Form 3160-3
(June 2015)

OCD – HOBBS
08/18/2020
RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM069377

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
LION OIL 28-33 FEDERAL COM
16H [327301]

2. Name of Operator
OXY USA INCORPORATED [16696]

9. API Well No.
30-025-47620

3a. Address
5 Greenway Plaza, Suite 110 Houston TX 77046

3b. Phone No. *(include area code)*
(713)366-5716

10. Field and Pool, or Exploratory [51683]
COTTON DRAW BONE SPRING / COTT

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NWNE / 852 FNL / 1388 FEL / LAT 32.3675491 / LONG -103.6756072
At proposed prod. zone SESE / 20 FSL / 380 FEL / LAT 32.3409301 / LONG -103.6723159

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 28 / T22S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*
25 miles

12. County or Parish
LEA

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
20 feet

16. No of acres in lease
320

17. Spacing Unit dedicated to this well
640

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
35 feet

19. Proposed Depth
9294 feet / 20338 feet

20. BLM/BIA Bond No. in file
FED: ESB000226

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3618 feet

22. Approximate date work will start*
09/01/2020

23. Estimated duration
15 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Leslie Reeves / Ph: (713)497-2492	03/22/2019

Title
Advisor Regulatory

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	07/30/2020

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

GCP Rec 08/18/2020

SL

APPROVED WITH CONDITIONS

KZ
08/26/2020

Approval Date: 07/30/2020

(Continued on page 2)

*(Instructions on page 2)

Additional Operator Remarks

Location of Well

1. SHL: NWNE / 852 FNL / 1388 FEL / TWSP: 22S / RANGE: 32E / SECTION: 28 / LAT: 32.3675491 / LONG: -103.6756072 (TVD: 0 feet, MD: 0 feet)
   PPP: NENE / 100 FNL / 380 FEL / TWSP: 22S / RANGE: 32E / SECTION: 28 / LAT: 32.3696284 / LONG: -103.6723449 (TVD: 9294 feet, MD: 9907 feet)
   PPP: SESE / 7 FSL / 379 FEL / TWSP: 22S / RANGE: 32E / SECTION: 28 / LAT: 32.355406 / LONG: -103.67233 (TVD: 9294 feet, MD: 15071 feet)
   BHL: SESE / 20 FSL / 380 FEL / TWSP: 22S / RANGE: 32E / SECTION: 33 / LAT: 32.3409301 / LONG: -103.6723159 (TVD: 9294 feet, MD: 20338 feet)

BLM Point of Contact

Name: Tenille Ortiz
Title: Legal Instruments Examiner
Phone: 5752342224
Email: tortiz@blm.gov

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Oxy USA Incorporated
WELL NAME & NO.:	Lion Oil 28-33 Federal Com 16H
SURFACE HOLE FOOTAGE:	852'/N & 1388'/E
BOTTOM HOLE FOOTAGE	20'/S & 380'/E
LOCATION:	Section 28, T.22 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	○ Multibowl	◉ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **877** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The **9-5/8** inch intermediate casing shall be set at approximately **6200** feet. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.

d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

NMK07202020

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

Lion Oil 28-33 Federal Com 14H	835 FNL and 1,456 FEL	Township 22 South, Range 32 East, Section 28	BLM
Lion Oil 28-33 Federal Com 15H	844 FNL and 1,422 FEL		
Lion Oil 28-33 Federal Com 16H	852 FNL and 1,388 FEL		
Lion Oil 28-33 Federal Com 24H	911 FNL and 1,155 FEL		
Lion Oil 28-33 Federal Com 25H	919 FNL and 1,121 FEL		
Lion Oil 28-33 Federal Com 34H	255 FNL and 1,550 FEL		
Lion Oil 28-33 Federal Com 35H	225 FNL and 1,515 FEL		
Lion Oil 28-33 Federal Com 11H	240 FSL and 675 FWL	Township 22 South, Range 32 East, Section 33	
Lion Oil 28-33 Federal Com 12H	240 FSL and 710 FWL		
Lion Oil 28-33 Federal Com 13H	240 FSL and 745 FWL		
Lion Oil 28-33 Federal Com 21H	870 FSL and 1,360 FWL		
Lion Oil 28-33 Federal Com 22H	849 FSL and 1,377 FWL		
Lion Oil 28-33 Federal Com 23H	810 FSL and 1,395 FWL		
Lion Oil 28-33 Federal Com 31H	240 FSL and 985 FWL		
Lion Oil 28-33 Federal Com 32H	240 FSL and 1,020 FWL		
Lion Oil 28-33 Federal Com 33H	240 FSL and 1,055 FWL		

FNL = feet from north line; FEL = feet from east line; FSL = feet from south line; FWL = feet from west line

*New Mexico Principal Meridian

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

Roads

☐ **Road Section Diagram**

☒ **Production (Post Drilling)**

Well Structures & Facilities

Pipelines

Electric Lines

☐ **Interim Reclamation**

☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

- Timing and noise restrictions would be applied to prevent disruption of mating and nesting activities. All construction activities would be prohibited from 3:00 a.m. to 9:00 a.m. during March 1 to June 15 in the project area. Any deviation from this requirement must be approved by the Authorized Officer.
- Exceptions to these timing requirements would be considered in emergency situations such as mechanical failures. Exceptions would not be granted after March 15 or during the March 1 to June 15 period if the BLM determines, on the basis of biological data or other relevant facts or circumstances, that the granting of an exception would disrupt LPC booming activity during the breeding season. Requests for exceptions on a non-emergency basis may also be considered for the period of March 1 to June 15, but these exceptions would not be granted if the BLM determines that there are LPC habitat, LPC sightings, historical leks, and/or active leks within 1.5 miles of the proposed location or any combination of the above-mentioned criteria.

- Where entry is granted across a fence line, the fence must be braced and tied off on both sides of the passageway with H-braces prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

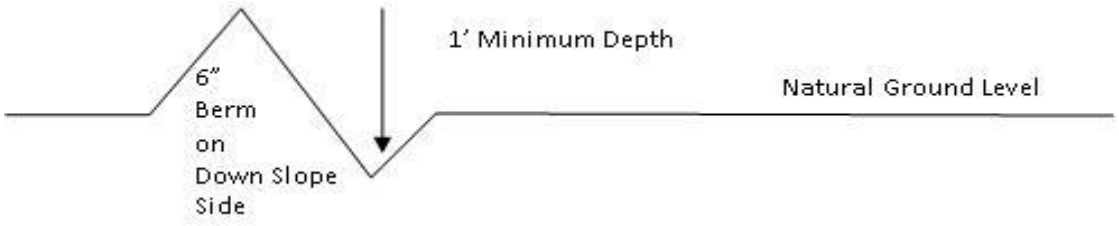
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%}$ + 100' = 200' lead-off ditch interval

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

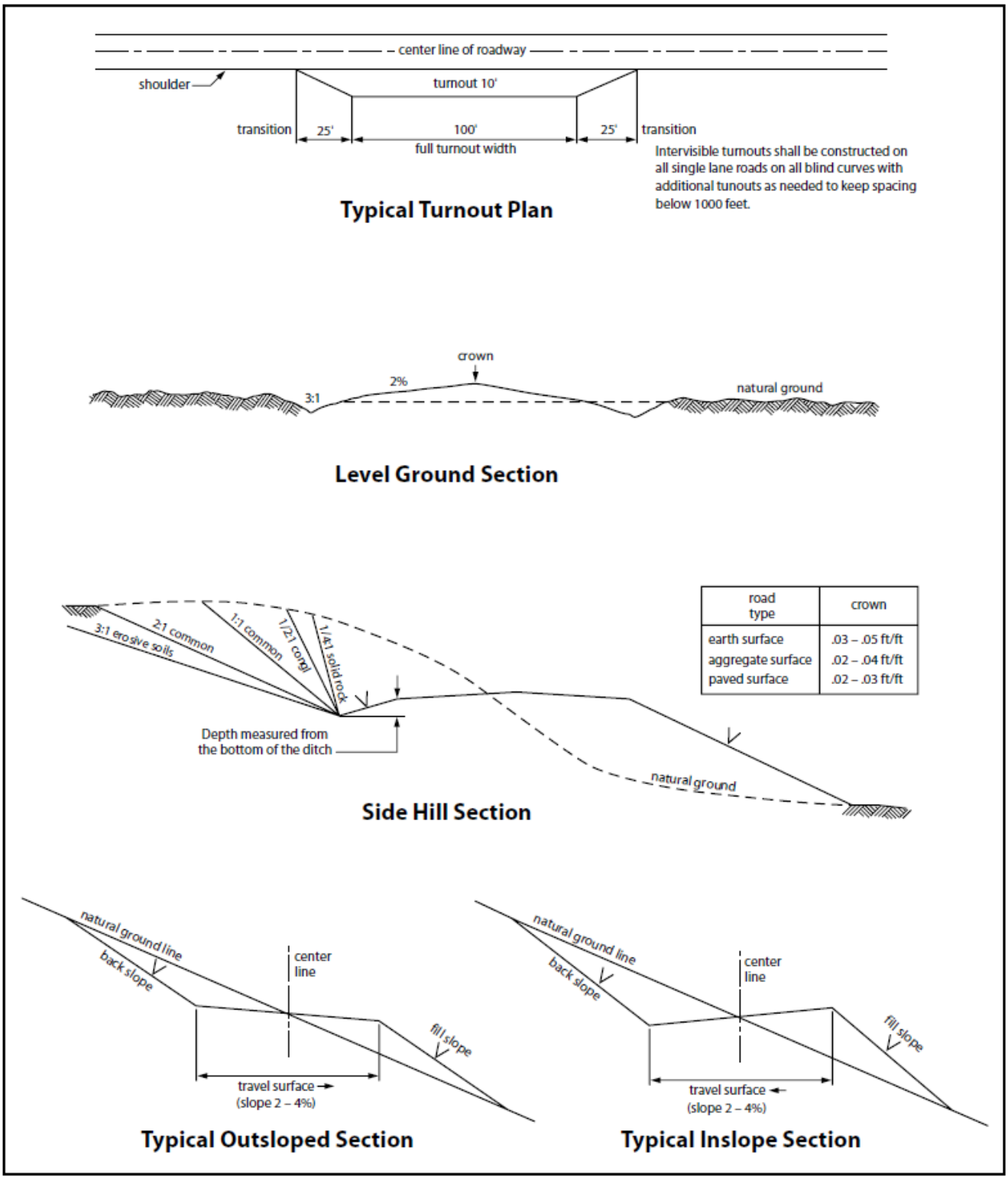


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone*.) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus

freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed 20 feet. The trench is included in this area. (Blading is defined as the complete removal of brush and ground vegetation.)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (Compressing can be caused by vehicle tires, placement of equipment, etc.)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be

randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
(X) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – Shale Green, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer

for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches that are not otherwise fenced, screened, or netted to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:
a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized

Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
b. Activities of other parties including, but not limited to:
    (1) Land clearing.
    (2) Earth-disturbing and earth-moving work.
    (3) Blasting.
    (4) Vandalism and sabotage.
c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

18. Special Stipulations:

a. **Lesser Prairie-Chicken:** Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by

the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:
- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and

pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

STANDARD STIPULATIONS FOR OIL AND GAS RELATED SITES

A copy of the application (Grant/Sundry Notice) and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer, BLM.

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant and for all response costs, penalties, damages, claims, and other costs arising from the provisions of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Chap. 82, Section 6901 et. seq., from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Chap. 109, Section 9601 et. seq., and from other applicable environmental statues.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et. seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et. seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the site or related pipeline(s), any oil or other pollutant should be discharged from site facilities, the pipeline(s) or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

5. Sites shall be maintained in an orderly, sanitary condition at all times. Waste materials, both liquid and solid, shall be disposed of promptly at an appropriate, authorized waste disposal facility in accordance with all applicable State and Federal laws. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, petroleum products, brines, chemicals, oil drums, ashes, and equipment.

6. The operator will notify the Bureau of Land Management (BLM) authorized officer and nearest Fish and Wildlife Service (FWS) Law Enforcement office within 24 hours, if the operator discovers a dead or injured federally protected species (i.e., migratory bird species, bald or golden eagle, or species listed by the FWS as threatened or endangered) in or adjacent to a pit, trench, tank, exhaust stack, or fence. (If the operator is unable to contact the FWS Law Enforcement office, the operator must contact the nearest FWS Ecological Services office.)

7. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee. The color selected for this project is **Shale Green**, Munsell Soil Color Chart Number 5Y 4/2.

8. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

9. A sales contract for removal of mineral material (caliche, sand, gravel, fill dirt) from an authorized pit, site, or on location must be obtained from the BLM prior to commencing construction. There are several options available for purchasing mineral material: contact the BLM office (575-234-5972).

10. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

11. Once the site is no longer in service or use, the site must undergo final abandonment. At final abandonment, the site and access roads must undergo "final" reclamation so that the character and productivity of the land are restored. Earthwork for final reclamation must be completed within six (6) months of the abandonment of the site. All pads and facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact. After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

12. The holder shall stockpile an adequate amount of topsoil where blading occurs. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles. The topsoil will be used for final reclamation.

13. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
(X) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

14. In those areas where erosion control structures are required to stabilize soil conditions, the holder shall install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound management practices. Any earth work will require prior approval by the Authorized Officer.

15. Open-topped Tanks - The operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps

16. The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an

impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

17. Open-Vent Exhaust Stack Exclosures – The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

18. Containment Structures - Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

19. Special Stipulations:

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be corrected within two weeks and proper measures will be taken to prevent future erosion.

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except

between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from permanent engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by

drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

07/30/2020

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Leslie Reeves **Signed on:** 03/22/2019

Title: Advisor Regulatory

Street Address: 5 Greenway Plaza, Suite 110

City: Houston **State:** TX **Zip:** 77046

Phone: (713)497-2492

Email address: Leslie_Reeves@oxy.com

Field Representative

Representative Name:

Street Address: 6001 Deauville

City: Midland **State:** TX **Zip:** 79706

Phone: (575)631-2442

Email address: jim_wilson@oxy.com

APD ID: 10400040168 **Submission Date:** 03/22/2019

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400040168 **Tie to previous NOS?** N **Submission Date:** 03/22/2019

BLM Office: CARLSBAD **User:** Leslie Reeves **Title:** Advisor Regulatory

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM069377 **Lease Acres:** 320

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** OXY USA INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: OXY USA INCORPORATED

Operator Address: 5 Greenway Plaza, Suite 110

Zip: 77046

Operator PO Box:

Operator City: Houston **State:** TX

Operator Phone: (713)366-5716

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** COTTON DRAW BONE SPRING **Pool Name:** COTTON DRAW BONE SPRING

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** LION OIL 28-33 FEDERAL COM **Number:** 14H, 15H, 16H, 24H & 25H

Well Class: HORIZONTAL **Number of Legs:**

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 25 Miles **Distance to nearest well:** 35 FT **Distance to lease line:** 20 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: LionOil28_33FdCom16H_C102_20190320145309.pdf

LionOil28_33FdCom16H_SitePlan_20190320145322.pdf

Well work start Date: 09/01/2020 **Duration:** 15 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:**

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	852	FNL	1388	FEL	22S	32E	28	Aliquot NWNE	32.3675491	-103.6756072	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 069377	3618	0	0	
KOP Leg #1	50	FNL	380	FEL	22S	32E	28	Aliquot NENE	32.3697659	-103.672345	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 069377	-5676	9896	9294	

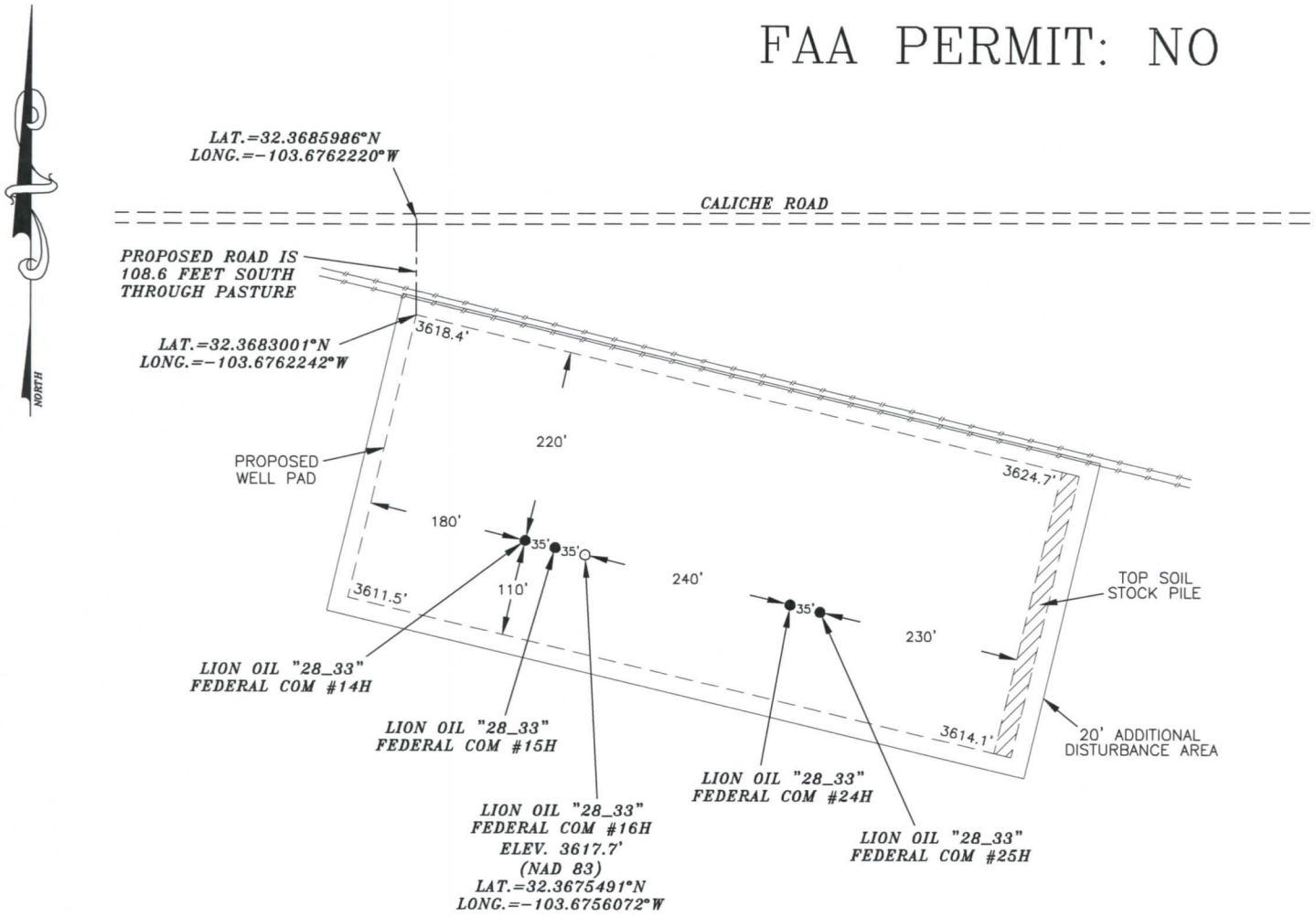
Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-1	7	FSL	379	FEL	22S	32E	28	Aliquot SESE	32.355406	-103.67233	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 077060	-5676	15071	9294	
PPP Leg #1-2	100	FNL	380	FEL	22S	32E	28	Aliquot NENE	32.3696284	-103.6723449	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 069377	-5676	9907	9294	
EXIT Leg #1	100	FSL	380	FEL	22S	32E	33	Aliquot SESE	32.34115	-103.6723161	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 077060	-5676	20238	9294	
BHL Leg #1	20	FSL	380	FEL	22S	32E	33	Aliquot SESE	32.3409301	-103.6723159	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 077060	-5676	20338	9294	

