

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: **THORNTON 2027 33 WELL # 1**  
API Number: **30-021-20648** OCD Permit Number: 188815  
U/L or Qtr/Qtr G Section 33 Township 20N Range 27E County: **HARDING COUNTY**  
Center of Proposed Design: Latitude 35.921969 Longitude -104.071511 NAD: ☒ 1927 ☐ 1983  
Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

RECEIVED OGD  
2015 APR 29 P 3: 44

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 \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☐ String-Reinforced  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

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

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

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

6.

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

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

7.

**Signs:** Subsection C of 19.15.17.11 NMAC

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

8.

**Variances and Exceptions:**

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

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

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

9.

**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

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

**General siting**

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

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

☐ Yes ☐ No  
☐ NA

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

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

☐ Yes ☐ No  
☐ NA

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

- FEMA map

☐ Yes ☐ No

**Below Grade Tanks**

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 100 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

### **Temporary Pit Non-low chloride drilling fluid**

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;

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

☐ Yes ☐ No

Within 300 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

### **Permanent Pit or Multi-Well Fluid Management Pit**

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

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

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

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

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10.

#### **Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC

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

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC

and 19.15.17.13 NMAC

- ☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

11.

#### **Multi-Well Fluid Management Pit Checklist:** Subsection B of 19.15.17.9 NMAC

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

- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC

and 19.15.17.13 NMAC

- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

- ☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

12.

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

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

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC  
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  
☐ Climatological Factors Assessment  
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Quality Control/Quality Assurance Construction and Installation Plan  
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Nuisance or Hazardous Odors, including 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

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.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is between 25-50 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><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).<br>- 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.<br>- 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.<br>- 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.<br>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

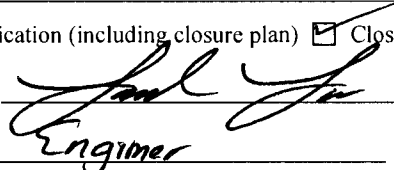
17.  
**Operator Application Certification:**  
 I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): \_\_\_\_\_ Title: \_\_\_\_\_

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

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

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

OCD Representative Signature:  Approval Date: 05/05/15

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: 04/08/2015

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)

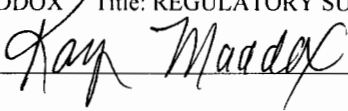
On-site Closure Location: Latitude 35.921969 Longitude -104.071511 NAD: ☒ 1927 ☐ 1983

**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): KAY MADDOX Title: REGULATORY SUPERVISOR

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



Date: 04/24/2015

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

**WHITING OIL AND GAS CORPORATION  
PIT CLOSURE REPORT**

THORNTON 2027 33 Well #1  
API NO 30-021-20648

- 1) The pit will be closed within six (6) months from the date that the drilling or workover rig is released. If necessary, the division district office may grant an extension not to exceed three (3) months.

**The Drlg rig was released 10/14/2014 after drilling this well**

- 2) Surface Owners will be notified by Certified mail at least 72 hours but not more than one week prior to closure of the Temporary pit. The notice shall include well name, API number and location.

**Reference attached notification**

- 3) The Appropriate Division District Office (OCD) will be notified verbally and in writing at least 72 hours but not more than one week prior to closure of the Temporary pit. The notice shall include well name, API number and location.

**NMOCD was notified via email – reference attached copy of email**

- 4) If on site burial is on PRIVATE LAND, Whiting will file a deed notice identifying the exact location of the onsite burial with the county clerk in county where onsite burial occurs

**Certified Recorded Deed Notice attached**

- 5) All liquids from the pit will be removed prior to closure. Liquids will be disposed of at the Sundance Services, Inc. Parabo Disposal Facility (Permit No. 010003), unless they are recycled, reused, or reclaimed in a division district office-approved manner.

**Liquids from pit evaporated, no removal was required.**

- 6) The pit will be stabilized with clean non-waste containing earthen material with a ratio no more than 3:1

**Pit was stabilized with non-waste containing earthen material in order to achieve the solidification process. The solidification process was accomplished by using a combination of natural drying and Mechanically mixing. Pit contents were mixed with non-waste, earthen material to a consistency that is deemed safe and stable. The mixing ratio consisted of approximately 3 parts clean soil to 1 part pit contents.**

- 7) After stabilization, the contents of the pit will be tested to determine whether concentrations are below standards. A five-point composite sample will be collected. The samples will be sent to an approved laboratory and analyzed for benzene, total BTEX, TPH, the GRO and DRO combined fraction, and chlorides. Assuming water could be encountered around 100', the following should not be exceeded:

- Chlorides (ads determined by EPA method 300.1): 40,000 mg/kg or background concentration, whichever is greater
- TPH (EPA SW-846 method 418.a or other division-approved EPA method): 2500 mg/kg.
- GRO and DRO combined fraction (EPA SW-846 method 8015M): 1000 mg/kg.
- BTEX (EPA SW-846 method 8021B or 8260B or other approved EPA method): 50 mg/kg
  - Benzene (EPA SW-846 method 8021B or 8260B or other approved EPA method): 10 mg/kg

**A five point composite sample was taken of the pit using sample tools and all samples tested per Subsection B of 19.15.17.1 3(B)(1)(b) results attached.**

- 8) If the contents are above the concentration limits after stabilization Whiting will comply with 19.15.17.13.C (Waste Excavation and Removal)

**Not necessary**

- 9) If it is determined that contents of the pit doesn't exceed the above-specified concentrations, the pit will be covered with compacted, non-waste-containing, earthen material. A division-prescribed soil cover will be constructed and the site will be re-contoured and re-vegetated, per Subsections D, E, F, G, H, of 19.15.17.13 NMAC

**The pit material passed solidification and testing standards. The pit area was then back filled with compacted, non-waste containing earthen material.**

- 10) All areas associated with the pit that are no longer being used will be substantially restored to the condition that existed prior to oil and gas operations by placement of the soil cover re-contouring to match original contours and surrounding topography, and re-vegetating.

**This was done – please see attached pictures**

- 11) If an alternative to the re-vegetation requirements is required to prevent erosion, protect fresh water, or protect human health and the environment, this alternative will be proposed to the surface owner. The proposed alternative, with written documentation demonstrating that the surface owner approves the alternative, will be submitted to the division for approval.

**No alternative is required**

- 12) Soil cover will consist of 4' of non-waste containing earthen material with chloride concentrations less than 600mg/KG including 1' of topsoil

**Four feet of non-waste earthen cover was achieved including one foot of suitable material to establish vegetation.**

- 13) All contents, including synthetic pit liners, will be buried in place. By folding outer edges of the pit liner to overlap waste material, and then installing a geomembrane liner cover that is 20 mil string reinforced LLDPE, synthetic material, impervious, resistant to ultra violet light, petroleum hydrocarbons, salts, acid and alkaline.

**These was done including placing a 20 mil LLDPE liner cover**

- 14) Soil cover will be constructed to the site's existing grade and will prevent ponding of water and erosion of the cover material.

**This was done – reference attached photos**

- 15) The first favorable growing season following pit closure, all disturbed areas associated with the pit and no longer being used will be seeded or planted.

**This area will be re-seeded during the next growing season in this area**

**– reference attached letter**

- 16) Seeding will be accomplished by drilling on the contour whenever practical, or by other division-approved methods. Vegetative cover will be considered complete when there is a life form ratio of +/- 50% of pre-disturbance levels with at least 70% total plant cover of pre-disturbance level (Excluding Noxious Weeds) OR in accordance to 19.15.17.13.H.5.d

**This will be done during the next growing season in this area**

- 17) Seeding or planting will be repeated until the required vegetative cover is successfully achieved.

**Whiting will comply**

- 18) When conditions aren't favorable for the establishment of vegetation (such as during periods of drought), the division will be contacted for approval to delay seeding or planting, or for approval to use additional cultural techniques such as mulching, fertilizing, irrigating, fencing, etc.

**Attached letter**

- 19) The division will be notified when seeding or planting is completed, and when successful re-vegetation has been achieved.

**Whiting will comply**

- 20) Place a steel marker at the center of the onsite burial. The marker shall be 4" diameter, at least 4' high and cemented 3' deep. The following will be welded, stamped or otherwise permanently engraved into the marker; operator name, lease name, well number and location, unit letter, section, township, range, and that the marker designates an onsite burial

**Reference attached pictures**

- 21) Within 60 days of closure, completion, a closure report will be submitted on form C-144, with necessary attachments, to document closure activities, including sampling results, a plot plan, and backfilling details. In this closure report, Whiting will certify that all information in the report and attachments is correct and that Whiting has complied with all applicable closure requirements and conditions specified in the approved Closure Plan. A plat of the temporary pit location will be provided on form C-105.



March 26, 2015


Karen Thornton  
206 Thornton Trail  
Jacksboro, TX 76458

RE: Notification to Surface Owner of On-Site Drilling Pit Closure  
Well: THORNTON 2027 33 Well # 1  
Harding County, NM

Whiting Oil & Gas proposes to close and remediate the surface land according to all rules and regulations noted in Subsection E of 19.15.17.13 NMAC around APRIL 8, 2015

If you have any additional question please contact Kay Maddox @ 432.686.6709.

