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.

12185

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

21-20636

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: Oxy USA INC. OGRID #: 16696
Address: PO Box 4294, Houston,TX 77210
Facility or well name: Bravo Dome Carbon Dioxide Gas Unit #272K
API Number: 30-021-20636 OCD Permit Number: 187248
U/L or Qtr/Qtr K Section 27 Township 19N Range 33E County: HARDING
Center of Proposed Design: Latitude 35 50 44.74 Longitude 103 25 18 49 NAD: ☒1927 ☐ 1983
Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

RCVD SEP 5'14
OIL CONS. DIV.
DIST. 3

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: 4,600 bbl Dimensions: L 75 x W 75 x D 4.5

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

25

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_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

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	☐ Yes ☒ No ☐ 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	☐ 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 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	☐ 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 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	☐ Yes ☒ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ 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
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 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

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): L. Kiki Lockett Title: Regulatory Specialist

Signature: [signature] for Kiki Lockett Date: 08/04/2015

e-mail address: kiki_lockett@oxy.com Telephone: 713-215-7643

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

OCD Representative Signature: [signature] **Approval Date:** 9/9/14

Title: Environmental Spec. **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:**

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 ________ Longitude ________ NAD: ☐1927 ☐ 1983

22.

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: _____

VARIANCE REQUEST:

Temporary Pit Closure

The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial. The marker will include a threaded collar to be used for future abandonment. The variance will provide equal or better protection of fresh water, public health and the environment.

- While the well pad is active the top of the marker will contain a welded steel 12" square plate that including the following: Operator Name, Lease Name, Well name and number, Unit Letter, Section, Township, Range and an indicator that the marker is an onsite burial location

- Upon the abandonment of all the wells on the pad. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information include the following: Operator Name, Lease Name, Well name and number, Unit Letter, Section, Township, Range and an indicator that the marker is an onsite burial location. 19.15.17 NMAC

OCD FORM C–144 SUPPORTING DATA

OXY USA INC.
BDCDGU 19 33 27 2 K
T-19N, R-33E, SECTION 27 NMPM
API: 30-021-20636

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

Form C-102
August 1, 2011

Permit 187248

WELL LOCATION AND ACREAGE DEDICATION PLAT

1. API Number	2. Pool Code	3. Pool Name
30-021-20636	96010	BRAVO DOME CARBON DIOXIDE GAS 640
4. Property Code	**5. Property Name**	**6. Well No.**
27111	BRAVO DOME CARBON DIOXIDE GAS UNIT	272K
7. OGRID No.	**8. Operator Name**	**9. Elevation**
16696	OXY USA INC	4835

10. Surface Location

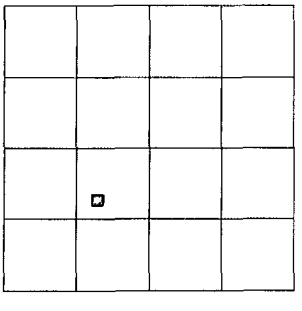
UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
K	27	19N	33E		1700	S	1700	W	Harding

11. Bottom Hole Location If Different From Surface

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County

12. Dedicated Acres	13. Joint or Infill	14. Consolidation Code	15. Order No.
640.00			

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



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(s) 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.

E-Signed By: Keith Barton
Title: Regulatory Team Leader
Date: 6/13/2014

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.