OXY USA INC.
LION OIL "28_33" FEDERAL COM #16H
SITE PLAN

FAA PERMIT: NO



TERRY J ASEL NEW MEXICO 15079 REGISTERED PROFESSIONAL LAND SURVEYOR

LEGEND

- – – – DENOTES PROPOSED WELL PAD
- —·—·— DENOTES PROPOSED ROAD
- ▨ DENOTES STOCK PILE AREA

200' 0 200' 400' FEET

SCALE: 1"=200'

SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

Terry J. Asel 1/17/2019

Terry J. Asel N.M. R.P.L.S. No. 15079

Asel Surveying

P.O. BOX 393 – 310 W. TAYLOR
HOBBS, NEW MEXICO – 575-393-9146

OXY USA INC.

LION OIL "28_33" FEDERAL COM #16H
LOCATED AT 852' FNL & 1388' FEL IN
SECTION 28, TOWNSHIP 22 SOUTH, RANGE 32
EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 10/11/18	Sheet 1 of 1 Sheets	
W.O. Number: 181011WL-b	Drawn By: KA	Rev:
Date: 01/15/19	181011WL-b	Scale:1"=200'

APD ID: 10400040168 **Submission Date:** 03/22/2019

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
421774	RUSTLER	3618	827	827	ANHYDRITE, DOLOMITE, SHALE	USEABLE WATER	N
421773	SALADO	2352	1266	1266	ANHYDRITE, DOLOMITE, HALITE, SHALE	OTHER : SALT	N
421771	CASTILE	722	2896	2920	ANHYDRITE	OTHER : salt	N
421775	LAMAR	-1027	4645	4759	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
421776	BELL CANYON	-1071	4689	4805	SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER, USEABLE WATER : BRINE	N
421777	CHERRY CANYON	-1989	5607	5770	SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
421778	BRUSHY CANYON	-3252	6870	7098	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
421772	BONE SPRING	-4909	8527	8793	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	N

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 9294

Equipment: 13-5/8" 5M Annular, Blind Ram, Double Ram

Requesting Variance? YES

Variance request: Request for the use of a flexible choke line from the BOP to Choke Manifold.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. A multibowl wellhead or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system will be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. BOP Break Testing Request - As per the agreement reached in the OXY/BLM meeting on Feb 22, 2018, OXY requests permission to allow BOP Break Testing under the following conditions: 1. After a full BOP test is conducted on the first well on the pad. 2. When skidding to drill an intermediate section that does not penetrate into the Wolfcamp. 3. Full BOP test will be required prior to drilling any production section.

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Choke Diagram Attachment:

LionOil28_33FdCom16H_ChokeManifold_20190322100757.pdf

BOP Diagram Attachment:

LionOil28_33FdCom16H_FlexHoseCert_20190322100820.pdf

LionOil28_33FdCom16H_BOP5M_20190322100832.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	877	0	877			877	J-55	54.5	BUTT	1.125	1.2	BUOY	1.4	BUOY	1.4
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	6200	0	6016			6200	L-80	43.5	BUTT	1.125	1.2	BUOY	1.4	BUOY	1.4
3	PRODUCTION	8.5	5.5	NEW	API	N	0	20337	0	9294			20337	P-110	20	OTHER - DQX	1.125	1.2	BUOY	1.4	BUOY	1.4

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

LionOil28_33FdCom16H_CsgCriteria_20190322101547.pdf

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

LionOil28_33FdCom16H_CsgCriteria_20190322101645.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

LionOil28_33FdCom16H_CsgCriteria_20190322101924.pdf

LionOil28_33FdCom16H_5.500in_x_20.00__P110_HC_TMK_UP_SF_TORQ_20190322101932.pdf

LionOil28_33FdCom16H_5.500in_x_20.00__P_110_TMK_UP_DQX_20190322101953.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	877	928	1.33	14.8	1234	100	Cl C	Accelerator
INTERMEDIATE	Lead		0	5700	1494	1.73	12.9	2585	50	Pozzolan C	Retarder

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		5700	6200	155	1.33	14.8	206	20	Cl C	Accelerator
PRODUCTION	Lead	1	0	6870	941	1.87	12.9	1762	25	Cl C	Accelerator
PRODUCTION	Lead	1	6870	8527	289	1.38	13.2	399	5	CL H	Retarder, Dispersant, Salt
PRODUCTION	Tail		8527	20337	2067	1.38	13.2	2852	5	Cl H	Retarder, Dispersant, Salt

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CaCl2.

Describe the mud monitoring system utilized: PVT/MD Totco/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
877	6200	OTHER : Saturated Brine Based Mud	9.8	10							
6200	20337	OTHER : Water-Based and/or Oil-Based Mud	8	9.6							

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	877	WATER-BASED MUD	8.6	8.8							

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

GR from TD to surface (horizontal well – vertical portion of hole). Mud Log from intermediate shoe to TD.

List of open and cased hole logs run in the well:

GR,MUDLOG

Coring operation description for the well:

No coring is planned at this time.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4640 **Anticipated Surface Pressure:** 2595.31

Anticipated Bottom Hole Temperature(F): 155

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

LionOil28_33FdCom16H_H2S1_20190322102808.pdf
LionOil28_33FdCom16H_H2S2_20190322102823.pdf
LionOil28_33FdCom16H_H2SEmerCont_20190322102833.pdf

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

LionOil28_33FdCom16H_DirectPlan_20190322102844.pdf

LionOil28_33FdCom16H_DirectPlot_20190322102857.pdf

Other proposed operations facets description:

OXY requests the option to set casing shallower yet still below the salts if losses or hole conditions require this. Cement volumes may be adjusted if casing is set shallower and a DV tool will be run in case a contingency second stage is required for cement to reach surface. If cement circulated to surface during first stage we will drop a cancelation cone and not pump the second stage.

OXY requests the option to run production casing with DQX and/or SF TORQ connections to accommodate hole conditions or drilling operations.

OXY requests to pump a two stage cement job on the intermediate II casing string with the first stage being pumped conventionally with the calculated TOC @ the Bone Spring and the second stage performed as a bradenhead squeeze with planned cement from the Bone Spring to surface.

Annular Clearance Variance Request - As per the agreement reached in the OXY/BLM meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422” annular clearance requirement from Onshore Order #2 under the following conditions:
1. Annular clearance to meet or exceed 0.422” between intermediate casing ID and production casing coupling only on the first 500’ overlap between both casings.
2. Annular clearance less than 0.422” is acceptable for the curve and lateral portions of the production open hole section.

Well will be drilled with a walking/skidding operation. Plan to drill the multiple well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.

OXY requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that OXY would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.

Other proposed operations facets attachment:

LionOil28_33FdCom16H_SpudRigData_20190322102908.pdf

LionOil28_33FdCom16H_DrillPlan_20190322102915.pdf

LionOil28_33FdCom16H_GasCapPlan_20190322102929.pdf

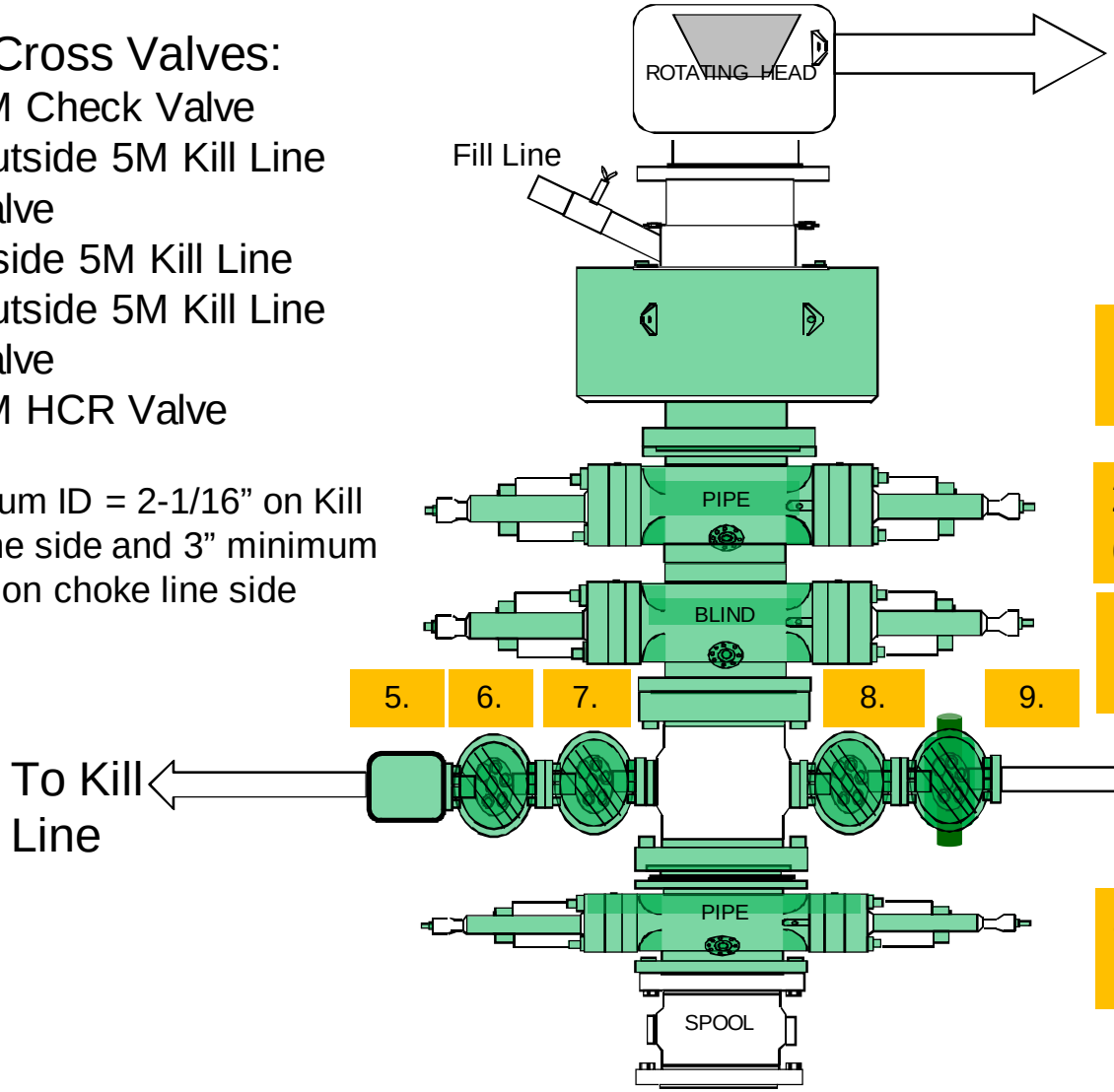
Other Variance attachment:

5M BOP Stack

Mud Cross Valves:

5. 5M Check Valve
6. Outside 5M Kill Line Valve
7. Inside 5M Kill Line
8. Outside 5M Kill Line Valve
9. 5M HCR Valve

*Minimum ID = 2-1/16” on Kill Line side and 3” minimum ID on choke line side

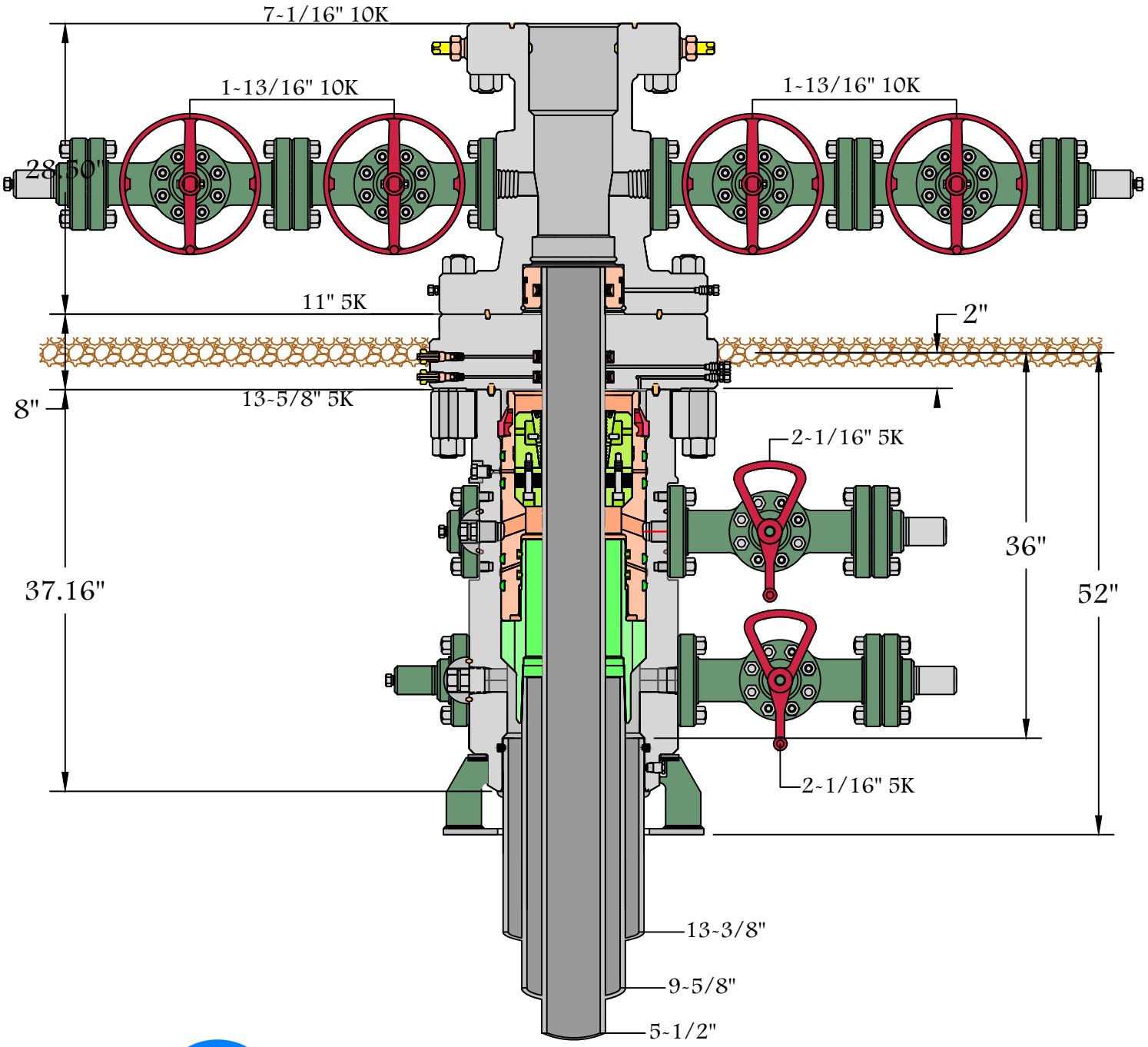


1. 5000 psi Annular (13-5/8” ID)

2. 5,000 psi Upper Pipe Ram (13-5/8” ID)

3. 5,000 psi Blind Ram (13-5/8” ID)

4. 5,000 psi Lower Pipe Ram (13-5/8” ID)



13-5/8" 5K MN-DS

CAMERON
A Schlumberger Company

Name:	Brandon	Date:	5-10-17	Working Pressure:	#	1505172

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
LION OIL 28_33 FED COM
LION OIL 28_33 FED COM 16H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

20 November, 2018

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well LION OIL 28_33 FED COM 16H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3643.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3643.80ft
Site:	LION OIL 28_33 FED COM	**North Reference:**	Grid
Well:	LION OIL 28_33 FED COM 16H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Project PRD NM DIRECTIONAL PLANS (NAD 1983)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site LION OIL 28_33 FED COM

Site Position:		**Northing:**	498,014.35 usft	**Latitude:**	32° 22' 2.611384 N
From:	Map	**Easting:**	744,642.56 usft	**Longitude:**	103° 40' 29.468370 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.35 °

Well LION OIL 28_33 FED COM 16H

Well Position	**+N/-S**	55.70 ft	**Northing:**	498,070.05 usft	**Latitude:**	32° 22' 3.176750 N
	+E/-W	-233.44 ft	**Easting:**	744,409.13 usft	**Longitude:**	103° 40' 32.186012 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,617.30 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/20/2018	6.77	60.12	48,106

Design Permitting Plan

Audit Notes:

Version:	**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	173.66

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,840.00	0.00	0.00	1,840.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,740.06	18.00	32.21	2,725.33	118.65	74.75	2.00	2.00	0.00	32.21	
7,450.88	18.00	32.21	7,205.55	1,350.39	850.77	0.00	0.00	0.00	0.00	
9,176.21	18.00	179.60	8,897.90	1,308.10	999.26	2.00	0.00	8.54	162.90	
9,896.21	90.00	179.60	9,293.80	763.19	1,003.07	10.00	10.00	0.00	0.00	FTP (Lion Oil 28_33
20,337.78	90.00	179.60	9,293.80	-9,678.12	1,076.00	0.00	0.00	0.00	0.00	PBHL (Lion Oil