Sincerely,

  
Kay Maddox  
Regulatory Supervisor

Mailed by certified mail to above listed party on this the 26th day of MARCH , 2015

  
Signed: Kay Maddox- Regulatory Supervisor

7011-3500-0002-4991-1830  
Certified Mail Number

*Whiting Petroleum Corporation  
and its wholly owned subsidiary  
Whiting Oil and Gas Corporation*

400 W. Illinois Avenue, Suite 1300, Midland, TX 79701 Office: 432.686.6700 Fax 432.686.6799

## Kay Maddox

---

**From:** Kay Maddox  
**Sent:** Thursday, March 26, 2015 3:34 PM  
**To:** Lowe, Leonard, EMNRD (Leonard.Lowe@state.nm.us)  
**Subject:** Notification of Temporary Pit Closure

Whiting proposes to close the following temporary pits :

**CANDELARIO 1928 10 Well # 1**

30-021-20659

T19N, R28E, Section 10, Unit Ittr J

1660 FSL & 1660 FEL

Will close pit around April 7, 2015

**THORTON 2027 33 WELL # 1**

30-021-20648

T20N, R27W, SECTION 33, Unit Ittr G

1674 FNL & 1754 FEL

Will close pit around April 8, 2015

**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](mailto:kay.maddox@whiting.com)

[www.whiting.com](http://www.whiting.com)

The information contained in this message may be privileged and confidential and protected from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by replying to this message and deleting it from your computer.

STATE OF NEW MEXICO

COUNTY OF HARDING

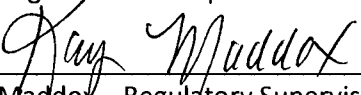
**NOTICE OF PIT CLOSURE**

In accordance with Section 19.15.17.13.E.4 of the NMOCD , the operator hereby provides notice of an on-site burial of a temporary Oil & Gas drilling pit. All rules and regulations of Rule 19.15.17 have been adhered to.

Lease name: THORNTON 2027 33  
Well No: 1  
API No: 30-021-20648  
TWN & RGE: TWN 20N RGE 27E Section 33  
Unit Letter: G  
Footages: 1674 FNL & 1754 FEL  
Date of Closure: 04/08/2015

IN WITNESS WHEREOF, the recordation notice of Pit Closure/burial has been executed on the date indicated below by undersigned.

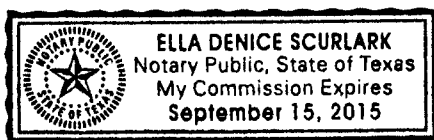
Whiting Petroleum Corporation  
And its wholly owned subsidiary  
Whiting Oil & Gas Corporation

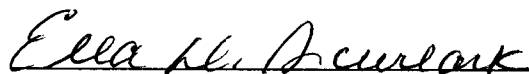
  
\_\_\_\_\_  
Kay Maddox – Regulatory Supervisor

STATE OF TEXAS  
COUNTY OF MIDLAND

This instrument was acknowledged before me this 13TH day of APRIL, 2015, by

Kay Maddox on behalf of Whiting Oil & Gas Corporation.



