<0.0100	<0.0100	<0.0100		<10.0	<50.0	<1.00
174956 - Center @ 8'	<0.0100	<0.0100	<0.0100	<0.0100		<10.0	<50.0	<1.00
174957 - Northwest 1/4 @ 8'	<0.0100	<0.0100	<0.0100	<0.0100		<10.0	<50.0	<1.00
174958 - Southwest 1/4 @ 8'	<0.0100	<0.0100	<0.0100	<0.0100		<10.0	<50.0	<1.00
174959 - Background @ 0-6"	<0.0100	<0.0100	<0.0100	<0.0100		<10.0	<50.0	<1.00

Sample: 174954 - Southeast 1/4 @ 8'

Param	Flag	Result	Units	RL
Chloride		**176**	mg/Kg	3.25

Sample: 174955 - Northeast 1/4 @ 8'

Param	Flag	Result	Units	RL
Chloride		**160**	mg/Kg	3.25

Sample: 174956 - Center @ 8'

Param	Flag	Result	Units	RL
Chloride		**202**	mg/Kg	3.25

Sample: 174957 - Northwest 1/4 @ 8'

Param	Flag	Result	Units	RL
Chloride		**137**	mg/Kg	3.25

Sample: 174958 - Southwest 1/4 @ 8'

Param	Flag	Result	Units	RL
Chloride		**158**	mg/Kg	3.25

Sample: 174959 - Background @ 0-6"

Param	Flag	Result	Units	RL
Chloride		**104**	mg/Kg	3.25

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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Lubbock, Texas 79424
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Ft. Worth, Texas 76116
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Company Name: Phoenix Environmental LLC
Phone #: 575-391-9685
Address: (Street, City, Zip) P.O. Box 1856, Hobbs, NM 88241
Fax #: 575-391-9687
Contact Person: Allen Hodge
E-mail: EAHodge@leaco
Invoice to: (If different from above) Cimarex
Project #: API 30-015-36340
Project Name: Arroyo Vista 14 Fed #1
Project Location (including state): UL-I-Sec-14-T22S-R22E Eddy Co, NM
Sampler Signature: Allen Hodge

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021B / 602 / 8260B / 624	BTEX 8021B / 602 / 8260B / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C / 625	PCB's 8082 / 608	Pesticides 8081A / 608	BOD, TSS, pH	Moisture Content	Chlorides					Turn Around Time if different from standard	Hold
174954	SouthEast ¼ @ 8'	1	402		X							X		9-26-08	2:00	X	X	X	X	X												X						
955	NorthEast ¼ @ 8'	1			X							X			2:15	X	X	X	X	X												X						
956	Center @ 8'	1			X							X			2:30	X	X	X	X	X												X						
957	NorthWest ¼ @ 8'	1			X							X			2:45	X	X	X	X	X												X						
958	SouthWest ¼ @ 8'	1			X							X			3:00	X	X	X	X	X												X						
959	Background @ 0-6"	1			X							X			3:30	X	X	X	X	X												X						

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
	Phoenix	9-29-08	2:07					
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	Temp°c:
						0929 08	1407	3.1