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well LION OIL 28_33 FED COM 16H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3643.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3643.80ft
Site:	LION OIL 28_33 FED COM	**North Reference:**	Grid
Well:	LION OIL 28_33 FED COM 16H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,840.00	0.00	0.00	1,840.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	1.20	32.21	1,900.00	0.53	0.33	-0.49	2.00	2.00	0.00
2,000.00	3.20	32.21	1,999.92	3.78	2.38	-3.49	2.00	2.00	0.00
2,100.00	5.20	32.21	2,099.64	9.98	6.28	-9.22	2.00	2.00	0.00
2,200.00	7.20	32.21	2,199.05	19.11	12.04	-17.67	2.00	2.00	0.00
2,300.00	9.20	32.21	2,298.03	31.18	19.64	-28.82	2.00	2.00	0.00
2,400.00	11.20	32.21	2,396.44	46.16	29.08	-42.67	2.00	2.00	0.00
2,500.00	13.20	32.21	2,494.18	64.04	40.35	-59.19	2.00	2.00	0.00
2,600.00	15.20	32.21	2,591.12	84.79	53.42	-78.37	2.00	2.00	0.00
2,700.00	17.20	32.21	2,687.14	108.40	68.29	-100.19	2.00	2.00	0.00
2,740.06	18.00	32.21	2,725.33	118.65	74.75	-109.66	2.00	2.00	0.00
2,800.00	18.00	32.21	2,782.33	134.32	84.62	-124.15	0.00	0.00	0.00
2,900.00	18.00	32.21	2,877.44	160.47	101.10	-148.31	0.00	0.00	0.00
3,000.00	18.00	32.21	2,972.54	186.61	117.57	-172.48	0.00	0.00	0.00
3,100.00	18.00	32.21	3,067.65	212.76	134.04	-196.65	0.00	0.00	0.00
3,200.00	18.00	32.21	3,162.75	238.91	150.52	-220.81	0.00	0.00	0.00
3,300.00	18.00	32.21	3,257.86	265.06	166.99	-244.98	0.00	0.00	0.00
3,400.00	18.00	32.21	3,352.96	291.20	183.46	-269.15	0.00	0.00	0.00
3,500.00	18.00	32.21	3,448.07	317.35	199.94	-293.31	0.00	0.00	0.00
3,600.00	18.00	32.21	3,543.17	343.50	216.41	-317.48	0.00	0.00	0.00
3,700.00	18.00	32.21	3,638.28	369.64	232.88	-341.65	0.00	0.00	0.00
3,800.00	18.00	32.21	3,733.38	395.79	249.36	-365.81	0.00	0.00	0.00
3,900.00	18.00	32.21	3,828.49	421.94	265.83	-389.98	0.00	0.00	0.00
4,000.00	18.00	32.21	3,923.59	448.09	282.30	-414.15	0.00	0.00	0.00
4,100.00	18.00	32.21	4,018.70	474.23	298.78	-438.31	0.00	0.00	0.00
4,200.00	18.00	32.21	4,113.80	500.38	315.25	-462.48	0.00	0.00	0.00
4,300.00	18.00	32.21	4,208.91	526.53	331.72	-486.65	0.00	0.00	0.00
4,400.00	18.00	32.21	4,304.01	552.67	348.20	-510.82	0.00	0.00	0.00
4,500.00	18.00	32.21	4,399.12	578.82	364.67	-534.98	0.00	0.00	0.00
4,600.00	18.00	32.21	4,494.22	604.97	381.14	-559.15	0.00	0.00	0.00
4,700.00	18.00	32.21	4,589.33	631.12	397.62	-583.32	0.00	0.00	0.00
4,800.00	18.00	32.21	4,684.43	657.26	414.09	-607.48	0.00	0.00	0.00
4,900.00	18.00	32.21	4,779.54	683.41	430.56	-631.65	0.00	0.00	0.00
5,000.00	18.00	32.21	4,874.64	709.56	447.03	-655.82	0.00	0.00	0.00
5,100.00	18.00	32.21	4,969.75	735.70	463.51	-679.98	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well LION OIL 28_33 FED COM 16H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3643.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3643.80ft
Site:	LION OIL 28_33 FED COM	**North Reference:**	Grid
Well:	LION OIL 28_33 FED COM 16H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,200.00	18.00	32.21	5,064.85	761.85	479.98	-704.15	0.00	0.00	0.00
5,300.00	18.00	32.21	5,159.96	788.00	496.45	-728.32	0.00	0.00	0.00
5,400.00	18.00	32.21	5,255.06	814.15	512.93	-752.48	0.00	0.00	0.00
5,500.00	18.00	32.21	5,350.17	840.29	529.40	-776.65	0.00	0.00	0.00
5,600.00	18.00	32.21	5,445.27	866.44	545.87	-800.82	0.00	0.00	0.00
5,700.00	18.00	32.21	5,540.38	892.59	562.35	-824.98	0.00	0.00	0.00
5,800.00	18.00	32.21	5,635.48	918.73	578.82	-849.15	0.00	0.00	0.00
5,900.00	18.00	32.21	5,730.59	944.88	595.29	-873.32	0.00	0.00	0.00
6,000.00	18.00	32.21	5,825.69	971.03	611.77	-897.48	0.00	0.00	0.00
6,100.00	18.00	32.21	5,920.80	997.18	628.24	-921.65	0.00	0.00	0.00
6,200.00	18.00	32.21	6,015.90	1,023.32	644.71	-945.82	0.00	0.00	0.00
6,300.00	18.00	32.21	6,111.01	1,049.47	661.19	-969.98	0.00	0.00	0.00
6,400.00	18.00	32.21	6,206.11	1,075.62	677.66	-994.15	0.00	0.00	0.00
6,500.00	18.00	32.21	6,301.22	1,101.76	694.13	-1,018.32	0.00	0.00	0.00
6,600.00	18.00	32.21	6,396.32	1,127.91	710.61	-1,042.48	0.00	0.00	0.00
6,700.00	18.00	32.21	6,491.43	1,154.06	727.08	-1,066.65	0.00	0.00	0.00
6,800.00	18.00	32.21	6,586.53	1,180.21	743.55	-1,090.82	0.00	0.00	0.00
6,900.00	18.00	32.21	6,681.64	1,206.35	760.03	-1,114.98	0.00	0.00	0.00
7,000.00	18.00	32.21	6,776.74	1,232.50	776.50	-1,139.15	0.00	0.00	0.00
7,100.00	18.00	32.21	6,871.85	1,258.65	792.97	-1,163.32	0.00	0.00	0.00
7,200.00	18.00	32.21	6,966.95	1,284.79	809.45	-1,187.49	0.00	0.00	0.00
7,300.00	18.00	32.21	7,062.06	1,310.94	825.92	-1,211.65	0.00	0.00	0.00
7,400.00	18.00	32.21	7,157.16	1,337.09	842.39	-1,235.82	0.00	0.00	0.00
7,450.88	18.00	32.21	7,205.55	1,350.39	850.77	-1,248.11	0.00	0.00	0.00
7,500.00	17.06	33.20	7,252.39	1,362.85	858.77	-1,259.61	2.00	-1.91	2.00
7,600.00	15.18	35.56	7,348.45	1,385.77	874.41	-1,280.67	2.00	-1.89	2.37
7,700.00	13.32	38.58	7,445.38	1,405.43	889.21	-1,298.56	2.00	-1.86	3.01
7,800.00	11.51	42.53	7,543.04	1,421.78	903.13	-1,313.28	2.00	-1.81	3.96
7,900.00	9.77	47.91	7,641.32	1,434.82	916.17	-1,324.80	2.00	-1.74	5.38
8,000.00	8.15	55.49	7,740.10	1,444.52	928.31	-1,333.10	2.00	-1.62	7.58
8,100.00	6.74	66.48	7,839.26	1,450.88	939.52	-1,338.18	2.00	-1.41	11.00
8,200.00	5.68	82.32	7,938.68	1,453.88	949.81	-1,340.02	2.00	-1.05	15.84
8,300.00	5.22	102.92	8,038.23	1,453.52	959.15	-1,338.64	2.00	-0.47	20.60
8,400.00	5.49	124.28	8,137.81	1,449.81	967.54	-1,334.02	2.00	0.27	21.36
8,500.00	6.41	141.56	8,237.27	1,442.75	974.96	-1,326.18	2.00	0.91	17.28
8,600.00	7.74	153.74	8,336.52	1,432.34	981.41	-1,315.12	2.00	1.33	12.18
8,700.00	9.31	162.11	8,435.41	1,418.60	986.88	-1,300.86	2.00	1.57	8.37
8,800.00	11.03	167.99	8,533.84	1,401.54	991.35	-1,283.42	2.00	1.71	5.88
8,900.00	12.82	172.27	8,631.68	1,381.19	994.84	-1,262.81	2.00	1.79	4.29
9,000.00	14.67	175.51	8,728.82	1,357.58	997.32	-1,239.06	2.00	1.85	3.24
9,100.00	16.55	178.03	8,825.13	1,330.72	998.80	-1,212.21	2.00	1.88	2.52
9,176.21	18.00	179.60	8,897.90	1,308.10	999.26	-1,189.67	2.00	1.90	2.06
9,200.00	20.38	179.60	8,920.36	1,300.28	999.31	-1,181.89	10.00	10.00	0.00
9,300.00	30.38	179.60	9,010.60	1,257.47	999.61	-1,139.32	10.00	10.00	0.00
9,400.00	40.38	179.60	9,092.03	1,199.65	1,000.02	-1,081.80	10.00	10.00	0.00
9,500.00	50.38	179.60	9,162.18	1,128.56	1,000.51	-1,011.10	10.00	10.00	0.00
9,600.00	60.38	179.60	9,218.92	1,046.38	1,001.09	-929.35	10.00	10.00	0.00
9,700.00	70.38	179.60	9,260.53	955.59	1,001.72	-839.05	10.00	10.00	0.00
9,800.00	80.38	179.60	9,285.74	858.95	1,002.40	-742.93	10.00	10.00	0.00
9,896.21	90.00	179.60	9,293.80	763.19	1,003.07	-647.68	10.00	10.00	0.00
9,900.00	90.00	179.60	9,293.80	759.41	1,003.09	-643.92	0.00	0.00	0.00
10,000.00	90.00	179.60	9,293.80	659.41	1,003.79	-544.45	0.00	0.00	0.00
10,100.00	90.00	179.60	9,293.80	559.41	1,004.49	-444.99	0.00	0.00	0.00
10,200.00	90.00	179.60	9,293.80	459.41	1,005.19	-345.53	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well LION OIL 28_33 FED COM 16H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3643.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3643.80ft
Site:	LION OIL 28_33 FED COM	**North Reference:**	Grid
Well:	LION OIL 28_33 FED COM 16H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,300.00	90.00	179.60	9,293.80	359.41	1,005.89	-246.07	0.00	0.00	0.00
10,400.00	90.00	179.60	9,293.80	259.42	1,006.58	-146.60	0.00	0.00	0.00
10,500.00	90.00	179.60	9,293.80	159.42	1,007.28	-47.14	0.00	0.00	0.00
10,600.00	90.00	179.60	9,293.80	59.42	1,007.98	52.32	0.00	0.00	0.00
10,700.00	90.00	179.60	9,293.80	-40.58	1,008.68	151.78	0.00	0.00	0.00
10,800.00	90.00	179.60	9,293.80	-140.57	1,009.38	251.25	0.00	0.00	0.00
10,900.00	90.00	179.60	9,293.80	-240.57	1,010.08	350.71	0.00	0.00	0.00
11,000.00	90.00	179.60	9,293.80	-340.57	1,010.78	450.17	0.00	0.00	0.00
11,100.00	90.00	179.60	9,293.80	-440.57	1,011.47	549.63	0.00	0.00	0.00
11,200.00	90.00	179.60	9,293.80	-540.56	1,012.17	649.10	0.00	0.00	0.00
