

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: **WHITING OIL & GAS CORPORATION OGRID #: 25078**
Address: **400 W ILLINOIS STE 1300 MIDLAND, TEXAS 79701**
Facility or well name **STATE 2028 16 WELL # 1**
API Number: **30-021-20630** OCD Permit Number: 186189
U/L or Qtr/Qtr **G** Section **16** Township **20N** Range **28E** County: **HARDING COUNTY**
Center of Proposed Design: Latitude 35.965136 Longitude -103.968225 NAD: ☒ 1927 ☐ 1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

** Amendment to original closure
C144 plan approved 6/3/2014
will be using Trench burial as
on-site closure method, rather
than in-place Burial.
See 19.15.17.13*

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 **20** mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☒ String-Reinforced
Liner Seams: ☒ Welded ☐ Factory ☐ Other _____ Volume: **10,700** bbl Dimensions: L **100** x W **100** x D **6'**

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 _____

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 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 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 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 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 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 type="checkbox"/> No |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality | <input type="checkbox"/> Yes <input 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 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 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 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

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): KAY MADDOX Title: REGULATORY SUPERVISOR

Signature: Kay Maddox Date: 02/16/2015

e-mail address: KAY.MADDOX@WHITING.COM Telephone: 432.686.6709

18. **OCD Approval:** ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☒ OCD Conditions (see attachment) *e-mail 03.26.15*

OCD Representative Signature: Leonel Truu Approval Date: 03/26/15

Title: Environmental 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: 02/10/2015

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 35.893075 Longitude -104.024406 NAD: ☐ 1927 ☐ 1983

STATE 2028 16 Well # 1
30-021-20630
Section 16, t20N, R28E, Unit ltr G
Harding County, NM

Whiting Oil & Gas respectfully requests to amend the C-144 Temporary Pit permit submitted 5/30/2014 and approved 6/3/2014 from in-place burial to onsite trench burial. Whiting changed the mud system while drilling this well which resulted in more pit contents than the previous wells drilled. Following this well, Whiting adjusted by making the temporary pits deeper to compensate for the increased amount of waste material. To close the pit by the in-place burial method the pit would have a tall humped up cover over it once the required 4 feet topsoil cover was in place. This could possibly affect the erosion of the topsoil which is why Whiting requests to bury the waste material by the on-site trench method.

Whiting Oil & Gas will adhere and comply to the following on-site trench burial requirements.

19.15.17 NMAC

K. Burial trenches for closure. The operator shall design and construct a burial trench in accordance with the following requirements.

- (1) A trench shall have a properly constructed foundation and side walls consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear.
- (2) Geotextile is required under the liner where needed to reduce localized stress-strain or protuberances that may otherwise compromise the liner's integrity.
- (3) A trench shall be constructed with a geomembrane liner. The geomembrane shall consist of a 20-mil string reinforced LLDPE liner or equivalent liner that the appropriate division district office approves. The geomembrane liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. Liner compatibility shall comply with EPA SW-846 Method 9090A.
- (4) The operator shall minimize liner seams and orient them up and down, not across, a slope. The operator shall use factory welded seams where possible. Prior to field seaming, the operator shall overlap liners four to six inches and orient liner seams parallel to the line of maximum slope, i.e., oriented along, not across, the slope. The operator shall minimize the number of field seams in corners and irregularly shaped areas. Qualified personnel shall perform field welding and testing.
- (5) The operator shall install sufficient liner material to reduce stress-strain on the liner.
- (6) The operator shall ensure that the outer edges of all liners are secured for the deposit of the excavated waste material into the trench.