LAB USE ONLY
Intact Y / N
Headspace Y / N NA
Log-in-Review EZ

REMARKS:
2-Day Rush

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Carrier #

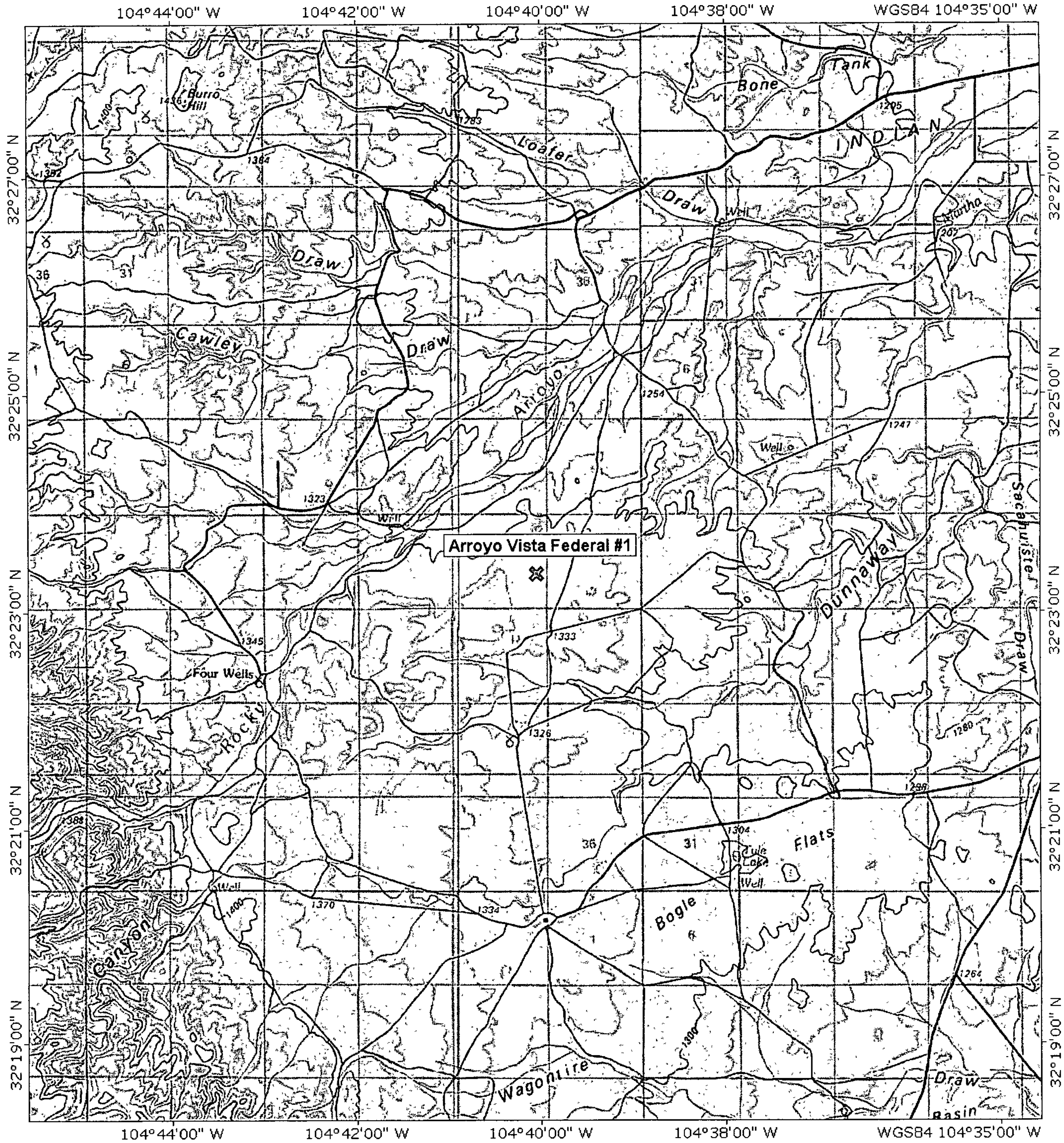
OCT - 1 2008 EP

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

ORIGINAL COPY

SECTION IV

TOPO! map printed on 01/22/09 from "Untitled.tpo"