  
\_\_\_\_\_  
Notary Public

HARDING COUNTY, NM  
RECEPTION# 21034  
04/22/2015 09:21:30 AM  
BK 19 PAGE 11360  
1 of 1  
BY CJ GARRISON, DEPUTY

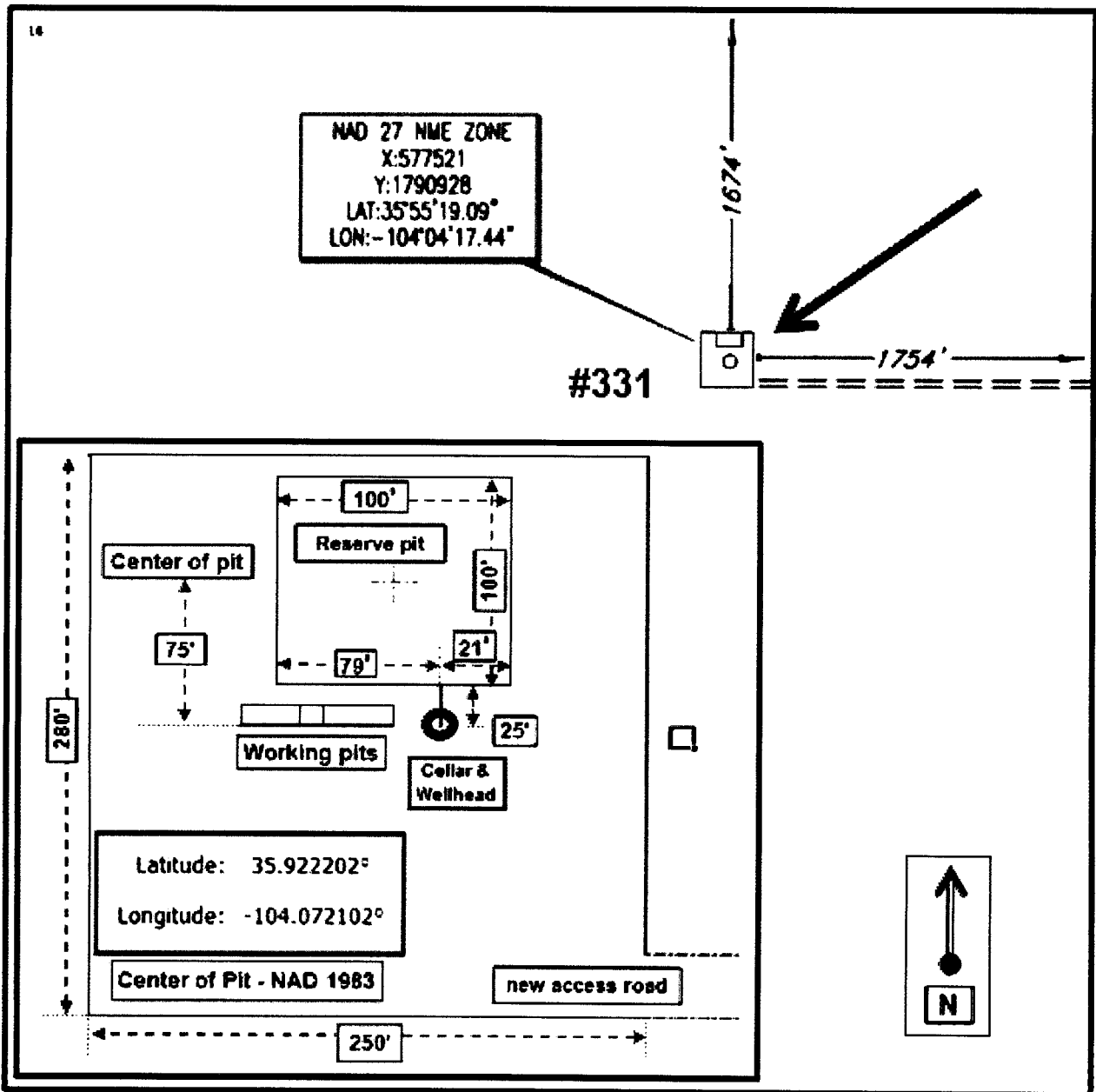
# Pit Location

Whiting Petroleum Corporation

Thornton 2027 #331

T-20-N, R-27E, Section 33 NMPM

Harding County, New Mexico





Thornton 2027 33 #1

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

March 12, 2015

ROBERT MCNAUGHTON

WHITING OIL & GAS

400 W. ILLINOIS, SUITE 1300

MIDLAND, TX 79701

RE: WEST BRAVO DOME

Enclosed are the results of analyses for samples received by the laboratory on 03/06/15 9:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CANDELARIO 1928 #101	H500617-01	Soil	05-Mar-15 09:30	06-Mar-15 09:00
DAHL 1928 #061	H500617-02	Soil	05-Mar-15 10:20	06-Mar-15 09:00
LEWIS 2028 #351	H500617-03	Soil	05-Mar-15 11:00	06-Mar-15 09:00
GALVESTON 2028 #301	H500617-04	Soil	05-Mar-15 11:30	06-Mar-15 09:00
THORNTON 2027 #331	H500617-05	Soil	05-Mar-15 12:30	06-Mar-15 09:00

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

**CANDELARIO 1928 #101**
**H500617-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**
**Inorganic Compounds**

Chloride	768		16.0	mg/kg	4	5030510	AP	09-Mar-15	4500-Cl-B
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**Organic Compounds**

TPH 418.1	1080		100	mg/kg	10	5031201	CK	12-Mar-15	418.1
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Toluene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Ethylbenzene*	0.055		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Total Xylenes*	ND		0.150	mg/kg	50	5030903	ms	09-Mar-15	8021B
Total BTEX	ND		0.300	mg/kg	50	5030903	ms	09-Mar-15	8021B

Surrogate: 4-Bromofluorobenzene (P11)		116 %		61-154		5030903	ms	09-Mar-15	8021B
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10	ND		10.0	mg/kg	1	5030603	MS	06-Mar-15	8015B
DRO >C10-C28	23.1		10.0	mg/kg	1	5030603	MS	06-Mar-15	8015B

Surrogate: 1-Chlorooctane		87.5 %		47.2-157		5030603	MS	06-Mar-15	8015B
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Surrogate: 1-Chlorooctadecane		93.3 %		52.1-176		5030603	MS	06-Mar-15	8015B
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

**DAHL 1928 #061**  
**H500617-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	240		16.0	mg/kg	4	5030510	AP	09-Mar-15	4500-Cl-B	
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**Organic Compounds**