Surveyed By: Terry Asel
Date of Survey: 5/16/2014
Certificate Number: 15079

OCD FORM C – 144 SUPPORTING DATA

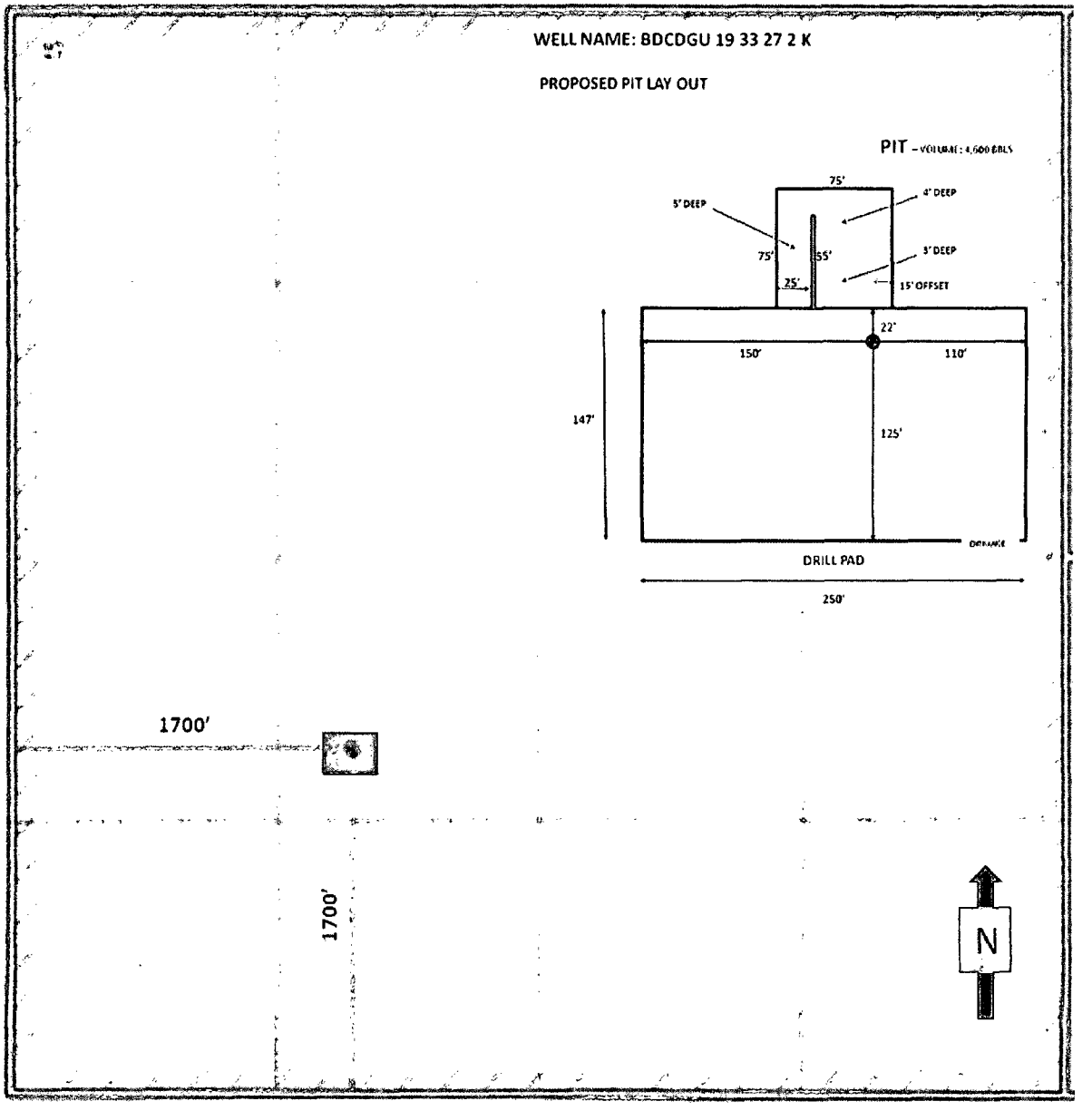
PIT LOCATION

OXY USA INC.

BDCDGU 19 33 27 2 K

T-19N, R-33E, SECTION 27 NMPM

API: 30-021-20636



WELL NAME: BDCDGU 19 33 27 2 K

- **SURFACE HYDROLOGY:** The local surface consists of flat ranching land with a shallow slope to the south. Elevation of wells within 1 mile either east or west is within 10 feet of the proposed pit location. To the south the elevation difference to the next offset 1 mile away is 15 feet.
- **GROUND WATER HYDROLOGY:** The proposed pit is located at the boundary of the Clayton-9/25/2005 and Tucumcari-11/14/1998 Declared Underground Basins. A research through the New Mexico Water Rights Reporting System, using the "Water Column/ Avg Depth to Water Report feature covering the 8 sections surrounding section 27 shows only 6 water source wells (Figure 1), with the closest approximately 800 meters to the southeast (Figure 2). No data is available for average depth to water.

- **FIGURE 1**

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q Q Q 64 16 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
TU 00571			HA	3 1 3	35	19N	33E	643654	3966383*	150		
TU 00572			HA	2 1 2	34	19N	33E	643034	3967375*	150		
TU 00573			HA	3 3 3	28	19N	33E	640402	3967529*	200		
TU 00574			HA	3 3 3	28	19N	33E	640402	3967529*	200		
TU 00575			HA	3 3 3	28	19N	33E	640402	3967529*	200		
TU 00577			HA	2 2 3	22	19N	33E	642593	3969789*	80		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 6

PLSS Search:

Section(s): 21, 22, 23, 26, 27, 28, 33, 34, 35 Township: 19N Range: 33E

WELL NAME: BDCDGU 19 33 27 2 K

- **FIGURE 2**

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q Q Q 64 16 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
TU 00572			HA	2 1 2	34	19N	33E	643034	3987375*	801	150		

Average Depth to Water: –

Minimum Depth: –

Maximum Depth: –

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 642521.33 Northing (Y): 3987990.95 Radius: 1000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/11/14 7:32 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

On site inspection, indicates that nearest water source well is located to the south and at a distance of approximately +2,600 ft.

WELL NAME: BDCDGU 19 33 27 2 K

Siting Criteria and Compliance Demonstration

- **1) Depth to groundwater**

  A review of all water records available for the 19 N Township, 33 E Range in the New Mexico Office of the State Engineer data base shows minimal data on ground water depth, the only known values is for a well in section 31, approximately 2.37 miles to the west which shows depth to the water of 138 feet. Figure 3 shows the location of the above mentioned well with a summary table of data available.

- **2) Distance to watercourse**

  Field visit and areal picture (Figure 4) show no features which could be described as waterway (watercourse, lake beds, playa lake) within 200' radius. A USGS topo map of the area, Figure 5, shows the nearest significant watercourse, as defined per 19.15.17.7.P, at a distance of 670 feet in a northeast direction.