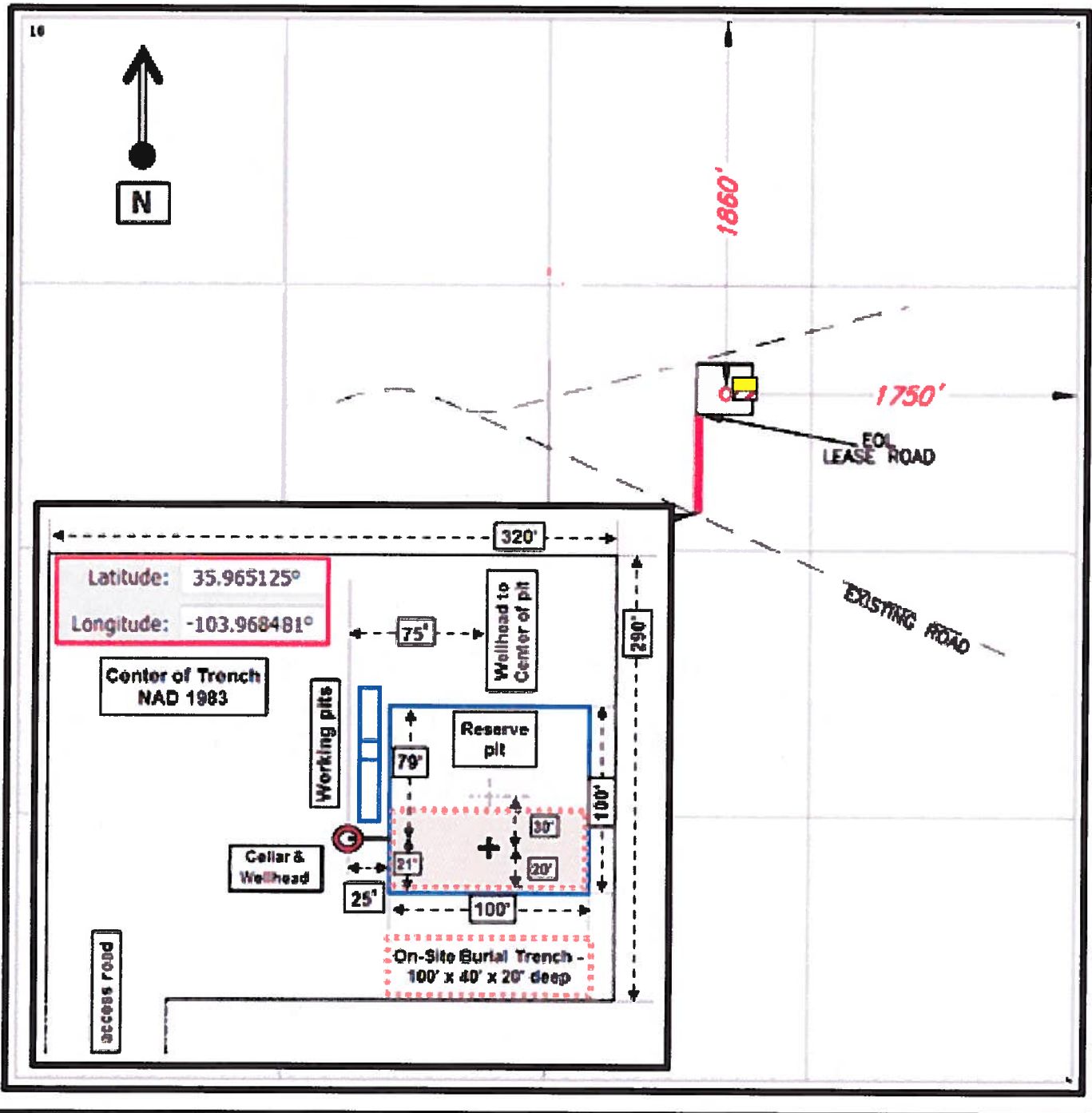
Pit Location

Whiting Petroleum Corporation

State 2028 #16-1

T-20-N, R-28E, Section 16 NMPM

Harding County, New Mexico



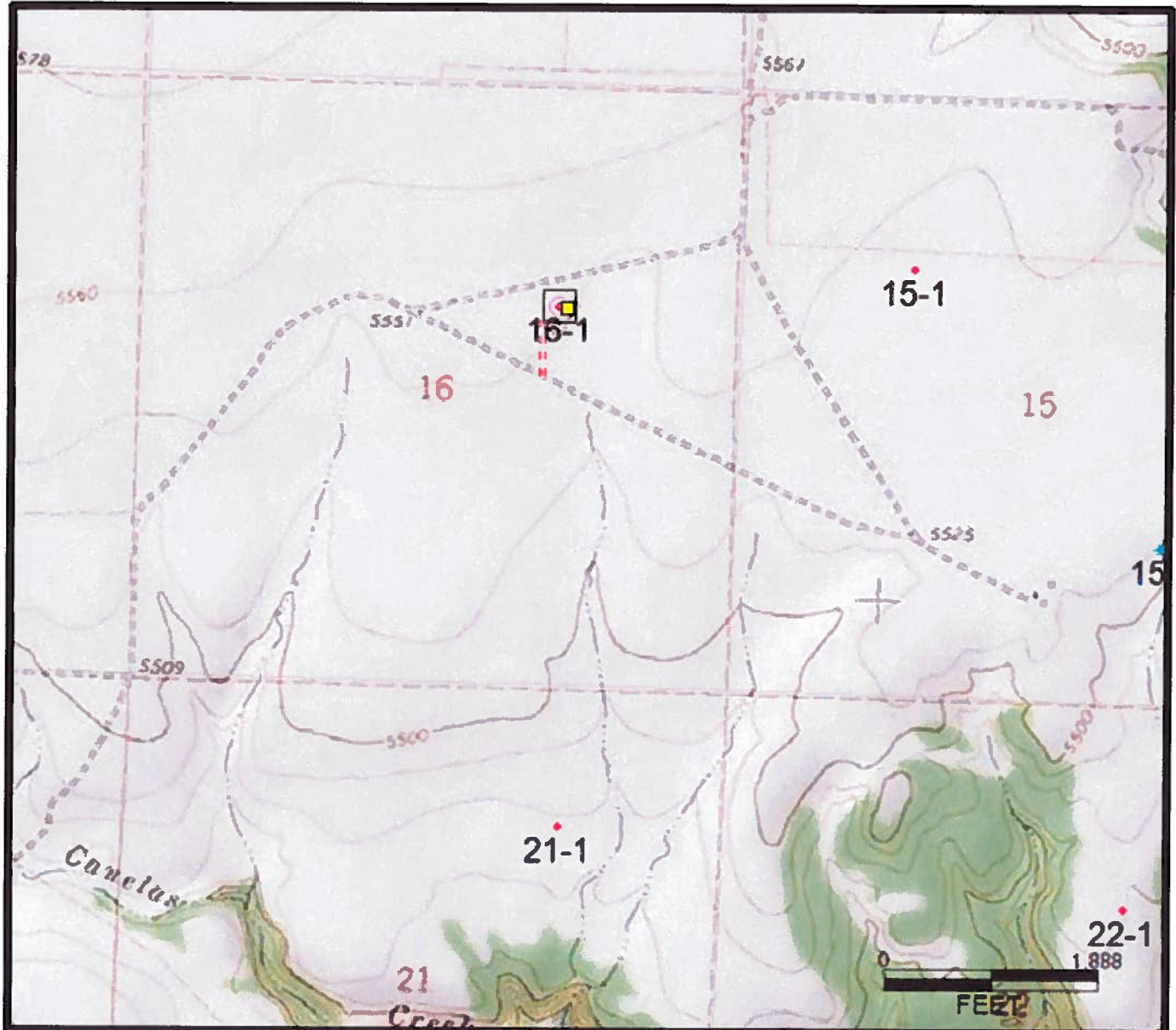
Topo Map

Whiting Petroleum Corporation

State 2028 #16-1

T-20-N, R-28E, Section 16 NMPM

Harding County, New Mexico



From: [Kay Maddox](#)
To: [Lowe, Leonard, EMNRD](#); [Jones, William V, EMNRD](#); [Griswold, Jim, EMNRD](#)
Cc: [Robert McNaughton](#)
Subject: RE: State 2028 16 #1 Pit Closure
Date: Tuesday, March 17, 2015 12:27:04 PM
Attachments: [NM STATE 2028 16 WELL#1 ON-SITE TRENCH BURIAL .pdf](#)

Leonard- -

Please see attached data per your request below. One note however... you asked that page 6 be signed – I believe that page 6 cannot be signed UNTIL the pit is actually closed,....am I missing something?

Please let me know if this is the data that you require.

Thank you for your time and attention!