TPH 418.1	369		100	mg/kg	10	5031201	CK	12-Mar-15	418.1	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B	
Toluene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B	
Ethylbenzene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B	
Total Xylenes*	ND		0.150	mg/kg	50	5030903	ms	09-Mar-15	8021B	
Total BTEX	ND		0.300	mg/kg	50	5030903	ms	09-Mar-15	8021B	
Surrogate: 4-Bromofluorobenzene (P11)			118 %	61-154		5030903	ms	09-Mar-15	8021B	


**Petroleum Hydrocarbons by GC FID**

GRO C6-C10	ND		10.0	mg/kg	1	5030603	MS	06-Mar-15	8015B	
DRO >C10-C28	15.8		10.0	mg/kg	1	5030603	MS	06-Mar-15	8015B	
Surrogate: 1-Chlorooctane			88.2 %	47.2-157		5030603	MS	06-Mar-15	8015B	
Surrogate: 1-Chlorooctadecane			92.5 %	52.1-176		5030603	MS	06-Mar-15	8015B	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

**LEWIS 2028 #351**  
**H500617-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	320		16.0	mg/kg	4	5030510	AP	09-Mar-15	4500-Cl-B
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**Organic Compounds**

TPH 418.1	1220		100	mg/kg	10	5031201	CK	12-Mar-15	418.1
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Toluene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Ethylbenzene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Total Xylenes*	ND		0.150	mg/kg	50	5030903	ms	09-Mar-15	8021B
Total BTEX	ND		0.300	mg/kg	50	5030903	ms	09-Mar-15	8021B

Surrogate: 4-Bromofluorobenzene (P11)			114 %		61-154	5030903	ms	09-Mar-15	8021B
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10	ND		10.0	mg/kg	1	5030604	MS	07-Mar-15	8015B
DRO >C10-C28	40.5		10.0	mg/kg	1	5030604	MS	07-Mar-15	8015B

Surrogate: 1-Chlorooctane			93.0 %		47.2-157	5030604	MS	07-Mar-15	8015B
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Surrogate: 1-Chlorooctadecane			89.2 %		52.1-176	5030604	MS	07-Mar-15	8015B
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

**GALVESTON 2028 #301**  
**H500617-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	624		16.0	mg/kg	4	5030510	AP	09-Mar-15	4500-Cl-B
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**Organic Compounds**

TPH 418.1	1300		100	mg/kg	10	5031201	CK	12-Mar-15	418.1
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Toluene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Ethylbenzene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Total Xylenes*	ND		0.150	mg/kg	50	5030903	ms	09-Mar-15	8021B
Total BTEX	ND		0.300	mg/kg	50	5030903	ms	09-Mar-15	8021B

Surrogate: 4-Bromofluorobenzene (PID)		116 %	61-154		5030903	ms	09-Mar-15	8021B
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10	ND		10.0	mg/kg	1	5030604	MS	07-Mar-15	8015B
DRO >C10-C28	ND		10.0	mg/kg	1	5030604	MS	07-Mar-15	8015B

Surrogate: 1-Chlorooctane		100 %	47.2-157		5030604	MS	07-Mar-15	8015B
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Surrogate: 1-Chlorooctadecane		107 %	52.1-176		5030604	MS	07-Mar-15	8015B
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

### THORNTON 2027 #331

H500617-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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### Cardinal Laboratories

#### Inorganic Compounds

Chloride	160		16.0	mg/kg	4	5030510	AP	09-Mar-15	4500-Cl-B
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#### Organic Compounds

TPH 418.1	964		100	mg/kg	10	5031201	CK	12-Mar-15	418.1
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#### Volatile Organic Compounds by EPA Method 8021

Benzene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Toluene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Ethylbenzene*	ND		0.050	mg/kg	50	5030903	ms	09-Mar-15	8021B
Total Xylenes*	ND		0.150	mg/kg	50	5030903	ms	09-Mar-15	8021B
Total BTEX	ND		0.300	mg/kg	50	5030903	ms	09-Mar-15	8021B
Surrogate: 4-Bromofluorobenzene (PID)			113 %	61-154		5030903	ms	09-Mar-15	8021B

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10	ND		10.0	mg/kg	1	5030604	MS	07-Mar-15	8015B
DRO >C10-C28	ND		10.0	mg/kg	1	5030604	MS	07-Mar-15	8015B
Surrogate: 1-Chlorooctane			92.8 %	47.2-157		5030604	MS	07-Mar-15	8015B
Surrogate: 1-Chlorooctadecane			96.4 %	52.1-176		5030604	MS	07-Mar-15	8015B