- **3) Distance to buildings**

  As shown in an aerial picture, Figure 4, the nearest building is a commercial structure at 2,880 feet from the proposed pit.

- **4) Distance to springs or wells**

  As per information shown on Figure 2 and Figure 4, nearest water wells is at 2,626 ft from the proposed pit.

- **5) Presence within incorporated area**

  Location of proposed pit is not near any municipal boundaries or defined fresh water well field. It is located in open ranching lands.

- **6) Distance to wetlands**

  Only feature under this description could be a playa lake situates 3,000 feet to the south separated from the proposed pit location by state highway 420.

- **7) Location above subsurface mines**

  The pit will not overlie a mine. A review of the of the records from the New Mexico Energy, Minerals and Natural Resources Department , Division of Mining and Minerals, web site (Active Mines dated as of 7/2014) indicates that there is no mining activity in Harding County. Figure 6 illustrate the results on a map which includes Harding county. Review with OXY operating staff that has been at this location since the early 80's confirms the no subsurface mining activity has ever taken place within the boundaries of the production unit.

WELL NAME: BDCDGU 19 33 27 2 K

Siting Criteria and Compliance Demonstration

- **8) Presence within unstable area**

  The proposed pit is located in a very stable area with slopes of less than 15 ft/mile. Overall pad fill is less than one foot.

- **9) Stockpile material**

  Stockpile material will be stored at the edge of the new pad. Its location is away from any water feature (+ 3,000 feet from playa lake, no spring present with a mile of location, + 600 feet from a significant watercourse).

- **10) In - place closure**

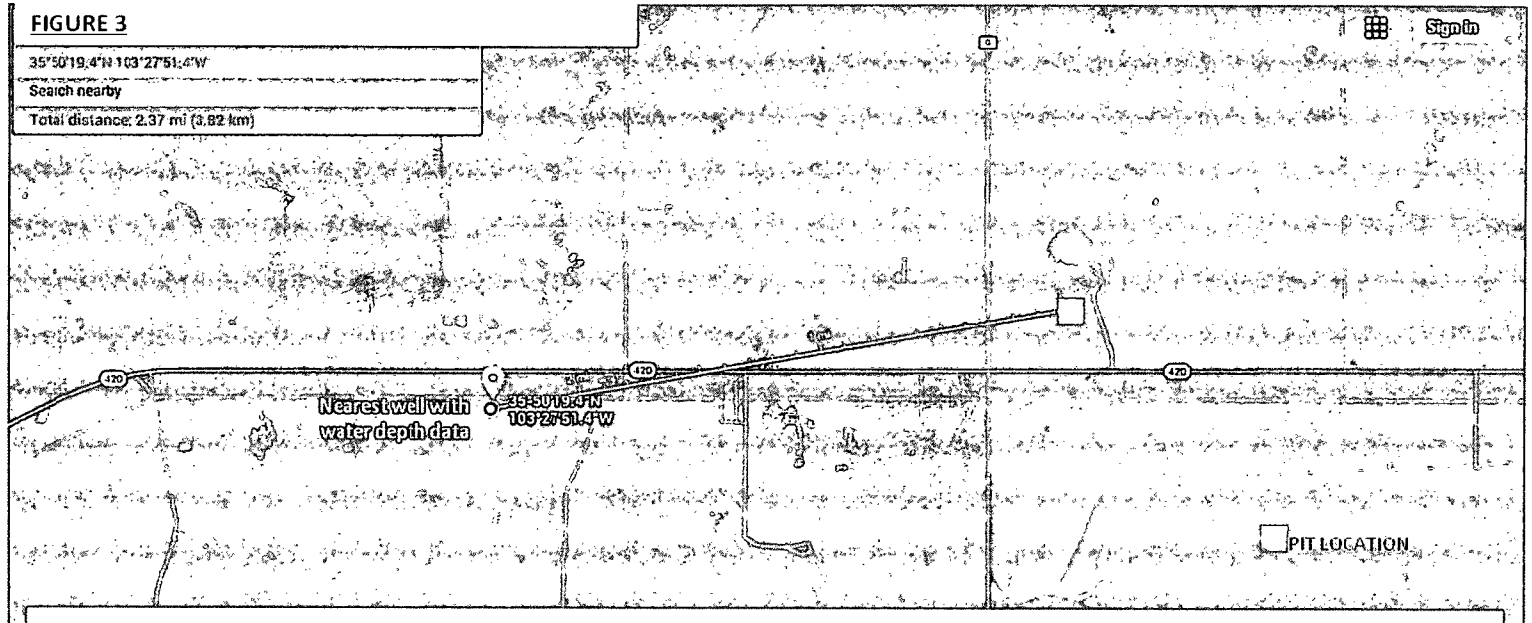
  Ground water is estimated to be encountered around 100 feet or deeper from the bottom of the pit based on well data (Figure 3). The pit is not within 100 feet of any continuously flowing water course or significant other water course. There are no wetlands in the area and the closest water well is + 2,600 feet away.