11,300.00	90.00	179.60	9,293.80	-640.56	1,012.87	748.56	0.00	0.00	0.00
11,400.00	90.00	179.60	9,293.80	-740.56	1,013.57	848.02	0.00	0.00	0.00
11,500.00	90.00	179.60	9,293.80	-840.56	1,014.27	947.48	0.00	0.00	0.00
11,600.00	90.00	179.60	9,293.80	-940.55	1,014.97	1,046.95	0.00	0.00	0.00
11,700.00	90.00	179.60	9,293.80	-1,040.55	1,015.67	1,146.41	0.00	0.00	0.00
11,800.00	90.00	179.60	9,293.80	-1,140.55	1,016.36	1,245.87	0.00	0.00	0.00
11,900.00	90.00	179.60	9,293.80	-1,240.55	1,017.06	1,345.33	0.00	0.00	0.00
12,000.00	90.00	179.60	9,293.80	-1,340.54	1,017.76	1,444.79	0.00	0.00	0.00
12,100.00	90.00	179.60	9,293.80	-1,440.54	1,018.46	1,544.26	0.00	0.00	0.00
12,200.00	90.00	179.60	9,293.80	-1,540.54	1,019.16	1,643.72	0.00	0.00	0.00
12,300.00	90.00	179.60	9,293.80	-1,640.54	1,019.86	1,743.18	0.00	0.00	0.00
12,400.00	90.00	179.60	9,293.80	-1,740.53	1,020.55	1,842.64	0.00	0.00	0.00
12,500.00	90.00	179.60	9,293.80	-1,840.53	1,021.25	1,942.11	0.00	0.00	0.00
12,600.00	90.00	179.60	9,293.80	-1,940.53	1,021.95	2,041.57	0.00	0.00	0.00
12,700.00	90.00	179.60	9,293.80	-2,040.53	1,022.65	2,141.03	0.00	0.00	0.00
12,800.00	90.00	179.60	9,293.80	-2,140.52	1,023.35	2,240.49	0.00	0.00	0.00
12,900.00	90.00	179.60	9,293.80	-2,240.52	1,024.05	2,339.96	0.00	0.00	0.00
13,000.00	90.00	179.60	9,293.80	-2,340.52	1,024.75	2,439.42	0.00	0.00	0.00
13,100.00	90.00	179.60	9,293.80	-2,440.52	1,025.44	2,538.88	0.00	0.00	0.00
13,200.00	90.00	179.60	9,293.80	-2,540.51	1,026.14	2,638.34	0.00	0.00	0.00
13,300.00	90.00	179.60	9,293.80	-2,640.51	1,026.84	2,737.81	0.00	0.00	0.00
13,400.00	90.00	179.60	9,293.80	-2,740.51	1,027.54	2,837.27	0.00	0.00	0.00
13,500.00	90.00	179.60	9,293.80	-2,840.51	1,028.24	2,936.73	0.00	0.00	0.00
13,600.00	90.00	179.60	9,293.80	-2,940.50	1,028.94	3,036.19	0.00	0.00	0.00
13,700.00	90.00	179.60	9,293.80	-3,040.50	1,029.63	3,135.66	0.00	0.00	0.00
13,800.00	90.00	179.60	9,293.80	-3,140.50	1,030.33	3,235.12	0.00	0.00	0.00
13,900.00	90.00	179.60	9,293.80	-3,240.50	1,031.03	3,334.58	0.00	0.00	0.00
14,000.00	90.00	179.60	9,293.80	-3,340.49	1,031.73	3,434.04	0.00	0.00	0.00
14,100.00	90.00	179.60	9,293.80	-3,440.49	1,032.43	3,533.51	0.00	0.00	0.00
14,200.00	90.00	179.60	9,293.80	-3,540.49	1,033.13	3,632.97	0.00	0.00	0.00
14,300.00	90.00	179.60	9,293.80	-3,640.49	1,033.83	3,732.43	0.00	0.00	0.00
14,400.00	90.00	179.60	9,293.80	-3,740.49	1,034.52	3,831.89	0.00	0.00	0.00
14,500.00	90.00	179.60	9,293.80	-3,840.48	1,035.22	3,931.35	0.00	0.00	0.00
14,600.00	90.00	179.60	9,293.80	-3,940.48	1,035.92	4,030.82	0.00	0.00	0.00
14,700.00	90.00	179.60	9,293.80	-4,040.48	1,036.62	4,130.28	0.00	0.00	0.00
14,800.00	90.00	179.60	9,293.80	-4,140.48	1,037.32	4,229.74	0.00	0.00	0.00
14,900.00	90.00	179.60	9,293.80	-4,240.47	1,038.02	4,329.20	0.00	0.00	0.00
15,000.00	90.00	179.60	9,293.80	-4,340.47	1,038.72	4,428.67	0.00	0.00	0.00
15,100.00	90.00	179.60	9,293.80	-4,440.47	1,039.41	4,528.13	0.00	0.00	0.00
15,200.00	90.00	179.60	9,293.80	-4,540.47	1,040.11	4,627.59	0.00	0.00	0.00
15,300.00	90.00	179.60	9,293.80	-4,640.46	1,040.81	4,727.05	0.00	0.00	0.00
15,400.00	90.00	179.60	9,293.80	-4,740.46	1,041.51	4,826.52	0.00	0.00	0.00
15,500.00	90.00	179.60	9,293.80	-4,840.46	1,042.21	4,925.98	0.00	0.00	0.00
15,600.00	90.00	179.60	9,293.80	-4,940.46	1,042.91	5,025.44	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well LION OIL 28_33 FED COM 16H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3643.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3643.80ft
Site:	LION OIL 28_33 FED COM	**North Reference:**	Grid
Well:	LION OIL 28_33 FED COM 16H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,700.00	90.00	179.60	9,293.80	-5,040.45	1,043.60	5,124.90	0.00	0.00	0.00
15,800.00	90.00	179.60	9,293.80	-5,140.45	1,044.30	5,224.37	0.00	0.00	0.00
15,900.00	90.00	179.60	9,293.80	-5,240.45	1,045.00	5,323.83	0.00	0.00	0.00
16,000.00	90.00	179.60	9,293.80	-5,340.45	1,045.70	5,423.29	0.00	0.00	0.00
16,100.00	90.00	179.60	9,293.80	-5,440.44	1,046.40	5,522.75	0.00	0.00	0.00
16,200.00	90.00	179.60	9,293.80	-5,540.44	1,047.10	5,622.22	0.00	0.00	0.00
16,300.00	90.00	179.60	9,293.80	-5,640.44	1,047.80	5,721.68	0.00	0.00	0.00
16,400.00	90.00	179.60	9,293.80	-5,740.44	1,048.49	5,821.14	0.00	0.00	0.00
16,500.00	90.00	179.60	9,293.80	-5,840.43	1,049.19	5,920.60	0.00	0.00	0.00
16,600.00	90.00	179.60	9,293.80	-5,940.43	1,049.89	6,020.07	0.00	0.00	0.00
16,700.00	90.00	179.60	9,293.80	-6,040.43	1,050.59	6,119.53	0.00	0.00	0.00
16,800.00	90.00	179.60	9,293.80	-6,140.43	1,051.29	6,218.99	0.00	0.00	0.00
16,900.00	90.00	179.60	9,293.80	-6,240.42	1,051.99	6,318.45	0.00	0.00	0.00
17,000.00	90.00	179.60	9,293.80	-6,340.42	1,052.69	6,417.91	0.00	0.00	0.00
17,100.00	90.00	179.60	9,293.80	-6,440.42	1,053.38	6,517.38	0.00	0.00	0.00
17,200.00	90.00	179.60	9,293.80	-6,540.42	1,054.08	6,616.84	0.00	0.00	0.00
17,300.00	90.00	179.60	9,293.80	-6,640.41	1,054.78	6,716.30	0.00	0.00	0.00
17,400.00	90.00	179.60	9,293.80	-6,740.41	1,055.48	6,815.76	0.00	0.00	0.00
17,500.00	90.00	179.60	9,293.80	-6,840.41	1,056.18	6,915.23	0.00	0.00	0.00
17,600.00	90.00	179.60	9,293.80	-6,940.41	1,056.88	7,014.69	0.00	0.00	0.00
17,700.00	90.00	179.60	9,293.80	-7,040.40	1,057.57	7,114.15	0.00	0.00	0.00
17,800.00	90.00	179.60	9,293.80	-7,140.40	1,058.27	7,213.61	0.00	0.00	0.00
17,900.00	90.00	179.60	9,293.80	-7,240.40	1,058.97	7,313.08	0.00	0.00	0.00
18,000.00	90.00	179.60	9,293.80	-7,340.40	1,059.67	7,412.54	0.00	0.00	0.00
18,100.00	90.00	179.60	9,293.80	-7,440.40	1,060.37	7,512.00	0.00	0.00	0.00
18,200.00	90.00	179.60	9,293.80	-7,540.39	1,061.07	7,611.46	0.00	0.00	0.00
18,300.00	90.00	179.60	9,293.80	-7,640.39	1,061.77	7,710.93	0.00	0.00	0.00
18,400.00	90.00	179.60	9,293.80	-7,740.39	1,062.46	7,810.39	0.00	0.00	0.00
18,500.00	90.00	179.60	9,293.80	-7,840.39	1,063.16	7,909.85	0.00	0.00	0.00
18,600.00	90.00	179.60	9,293.80	-7,940.38	1,063.86	8,009.31	0.00	0.00	0.00
18,700.00	90.00	179.60	9,293.80	-8,040.38	1,064.56	8,108.78	0.00	0.00	0.00
18,800.00	90.00	179.60	9,293.80	-8,140.38	1,065.26	8,208.24	0.00	0.00	0.00
18,900.00	90.00	179.60	9,293.80	-8,240.38	1,065.96	8,307.70	0.00	0.00	0.00
19,000.00	90.00	179.60	9,293.80	-8,340.37	1,066.65	8,407.16	0.00	0.00	0.00
19,100.00	90.00	179.60	9,293.80	-8,440.37	1,067.35	8,506.63	0.00	0.00	0.00
19,200.00	90.00	179.60	9,293.80	-8,540.37	1,068.05	8,606.09	0.00	0.00	0.00
19,300.00	90.00	179.60	9,293.80	-8,640.37	1,068.75	8,705.55	0.00	0.00	0.00
19,400.00	90.00	179.60	9,293.80	-8,740.36	1,069.45	8,805.01	0.00	0.00	0.00
19,500.00	90.00	179.60	9,293.80	-8,840.36	1,070.15	8,904.47	0.00	0.00	0.00
19,600.00	90.00	179.60	9,293.80	-8,940.36	1,070.85	9,003.94	0.00	0.00	0.00
19,700.00	90.00	179.60	9,293.80	-9,040.36	1,071.54	9,103.40	0.00	0.00	0.00
19,800.00	90.00	179.60	9,293.80	-9,140.35	1,072.24	9,202.86	0.00	0.00	0.00
19,900.00	90.00	179.60	9,293.80	-9,240.35	1,072.94	9,302.32	0.00	0.00	0.00
20,000.00	90.00	179.60	9,293.80	-9,340.35	1,073.64	9,401.79	0.00	0.00	0.00
20,100.00	90.00	179.60	9,293.80	-9,440.35	1,074.34	9,501.25	0.00	0.00	0.00
20,200.00	90.00	179.60	9,293.80	-9,540.34	1,075.04	9,600.71	0.00	0.00	0.00
20,300.00	90.00	179.60	9,293.80	-9,640.34	1,075.74	9,700.17	0.00	0.00	0.00
20,337.78	90.00	179.60	9,293.80	-9,678.12	1,076.00	9,737.75	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well LION OIL 28_33 FED COM 16H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3643.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3643.80ft
Site:	LION OIL 28_33 FED COM	**North Reference:**	Grid
Well:	LION OIL 28_33 FED COM 16H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (Lion Oil 28_33 - plan hits target center - Point	0.00	0.00	9,293.80	763.19	1,003.07	498,833.21	745,412.15	32° 22' 10.667205 N	103° 40' 20.436515
PBHL (Lion Oil 28_33 - plan hits target center - Point	0.00	0.00	9,293.80	-9,678.12	1,076.00	488,392.37	745,485.08	32° 20' 27.348567 N	103° 40' 20.337835