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

**Inorganic Compounds - Quality Control**  
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
<b>Batch 5030510 - 1:4 DI Water</b>								
<b>Blank (5030510-BLK1)</b>				Prepared & Analyzed: 05-Mar-15				
Chloride	ND	16.0	mg/kg					
<b>LCS (5030510-BS1)</b>				Prepared & Analyzed: 05-Mar-15				
Chloride	400	16.0	mg/kg	400	100	80-120		
<b>LCS Dup (5030510-BSD1)</b>				Prepared & Analyzed: 05-Mar-15				
Chloride	416	16.0	mg/kg	400	104	80-120	3.92	20

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

### Organic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 5031201 - Solvent Extraction</b>										
<b>Blank (5031201-BLK1)</b>					Prepared & Analyzed: 12-Mar-15					
TPH 418.1	ND	100	mg/kg							
<b>LCS (5031201-BS1)</b>					Prepared & Analyzed: 12-Mar-15					
TPH 418.1	6220	100	mg/kg	5000		124	70-130			
<b>LCS Dup (5031201-BSD1)</b>					Prepared & Analyzed: 12-Mar-15					
TPH 418.1	6250	100	mg/kg	5000		125	70-130	0.449	20	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

**Volatile Organic Compounds by EPA Method 8021 - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5030903 - Volatiles**
**Blank (5030903-BLK1)**

Prepared &amp; Analyzed: 09-Mar-15

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							

Surrogate: 4-Bromofluorobenzene (P11)	0.0569		mg/kg	0.0500		114	61-154			
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**LCS (5030903-BS1)**

Prepared &amp; Analyzed: 09-Mar-15

Benzene	1.96	0.050	mg/kg	2.00		97.8	77.1-114			
Toluene	1.84	0.050	mg/kg	2.00		91.9	67-114			
Ethylbenzene	2.09	0.050	mg/kg	2.00		105	63.5-121			
Total Xylenes	5.64	0.150	mg/kg	6.00		94.0	62.4-125			

Surrogate: 4-Bromofluorobenzene (P11)	0.0524		mg/kg	0.0500		105	61-154			
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**LCS Dup (5030903-BS1)**

Prepared &amp; Analyzed: 09-Mar-15

Benzene	2.17	0.050	mg/kg	2.00		109	77.1-114	10.5	16.4	
Toluene	1.96	0.050	mg/kg	2.00		98.1	67-114	6.52	16.2	
Ethylbenzene	2.26	0.050	mg/kg	2.00		113	63.5-121	7.91	17	
Total Xylenes	6.22	0.150	mg/kg	6.00		104	62.4-125	9.81	17	

Surrogate: 4-Bromofluorobenzene (P11)	0.0528		mg/kg	0.0500		106	61-154			
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

**Petroleum Hydrocarbons by GC FID - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5030603 - General Prep - Organics**
**Blank (5030603-BLK1)**

Prepared &amp; Analyzed: 06-Mar-15

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	47.8		mg/kg	50.0		95.6	47.2-157			
Surrogate: 1-Chlorooctadecane	53.5		mg/kg	50.0		107	52.1-176			

**LCS (5030603-BS1)**

Prepared &amp; Analyzed: 06-Mar-15

GRO C6-C10	188	10.0	mg/kg	200		94.0	72.5-115			
DRO >C10-C28	196	10.0	mg/kg	200		98.2	81.3-118			
Total TPH C6-C28	384	10.0	mg/kg	400		96.1	80-113			
Surrogate: 1-Chlorooctane	48.3		mg/kg	50.0		96.5	47.2-157			
Surrogate: 1-Chlorooctadecane	50.8		mg/kg	50.0		102	52.1-176			

**LCS Dup (5030603-BSD1)**

Prepared &amp; Analyzed: 06-Mar-15

GRO C6-C10	191	10.0	mg/kg	200		95.7	72.5-115	1.83	10.1	
DRO >C10-C28	199	10.0	mg/kg	200		99.5	81.3-118	1.27	15.3	
Total TPH C6-C28	390	10.0	mg/kg	400		97.6	80-113	1.54	12.1	
Surrogate: 1-Chlorooctane	49.6		mg/kg	50.0		99.2	47.2-157			
Surrogate: 1-Chlorooctadecane	51.6		mg/kg	50.0		103	52.1-176			

**Batch 5030604 - General Prep - Organics**
**Blank (5030604-BLK1)**

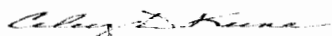
Prepared: 06-Mar-15 Analyzed: 07-Mar-15

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	47.8		mg/kg	50.0		95.7	47.2-157			
Surrogate: 1-Chlorooctadecane	51.5		mg/kg	50.0		103	52.1-176			

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

WHITING OIL & GAS  
400 W. ILLINOIS, SUITE 1300  
MIDLAND TX, 79701

Project: WEST BRAVO DOME  
Project Number: NONE GIVEN  
Project Manager: ROBERT MCNAUGHTON  
Fax To: NONE