- **11) Presence within floodplain**

  Harding County New Mexico has not been mapped by FEMA. Review of areal maps and topography would indicate that the proposed pit location is not in a flood plain area. Discussion with operation staff with extensive field presence, 25+ years, has also confirmed that the location is not prone to flooding.

WELL NAME: BDCDGU 19 33 27 2 K

FIGURE 3



New Mexico Office of the State Engineer

Wells with Well Log Information

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right. (R=POD has been replaced, O=orphaned, C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters) (in feet)

POD Number	POD Code	Subbasin	County	q q q Source	6416 4	Sec	Twn	Rng	X	Y	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
TU 00567 POD2			HA	Shallow	4 2 2	31	19N	33E	636698	3967149	11/15/2011	11/16/2011	12/08/2011	285	148	BRITTON, RICHARD D.	1442

Record Count: 1

PLSS Search:

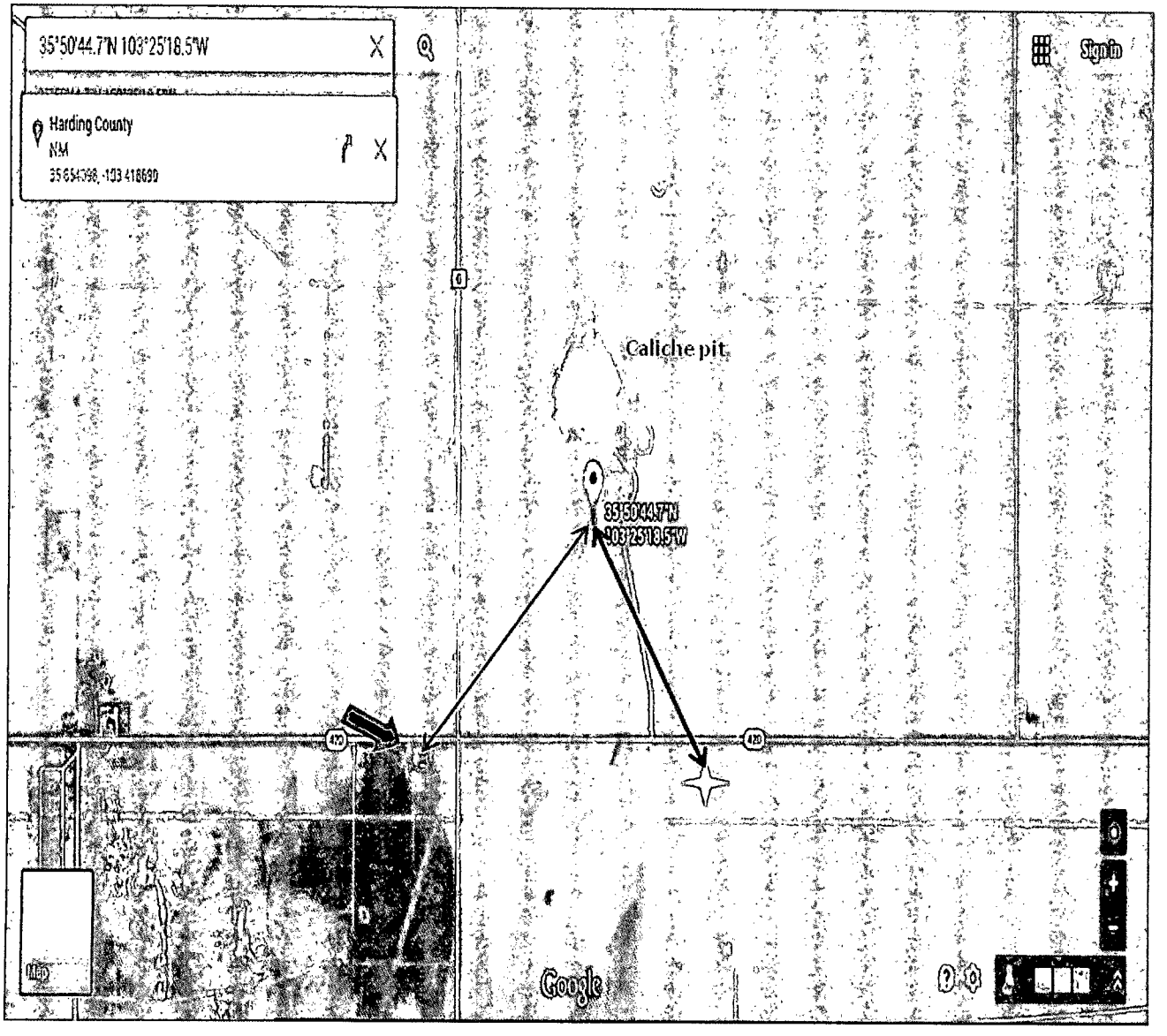
Township: 19N Range: 33E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