Kay

Kay Maddox

Regulatory Supervisor

Whiting Petroleum Corporation

and its wholly owned subsidiary

Whiting Oil and Gas Corporation

400 West Illinois Avenue, Suite 1300

Midland, TX 79701

Direct (432) 686-6709

Cell (432) 638-8475

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From: Lowe, Leonard, EMNRD [mailto:Leonard.Lowe@state.nm.us]
Sent: Friday, March 13, 2015 10:37 AM
To: Kay Maddox; Jones, William V, EMNRD; Griswold, Jim, EMNRD
Cc: Danny Holcomb (djholcomb75@gmail.com); Danny Holcomb; Robert McNaughton
Subject: RE: State 2028 16 #1 Pit Closure
Importance: High

Kay Maddox,

Good morning,

Re: State 2028 16, API # 30-021-20630, C-144 closure modification.

The OCD request that Whiting:

1. Submit another C-144 for the on-site trench burial. Whiting is changing the design and closure entirely from its previously approved temporary pit onsite. The submitted C-144 can be abbreviated, for this incident only, and does not need to have all the additional information, as that information was submitted within the previous C-144.

2. What is needed is
 - The 6 paged C-144 with for the NEW ON-SITE TRENCH BURIAL, appropriately signed.
 - Reason for the new closure method.
 - Design/Closure of method of trench as in 19.15.17.11.K
 - The location of the trench in reference to the temporary pit.
3. Once received the OCD will review and notify Whiting of its trench proposal.
4. The Operator shall continue to close the original temporary pit in accordance to its approved C-144 approved on June 3, 2015. And complete all follow up in reference to closure.

Thank you,

Leonard Lowe
Environmental Engineer
[Environmental 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: Kay Maddox [<mailto:Kay.Maddox@whiting.com>]
Sent: Monday, February 16, 2015 2:04 PM
To: Lowe, Leonard, EMNRD; Jones, William V, EMNRD
Cc: Danny Holcomb (djholcomb75@gmail.com); Danny Holcomb; Robert McNaughton
Subject: State 2028 16 #1 Pit Closure

Leonard –

Danny went by and looked at the pit for the State 2028 16 Well # 1 this past weekend and has determined that this pit needs to be closed by the on-site trench burial method also. Danny does not think that he will get it done by March 4. Whiting respectfully requests a 90 day extension to get this temporary pit closed. Please see attached C-103 for pit closing extension and amended C-144 for on-site trench burial closure method.
Thank you for your time and patience.

Kay

Kay Maddox

Regulatory Supervisor

Whiting Petroleum Corporation

and its wholly owned subsidiary

Whiting Oil and Gas Corporation

400 West Illinois Avenue, Suite 1300

Midland, TX 79701

Direct (432) 686-6709

Cell (432) 638-8475

kay.maddox@whiting.com

www.whiting.com

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From: Lowe, Leonard, EMNRD
To: ["Kay Maddox"; Jones, William V, EMNRD; Griswold, Jim, EMNRD](#)
Cc: [Robert McNaughton](#)
Subject: APPROVED MOD State 2028 16 #1 Pit Closure
Date: Thursday, March 26, 2015 2:53:00 PM
Importance: High

Kay Maddox,

Good afternoon

OCD has reviewed your request and has approved it. The approved C-144 is located online.

API # 30-021-20630, State 2028 # 16 - 1

Reminder that the initial C-144 that was approved on June 40th 2014 for the temporary pit still needs to be closed according to its closure plan.

Leonard Lowe

Environmental Engineer

[Environmental 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/oed/>

From: Kay Maddox [mailto:Kay.Maddox@whiting.com]
Sent: Tuesday, March 17, 2015 12:27 PM
To: Lowe, Leonard, EMNRD; Jones, William V, EMNRD; Griswold, Jim, EMNRD
Cc: Robert McNaughton
Subject: RE: State 2028 16 #1 Pit Closure

Leonard- -

Please see attached data per your request below. One note however... you asked that page 6 be signed – I believe that page 6 cannot be signed UNTIL the pit is actually closed,...am I missing something?

Please let me know if this is the data that you require.

Thank you for your time and attention!

Kay

Kay Maddox