Reported:  
12-Mar-15 11:59

**Petroleum Hydrocarbons by GC FID - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 5030604 - General Prep - Organics**
**LCS (5030604-BS1)**

Prepared: 06-Mar-15 Analyzed: 07-Mar-15

GRO C6-C10	194	10.0	mg/kg	200		96.8	72.5-115			
DRO >C10-C28	200	10.0	mg/kg	200		100	81.3-118			
Total TPH C6-C28	394	10.0	mg/kg	400		98.5	80-113			
Surrogate: 1-Chlorooctane	50.6		mg/kg	50.0		101	47.2-157			
Surrogate: 1-Chlorooctadecane	52.5		mg/kg	50.0		105	52.1-176			

**LCS Dup (5030604-BSD1)**

Prepared: 06-Mar-15 Analyzed: 07-Mar-15

GRO C6-C10	201	10.0	mg/kg	200		100	72.5-115	3.70	10.1	
DRO >C10-C28	210	10.0	mg/kg	200		105	81.3-118	4.50	15.3	
Total TPH C6-C28	411	10.0	mg/kg	400		103	80-113	4.11	12.1	
Surrogate: 1-Chlorooctane	52.4		mg/kg	50.0		105	47.2-157			
Surrogate: 1-Chlorooctadecane	52.8		mg/kg	50.0		106	52.1-176			

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

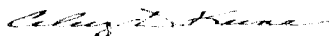
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Cardinal Laboratories

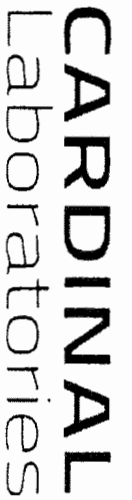
\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

**WHITING OIL & GAS CORPORATION****Workover and Completion Report**

Well Name: Thornton 2027#331 Field: Other Date: 04/08/15 Day: 20 Type: Initial Completion  
 API: 30-021-20648 Move On Date: 10/1/2014 AFE #: 14-1127-01 Rig: NA Supv DH Depth: 2,917  
 Present Operation: Well Shut In

Csg: 5-1/2" 15.5# J-55 Liner: N/A  
 Rods: N/A Perfs: 2696' - 2710' and 2733'-2743' (0.42 Hole 6 sqf)  
 Tbg: None

[Click to Calc. HP - Hrs](#)

GHG Gas Vol(Mcf)	Dur. Hrs?	#### mcf/d	% of gas	Flared	Gas Volume Estimated ??	Producing Method
Total Rig Hrs: 0	Daily Activity		GHG Event Total HP/Hr (Units > 130 HP)	0	for #### hrs	Units <= 130 HP (Count)

3/25/15

MI Hartley Construction dirt equipment to begin reserve pit closure. Mix contents with clean dirt to stabilize contents.

3/30/15

Mix pit contents with additional clean dirt to stabilize contents. MO dirt equipment.

4/8/15

MI Hartley Construction dirt equipment to perform reserve pit closure per NMOCD rules. Remove barbed wire fencing and posts. Mix pit contents with additional clean dirt to stabilize contents. Cover stabilized cuttings with new 20 mil LLDPE liner cap, fold over outside edges of pit liner bottom, cover new liner cap with a minimum of 4 feet of dirt cover, work rocks down into fill, MO dirt equipment. Install 4.5" OD steel pit burial marker in center of pit burial (set in concrete). NMOCD notified and not present.

Will final blade surface and reseed pit closure area during planting season. Danny

**Costs:**Expense Account CodesCapital Account CodesCommentsAmount

811.94 Contract Services and Equipmer Hartley Construction - pit closure

\$ 17,400.00

811.39 Contract Labor

EWC

\$ 1,800.00

811.94 Contract Services and Equipmer Renegade Wireline - BHP survey

\$ 4,248.00

811.94 Contract Services and Equipmer Pacheco Trucking - dewater pit

\$ 6,000.00

Daily Total: \$ 29,448.00

Prev. Total:



APRIL 24, 2015

Mr. Leonard Lowe  
New Mexico Oil Conservation Division  
1220 S. St. Francis Dr  
Santa Fe, NM 87505

RE: Pit Closure

Dear Mr. Lowe,

Whiting Oil & Gas shall re-seed the disturbed Pit area for the well listed below. The re-seeding shall occur in the next rainy season documented for Harding County, New Mexico approximately August/September 2015.

If you have additional question please contact me @ 432.686.6709 or [kay.maddox@whiting.com](mailto:kay.maddox@whiting.com)  
Thank you for your time.