8/7/14 7:27 AM WELLS WITH WELL LOG INFORMATION

WELL NAME: BDCDGU 19 33 27 2 K

FIGURE 4



NEAREST WATER WELL : 2,626 FEET

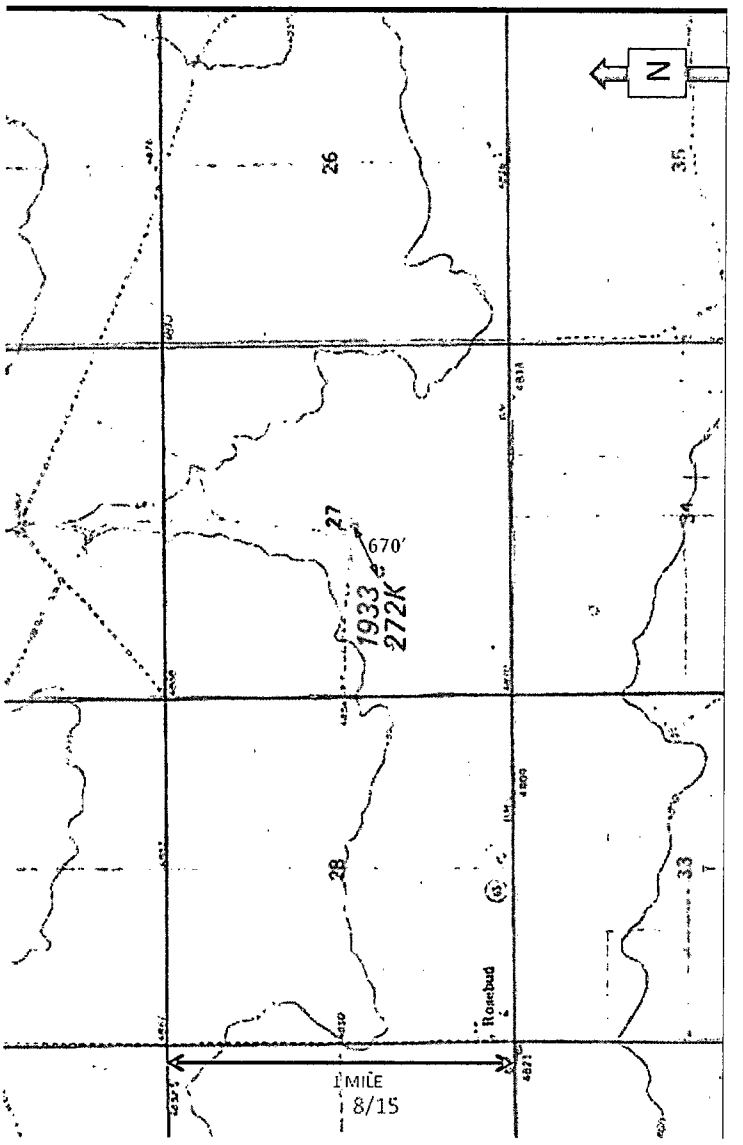
NEAREST BUILDING : 2,880 FEET

OCD FORM C – 144 SUPPORTING DATA

TOPO MAP

FIGURE 5

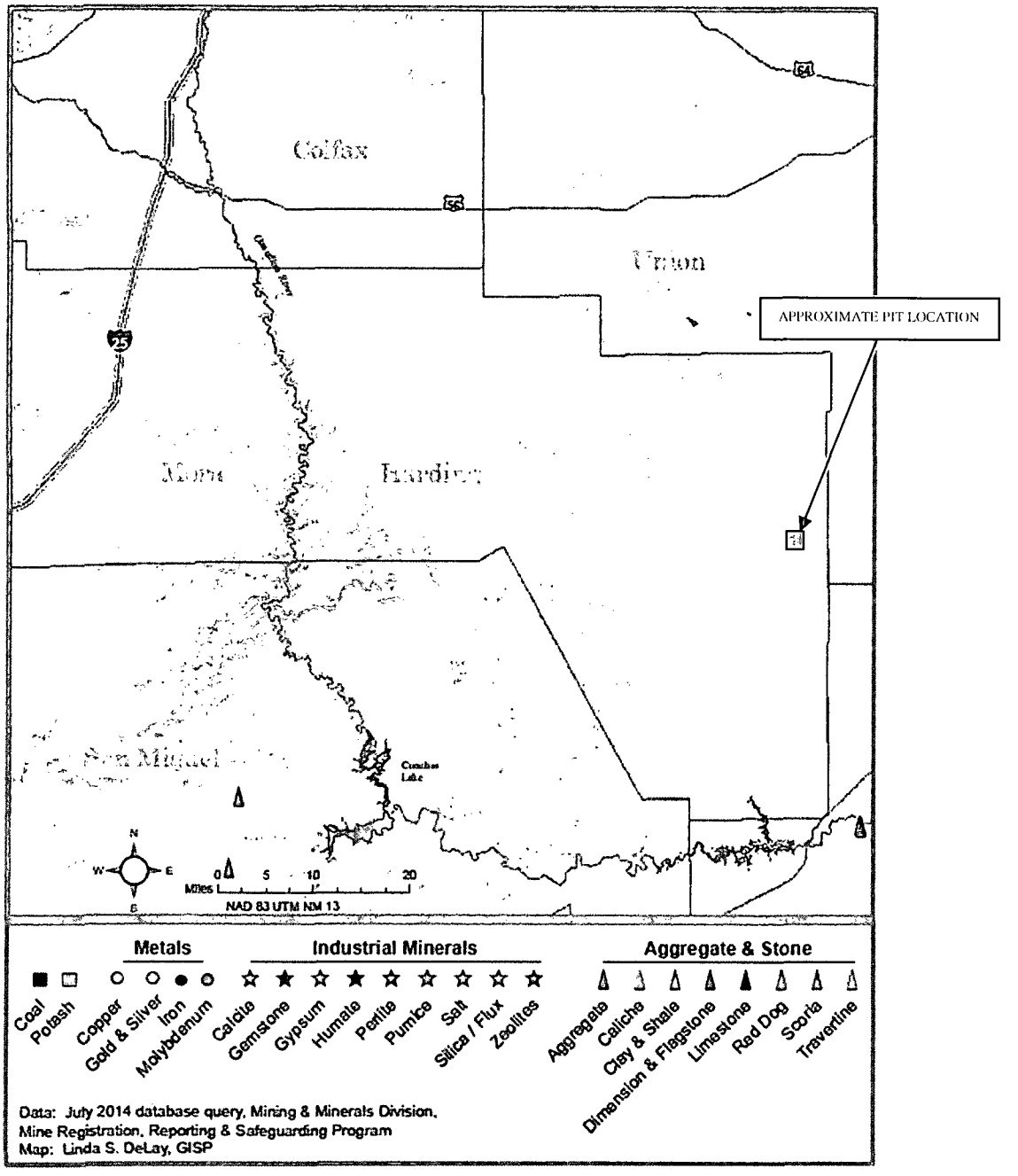
OXY USA INC.
BDCDGU 19 33 27 2 K
T-19N, R-33E, SECTION 27 NMPM
API: 30-021-20636