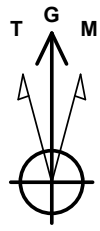
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
1,840.00	1,840.00	0.00	0.00	Build 2.00°/100'
2,740.06	2,725.33	118.65	74.75	Hold 18.00° Tangent
7,450.88	7,205.55	1,350.39	850.77	Turn 2.00°/100'
9,176.21	8,897.90	1,308.10	999.26	Build 10.00°/100'
9,896.21	9,293.80	763.19	1,003.07	Landing Point
20,337.78	9,293.80	-9,678.12	1,076.00	TD at 20337.78' MD

Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)
Site:	LION OIL 28_33 FED COM
Well:	LION OIL 28_33 FED COM 16H
Wellbore:	Wellbore #1
Design:	Permitting Plan

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone
System Datum:	Mean Sea Level



Azimuths to Grid North
True North: -0.35°
Magnetic North: 6.41°

Magnetic Field
Strength: 48106.4snT
Dip Angle: 60.12°
Date: 11/20/2018
Model: HDGM

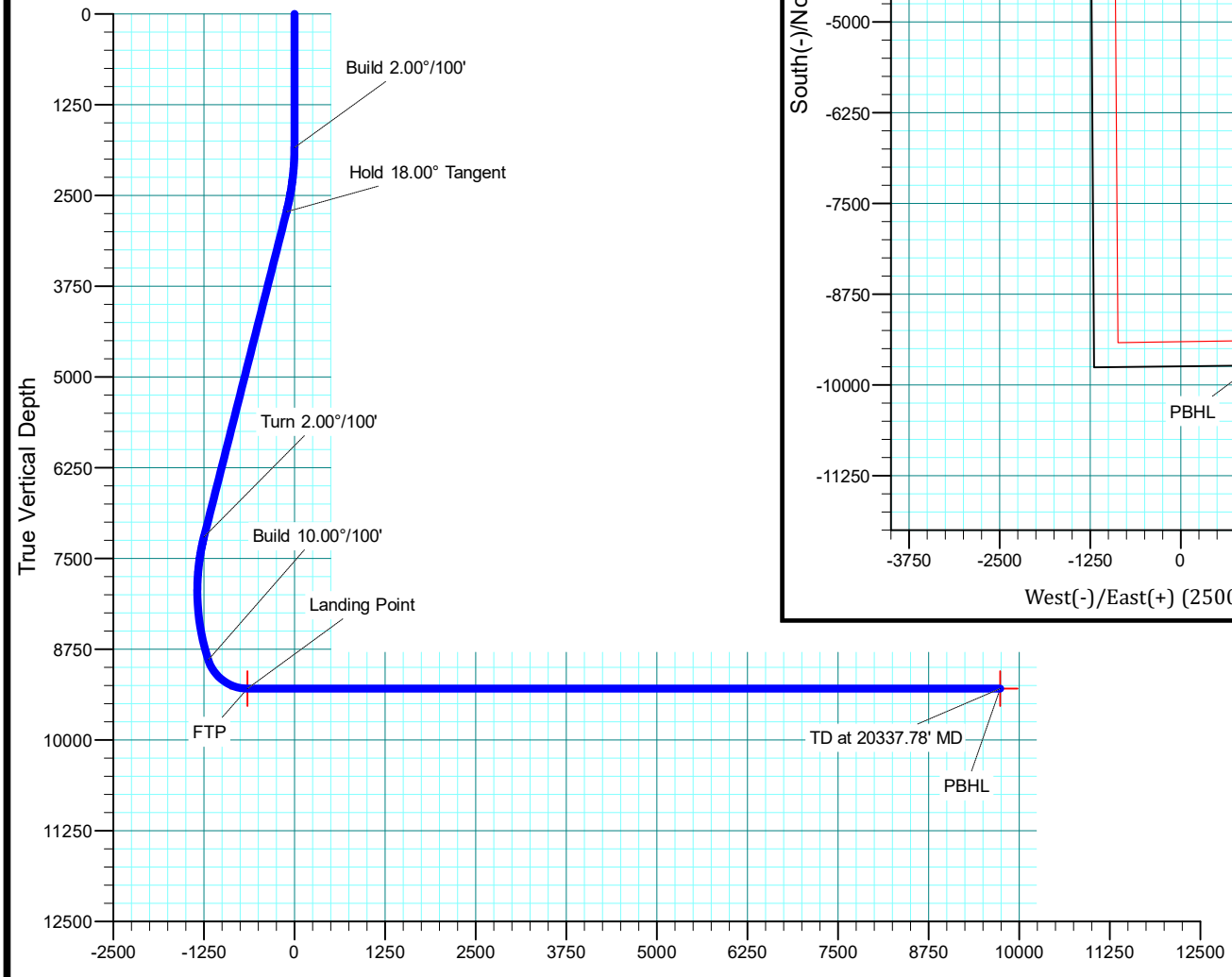
WELL DETAILS: LION OIL 28_33 FED COM 16H