Sincerely,

Kay Maddox  
Regulatory Supervisor

THORNTON 2027 33 Well # 1  
30-021-20648  
Harding County, New Mexico

*Whiting Petroleum Corporation  
and its wholly owned subsidiary  
Whiting Oil and Gas Corporation*

400 W. Illinois Avenue, Suite 1300, Midland, TX 79701 Office: 432.686.6700 Fax 432.686.6799



# Whiting Oil & Gas Corporation

THORNTON 2027 #331

UNIT G. SEC. 33. T20N. R27E

1674' FNL & 1754' FEL

API #30-021-20648 HARDING CO.. NM

Looking  
East



Looking North





Looking  
West.

Looking South





DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240

State of New Mexico

Form C-102

DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

Energy, Minerals, and Natural Resources Department

Revised October 12, 2005

Submit to Appropriate District Office

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

State Lease - 4 copies

Fee Lease - 3 copies

Santa Fe, New Mexico 87505

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-021-20648	<sup>2</sup> Pool Code 98104	<sup>3</sup> Pool Name WILDCAT; Tubb CO <sub>2</sub> GAS POOL
<sup>4</sup> Property Code 313463	<sup>5</sup> Property Name THORNTON 2027 33	<sup>6</sup> Well Number 1
<sup>7</sup> GRID No. 25078	<sup>8</sup> Operator Name WHITING OIL & GAS CORPORATION	<sup>9</sup> Elevation 5694'

<sup>10</sup>Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	33	20 NORTH	27 EAST, N.M.P.M.		1674'	NORTH	1754'	EAST	HARDING

<sup>11</sup>Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<sup>12</sup> Dedicated Acres 160	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.						

NO ALLOWABLE WELL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<sup>16</sup> <div>NAD 27 NME ZONE X:577521 Y:1790928 LAT:35°55'19.09" LON:-104°04'17.44"</div>		<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: Kay Maddox Date: 7/8/2014 Printed Name: KAY MADDOX
		<sup>18</sup> SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. MAY 14, 2014 Date of Survey Signature and Seal of Professional Surveyor  Certificate Number V. Lynn Bezner P.S. #7920 FILE:LO_THORNTON_2027_33_1 K.Y.

Submit 1 Copy To Appropriate District  
Office  
District I - (575) 393-6161  
1625 N. French Dr., Hobbs, NM 88240  
District II - (575) 748-1283  
811 S. First St., Artesia, NM 88210  
District III - (505) 334-6178  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV - (505) 476-3460  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

State of New Mexico  
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-103  
Revised July 18, 2013

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-021-20648
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator WHITING OIL AND GAS CORPORATION		6. State Oil & Gas Lease No.
3. Address of Operator 400 W ILLINOIS STE 1300 MIDLAND, TX 79701		7. Lease Name or Unit Agreement Name THORNTON 2027 33
4. Well Location Unit Letter G 1674 feet from the NORTH line and 1754 feet from the EAST line Section 33 Township 20N Range 27E NMPM County HARDING		8. Well Number 1
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 5694' GR		9. OGRID Number 25078
		10. Pool name or Wildcat WILDCAT; TUBB CO2 GAS POOL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

**NOTICE OF INTENTION TO:**  
PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐  
DOWNHOLE COMMINGLE ☐  
CLOSED-LOOP SYSTEM ☐  
OTHER: ☐

**SUBSEQUENT REPORT OF:**  
REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐  
OTHER: ☒ CLOSED TEMP PIT

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

PLEASE CHANGE LEASE NAME FROM THORNTON 2027 WELL # 331 TO THORNTON 2027-33 WELL # 001

10/02/2014 SPUD WELL

10/03/2014 DRLD 12.25 HOLE, RAN 9 5/8 J-55 36# CSG SET @773', W/ 350 SXS CMT (12.10 PPG, 2.40 YIELD)  
+ 150 SXS CMT TAIL (14.8 PPG 1.34 YIELD) 213 SXS CMT CIRC TO SURFACE, TST CSG 600# FOR 30 MIN HELD

10/13/2014 TD 2917

10/14/2014 DRLD 8.75 HOLE TO TD 2918, RAN 5 1/2" J-55 15.5# CSG SET @ 2917' W/600 SXS CMT (12.10 PPG, 2.40 YEILD)  
+ 300 SXS CMT TAIL (14.80, 1.34 YIELD) TOTAL 900 SXS CMT, DID NOT CIRC CMT TO SURF, TSTD  
CSG TO 600# FOR 30 MIN -HELD

10/14/2014 RELEASED RIG

CLOSED TEMPORARY PIT

Spud Date: 10/02/2014

Rig Release Date: 10/14/2014

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Kay Maddox TITLE: REGULATORY ANALYST DATE: 04/24/2015

Type or print name Kay Maddox E-mail address: [kay.Maddox@Whiting.com](mailto:kay.Maddox@Whiting.com) PHONE: 432-638-8475

**For State Use Only**

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
Conditions of Approval (if any): \_\_\_\_\_