WELL NAME: BDCDGU 19 33 27 2 K

FIGURE 6

Active Mines in Harding County, New Mexico, July 2014



WELL NAME: BDCDGU 19 33 27 2 K

Temporary Drilling Pit - Design Plan

In accordance with Rule 19 15 17 the following information describes the design and construction of temporary pits on Occidental Permian Ltd (OXY) locations. This is OXY's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

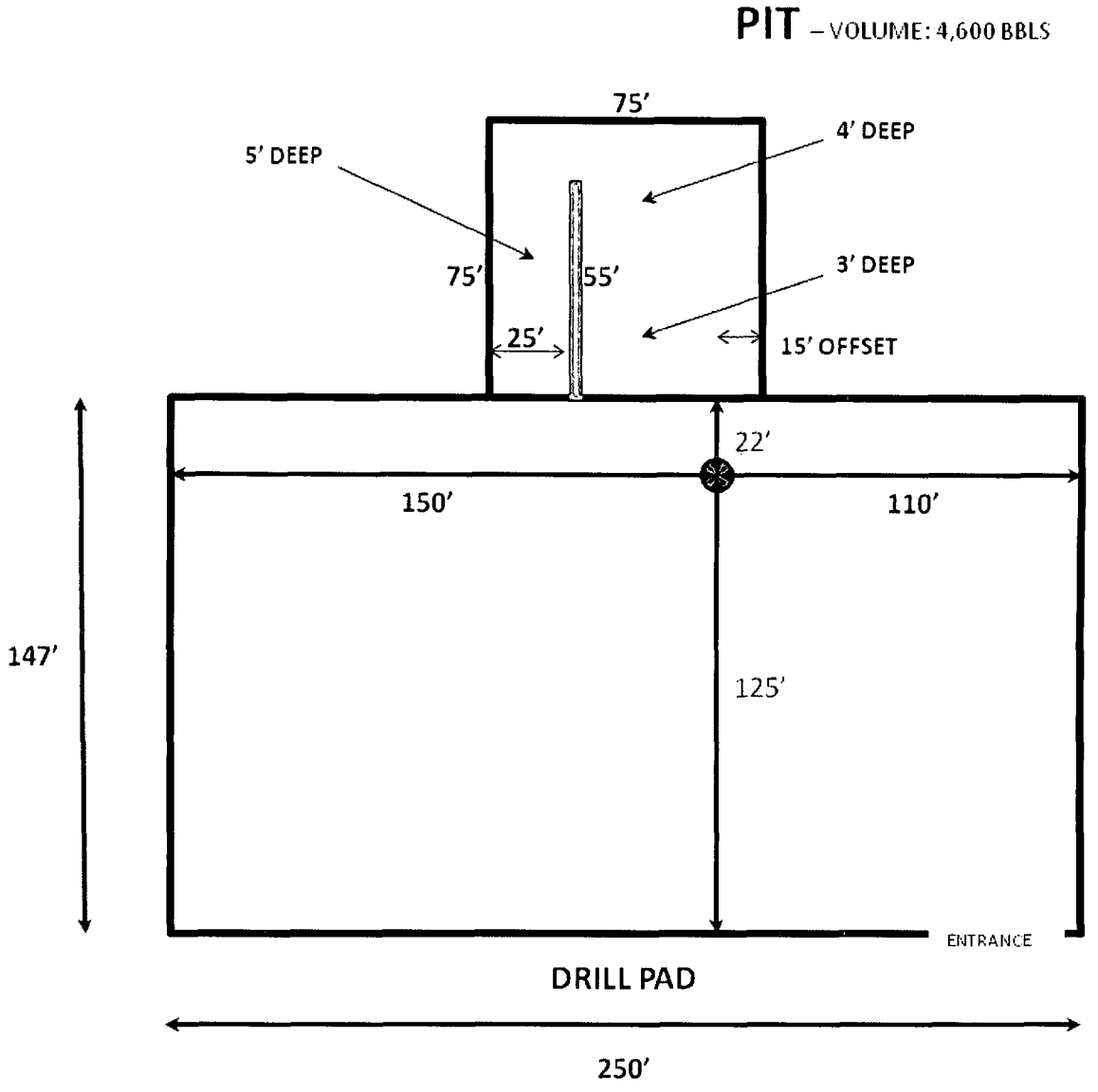
1. OXY will design and construct a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment.
2. Prior to constructing the pit, topsoil will be stockpiled in the construction zone for later use in restoration.
3. OXY will post a well sign, not less than 12" by 24", on the well site prior to construction of the temporary pit. The sign will be placed in a conspicuous location on the fence and will list the operator on record, the legal location of the well site by unit letter, section, township range, and emergency telephone numbers.
4. OXY shall construct all new fences utilizing four (4) strand barbed wire. T-posts shall be installed every 12 feet and corners shall be anchored utilizing a wooded post. Entire location including pits will be fenced at all times.
5. OXY shall construct the temporary pit so that the foundation and interior slope are firm and free of rocks, debris, sharp edges or irregularities to prevent liner failure.
6. OXY shall construct the pit so that the slopes are no steeper than two horizontal feet to one vertical foot.
7. Pit walls will be walked down by a crawler type tractor following construction.
8. All temporary pits will be lined with a geomenbrane liner with 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090 A requirements.
9. Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided.
10. All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep.
11. OXY will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used whenever possible. OXY will ensure all filed seams are welded by qualified personnel. Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. OXY