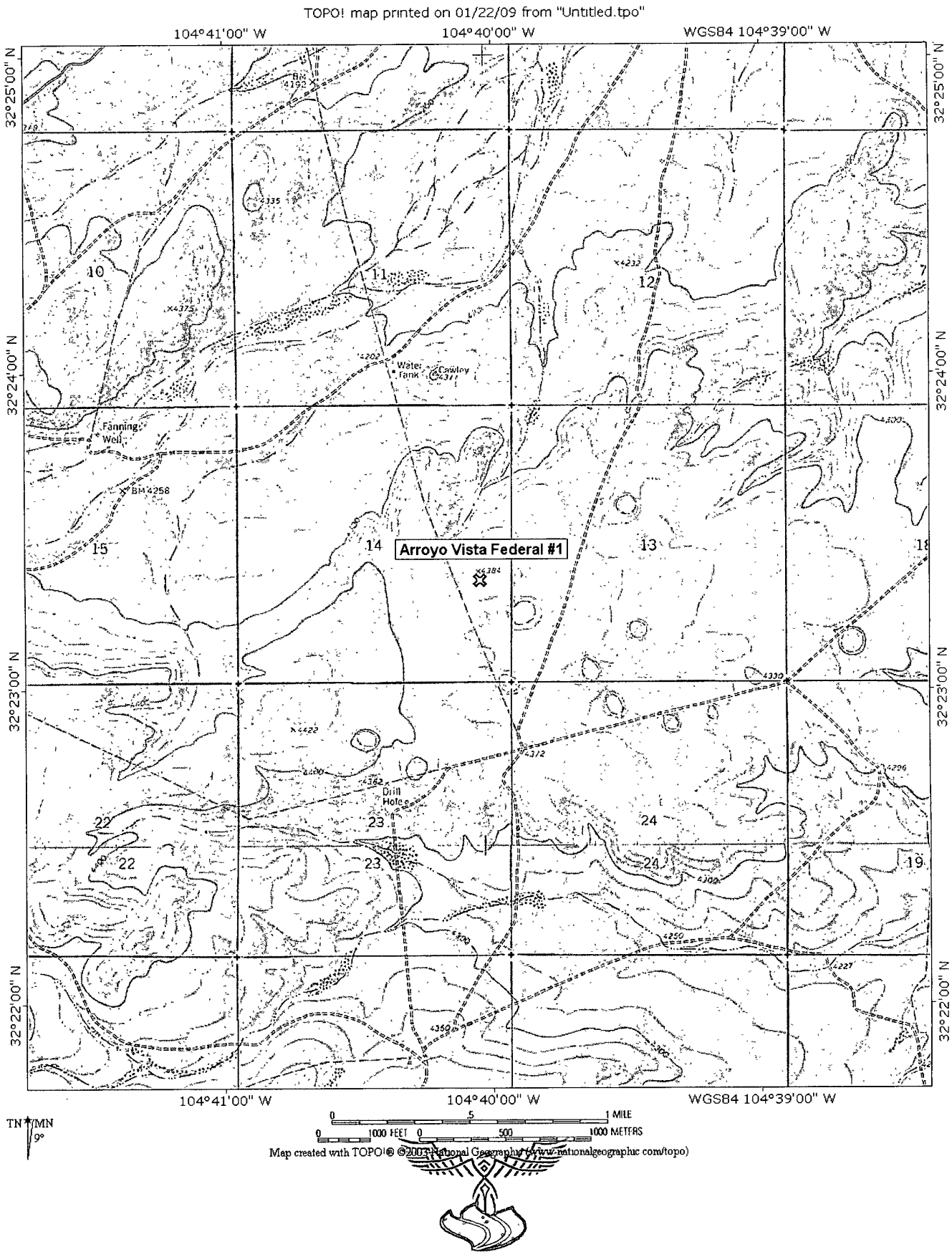


TN MN 9°

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 miles

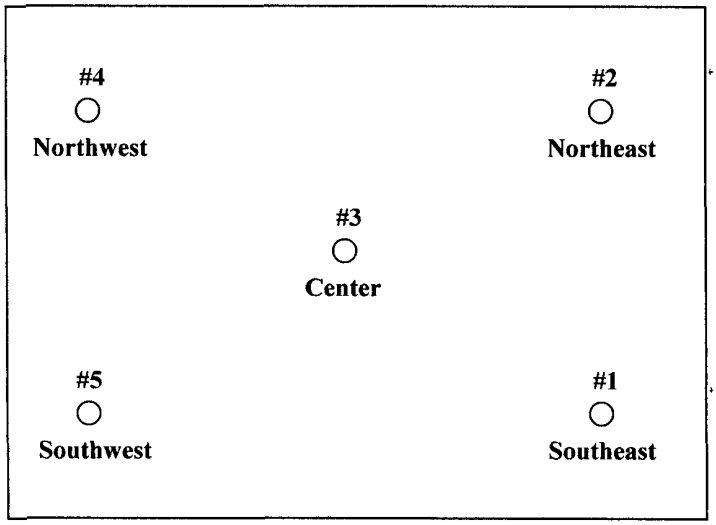
0 1 2 3 4 5 km

Map created with TOPO!® ©2003 National Geographic (www nationalgeographic com/topo)


TOPO! map printed on 01/22/09 from "Untitled.tpo"
104°41'00" W
104°40'00" W
WGS84 104°39'00" W
32°25'00" N
32°24'00" N
32°23'00" N
32°22'00" N
Arroyo Vista Federal #1
Fanning Well
Water Tank
Cowley
Drill Hole
BM 4192
BM 4258
10
11
12
13
14
15
22
23
24
19
TN
MN
9°
0 5 1 MILE
0 1000 FEET 0 500 1000 METERS
Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

Cimarex Energy

Arroyo Vista 14 Fed #1
UL-I SEC-14 – T22S – R22E
API # 30 – 015 – 36340
N32° - 23' – 21.23" – W104° - 40' – 03.60"



#6
Background

1. N32° 23' 22.5" – W104° 40' 03.8"
2. N32° 23' 22.8" – W104° 40' 03.8"
3. N32° 23' 22.7" – W104° 40' 04.3"
4. N32° 23' 22.6" – W104° 40' 04.8"
5. N32° 23' 22.9" – W104° 40' 04.7"
6. N32° 23' 23.2" – W104° 40' 02.8"