will minimize the number of field seams in corners and irregularly shaped areas.

12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or manifold system.
13. The pit shall be protected from run-on by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
14. The volume of the pit shall not exceed 10 acre-feet, including freeboard.
15. If needed temporary blow pits will be constructed to allow gravity flow to discharge into the lined drill pit.
16. The low half of the blow pit (nearest lined pit) will be lined with 20 mil liner. The upper half of the blow pit will remain unlined as allowed in Rule 19.15.17.11.F.11
17. OXY will not allow freestanding liquids to remain on the unlined portion of the blow pit.

WELL NAME: BDCDGU 19 33 27 2 K

PROPOSED PIT LAY OUT



WELL NAME: BDCDGU 19 33 27 2 K

Temporary Drilling Pit - Maintenance and Operating Plan

In accordance with Rule 19.15.17.12 NMAC, OXY will maintain and operate a temporary pit in accordance with the following plan:

1. The pit will be maintained to contain liquids and solids and maintain the integrity of the liner, prevent contamination of fresh water and protect public health and the environment.
2. All drilling fluids will be recycled, reused, reclaimed, or disposed in a manner approved by the division rules and that prevents contamination of fresh water and protects public health and the environment.
3. Hazardous waste will not be discharged into or stored in the pit.
4. If the pit develops a leak or if any penetration of the liner occurs above the liquid's surface, the appropriate division district office will be notified, and the liner will be repaired or initiate replacement of the liner within 48 hours of the discovery.
5. If the pit develops a leak or if any penetration of the liner occurs below the liquid's surface, within 48 hours of discovery all liquid above the leak will be removed, the appropriate division district office will be notified pursuant to 19.15.29 NMAC, and the liner will be repaired or initiate replacement.
6. The injection or withdrawal of liquids from the pit will be accomplished via a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets, or impact from installation or removal of hoses or pipes.
7. Pit operations will prevent the collection of surface water run-on.
8. An oil-absorbent boom or other device will be installed and maintained onsite to contain and remove oil from the pit's surface.
9. Only fluids used or generated during drilling or workover processes will be discharged into the pit. The pit will remain free of miscellaneous solid waste or debris. Immediately after cessation of drilling or workover operations, any visible layer of oil will be removed from the pit's surface.
10. At least two (2) feet of freeboard will be maintained. In temporary extenuating circumstances when two feet of freeboard cannot be maintained a log describing such circumstance shall be maintained and made available to the division upon request.
11. The pit will be inspected at least once a day while the drilling or workover rig is on site. Thereafter, the pit will be inspected weekly as long as liquids remain within it. An inspection log will be maintained and made available to the division district office upon request.
12. All free liquid will be removed from the pit within 60 days from the release of the drilling or workover rig. On form C-105 or C-103, the date of the drilling or workover rig's release will be noted. If necessary, an extension of up to two months may be requested from the division district office; the extension shall not exceed the temporary pit life span under Subsection R of 19.15.17.7 NMAC.
13. All cavitation fluids will be removed within 48 hours of completing cavitation.

WELL NAME: BDCDGU 19 33 27 2 K

Temporary Pit Inspection

Wellname:		API #:	Rig Mobe	Date:	
County:		Pit liner thickness:	Rig Demobe	Date:	

Inspection Date	Time	By Whom	Has any hazardous waste been disposed of in pit(s)?	Is the liner of the pit intact and free of penetrations?	Is there an oil absorbent boom on location?	Distance from top of pit to fluid level (minimum 2')

All pits to be inspected DAILY during drilling/workover operations.
All pits to be inspected WEEKLY after drilling rig demobe.
Any penetration of the pit liner shall be reported to the NMOCD within 48 hours.

WELL NAME: BDCDGU 19 33 27 2 K

Temporary Drilling Pit – Closure Plan

In accordance with Rule 19.15.17.9 and 19.15.17.13 NMAC the following information describes the closure requirements of temporary pits on locations. This is OXY Bravo Dome's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.
All closure activities will include proper documentation and be available for review upon request and will be submitted to NMOCD within 60 days of pit closure. Closure report will be filed on C-144 and incorporate the following:

- Details on Capping and Covering , where applicable
- Plot Plan (Pit Diagram)
- Inspection Reports
- Sampling Results

1. Prior to commencement of closure operations OXY will obtain approval of the closure plan submitted with the permit application.
2. The preferred method of closure for the temporary pit will be on-site burial, assuming that all siting criteria as outlined in 19.15.17.13.D.2 are met. OXY will report the exact location of the onsite burial on form C-105 as part of the closure report.
3. Free standing liquids will be removed as soon as practical for recycle use in the drilling of other wells. Any free standing liquids that are not recycled will be removed prior to pit closure and disposed of in a division–approved facility , Sundance Services, Inc. Parabo Disposal Facility (Permit # NMOCD R-5516), unless they are recycled, reused, or reclaimed in a division district office-approved manner.
4. Pit solids will be allowed to air dry as completely as possible prior to starting pit closing activities.
5. The pit will stabilized with clean non-waste containing earthen material with a ratio no more than 3:1
6. 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 at depth > 100 feet, based on offset well TU 00567, Figure 3, the following should not be exceeded:

Table II Closure Criteria for Burial Trenches and Waste Left in Place in Temporary Pits			
Depth below bottom of pit to groundwater less than 10,000 mg/l TDS	Constituent	Method*	Limit**
	Chloride	EPA Method 300.0	80,000mg/kg
>100 feet	TPH	EPA SW-846 Method 418.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg

*Or other test methods approved by the division
** Numerical limits or natural background level, whichever is greater
[19.15.17.13 NMAC – Rp, 19.15.7.13 NMAC, 6/28/13]

7. If the contents are above the concentration limits after stabilization OXY will comply with 19.15.17.13.C (Waste Excavation and Removal).
8. Upon completion of testing, the pit area will be backfilled with compacted, non-waste containing, earthen material. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater
9. 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 geomembrane liner cover that is 20 mil string reinforced LLDPE, synthetic material, impervious, resistant to ultra violet light, petroleum hydrocarbons, salts, acid and alkaline.
10. The surface owner shall be notified of OXY Bravo Dome's proposed closure plan using a means that provides proof of notice i.e., certified mail, return receipt requested, 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.
11. If on site burial is on private land, OXY will file a deed notice identifying the exact location of the onsite burial and the county clerk in the county where the onsite burial occurs
12. Notice of Closure will be given to the appropriate Division office between 72 hours and one week of closure, via email, or verbally. The notification of closure will include the following:

    I Operator's name
    II Location by Unit Letter, Section, Township, and Range
    III Well name and API number

13. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial. The marker will include a threaded collar to be used for future abandonment. The variance

will provide equal or better protection of fresh water, public health and the environment:

While the well pad is active the top of the marker will contain a welded steel 12" square plate that including the following: Operator Name, Lease Name, Well name and number, Unit Letter, Section, Township, Range and an indicator that the marker is an onsite burial location

Upon the abandonment of all the wells on the pad. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information include the following: Operator Name, Lease Name, Well name and number, Unit Letter, Section, Township, Range and an indicator that the marker is an onsite burial location. 19.15.17 NMAC.

14. Within six (6) months of the Rig Off status occurring, OXY Bravo Dome will ensure that temporary pits are closed, re-contoured
15. Re-contouring of location will match fit, shape, line, form and texture of the surrounding as closely as possible. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
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.
17. Revegation will be planted in the first favorable growing season after the pit is closed 19.15.17.13.H.5.b.
18. The division will be notified when reclamation is considered complete, as defined in 19.15.17.13.H.5. c.
19. Within 60 days of closure, completion, a closure report will be submitted on the form C-144, with necessary attachments, to document closure activities, including sampling results, a plot plan, and backfilling details. In this closure report, OXY will certify that all information in the report ad attachments is correct and that OXY 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.