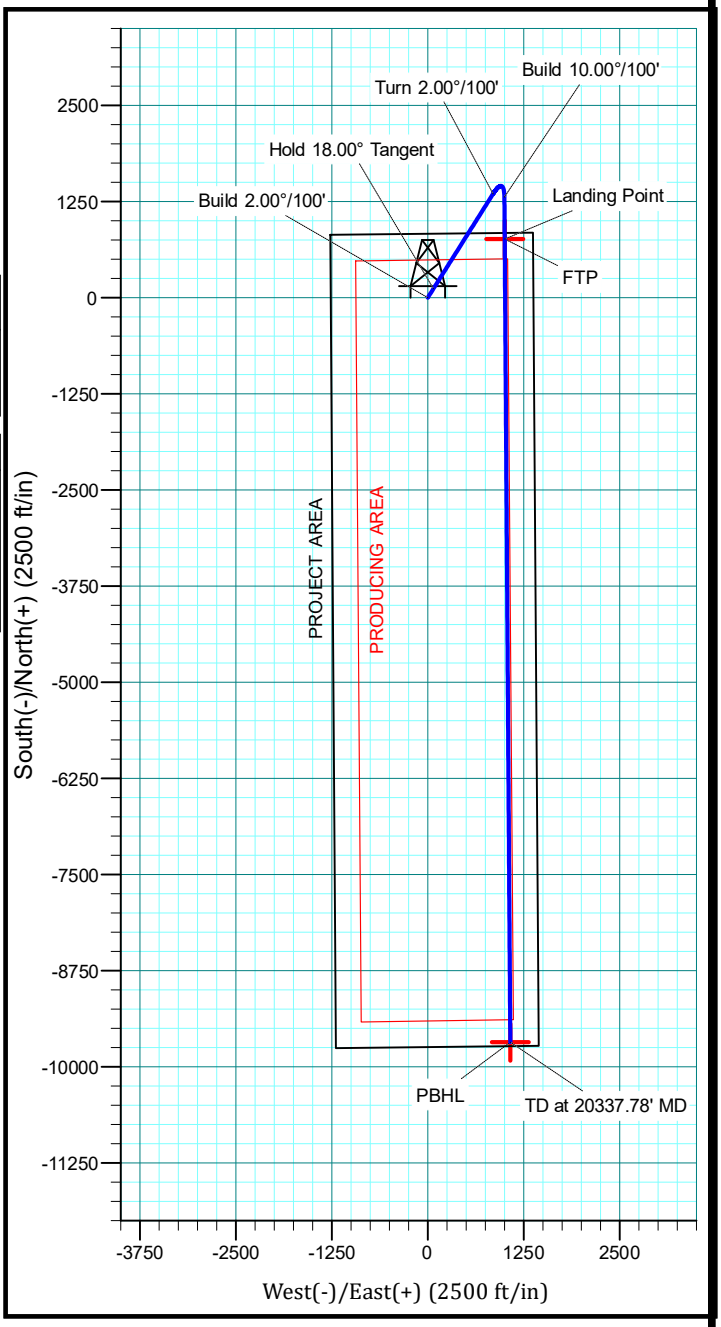
Ground Level: 3617.30

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	498070.05	744409.13	32° 22' 3.176750 N	103° 40' 32.186012 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1840.00	0.00	0.00	1840.00	0.00	0.00	0.00	0.00	0.00	Build 2.00°/100'
2740.06	18.00	32.21	2725.33	118.65	74.75	2.00	32.21	-109.66	Hold 18.00° Tangent
7450.88	18.00	32.21	7205.55	1350.39	850.77	0.00	0.00	-1248.11	Turn 2.00°/100'
9176.21	18.00	179.60	8897.90	1308.10	999.26	2.00	162.90	-1189.67	Build 10.00°/100'
9896.21	90.00	179.60	9293.80	763.19	1003.07	10.00	0.00	-647.68	Landing Point
20337.78	90.00	179.60	9293.80	-9678.12	1076.00	0.00	0.00	9737.75	TD at 20337.78' MD





Oxy USA Inc. - Lion Oil 28_33 Fed Com 16H

1. Geologic Formations

TVD of target	9293'	Pilot Hole Depth	N/A
MD at TD:	20337'	Deepest Expected fresh water:	827'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	827	
Salado	1,266	Salt
Castile	2,896	Salt
Lamar/Delaware	4,645	Oil/Gas/Brine
Bell Canyon	4,689	Oil/Gas/Brine
Cherry Canyon	5,607	Oil/Gas/Brine
Brushy Canyon	6,870	Oil/Gas/Brine
Bone Spring	**8,527**	**Oil/Gas**

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	Buoyant Body SF Tension	Buoyant Joint SF Tension
	From (ft)	To (ft)								
17.5	0	877	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
12.25	0	6200	9.625	43.5	L-80	BTC	1.125	1.2	1.4	1.4
8.5	0	20337	5.5	20	P-110	DQX	1.125	1.2	1.4	1.4
							SF Values will meet or Exceed			

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

*Oxy requests the option to set casing shallower yet still below the salts if losses or hole conditions require this. Cement volumes may be adjusted if casing is set shallower and a DV tool may be run in case hole conditions merit pumping a second stage cement job to comply with permitted top of cement. If cement circulated to surface during first stage, we will drop a cancelation cone and not pump the second stage.

*Oxy requests the option to run production casing with DQX and/or SF TORQ connections to accommodate hole conditions or drilling operations.

Annular Clearance Variance Request

As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422" annular clearance requirement from Onshore Order #2 under the following conditions:

1. Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casings.
2. Annular clearance less than 0.422" is acceptable for the curve and lateral portions of the production open hole section.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y

Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H20 (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	928	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate (Lead)	1494	12.9	1.73	8.784	15:26	Pozzolan Cement, Retarder
Intermediate (Tail)	155	14.8	1.33	6.368	7:11	Class C Cement, Accelerator
Production 1st Stage (Lead)	289	13.2	1.38	6.692	17:50	Class H Cement, Retarder, Dispersant, Salt
Production 1st Stage (Tail)	2067	13.2	1.38	6.686	3:49	Class H Cement, Retarder, Dispersant, Salt
2nd Stage Production Lead Slurry to be pumped as Bradenhead Squeeze from surface, down the Production annulus.						
Production 2nd Stage (Tail)	941	12.9	1.872	10.11	21:54	Class C Cement, Accelerator

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	877	100%
Intermediate (Lead)	0	5700	50%
Intermediate (Tail)	5700	6200	20%
Production 1st Stage (Lead)	6870	8527	5%
Production 1st Stage (Tail)	8527	20337	5%
Production 2nd Stage (Tail)	0	6870	25%

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12.25" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250/5000psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	Y — Are anchors required by manufacturer?
	A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015. See attached schematics.

BOP Break Testing Request

As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow BOP Break Testing under the following conditions:

- After a full BOP test is conducted on the first well on the pad.
- When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.
- Full BOP test will be required prior to drilling any production hole.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	877	Water-Based Mud	8.6-8.8	40-60	N/C
877	6200	Saturated Brine-Based Mud	9.8-10.0	35-45	N/C
6200	20337	Water-Based or Oil-Based Mud	8.0-9.6	38-50	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Yes	Will run GR from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
No	Logs are planned based on well control or offset log information.
No	Drill stem test? If yes, explain
No	Coring? If yes, explain

Additional logs planned		Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4640 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	155°F

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will

be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe. • We plan to drill the three well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. • Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Oxy would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

Total estimated cuttings volume: 2029.1 bbls**.**

9. Company Personnel

Name	Title	Office Phone	Mobile Phone
Derek Adam	Drilling Engineer	713-366-5170	916-802-8873
Diego Tellez	Drilling Engineer Supervisor	713-350-4602	713-303-4932
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
John Willis	Drilling Manager	713-366-5556	713-259-1417

APD ID: 10400040168 **Submission Date:** 03/22/2019

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

LionOil28_33FdCom16H_ExistRoads_20190322104354.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

LionOil28_33FdCom16H_NewRoads_20190322104530.pdf

New road type: LOCAL

Length: 108.6 Feet **Width (ft.):** 25

Max slope (%): 0 **Max grade (%):** 0

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Watershed Diversion every 200' if needed.

New road access plan or profile prepared? YES

New road access plan attachment:

LionOil28_33FdCom16H_NewRoads_20190322104558.pdf

Access road engineering design? NO

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Access road engineering design attachment:

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 0

Offsite topsoil source description:

Onsite topsoil removal process: If available

Access other construction information: None

Access miscellaneous information: The access road will run from an existing road going 108.6’ south through pasture to the northwest corner of the pad.

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: CULVERT

Drainage Control comments: Watershed Diversion every 200' if needed.

Road Drainage Control Structures (DCS) description: Watershed Diversion every 200' if needed.

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

LionOil28_33FdCom16H_ExistWells_20190322104707.pdf

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: a. In the event the well is found productive, the Red Tank 27-28 Federal Central Tank Battery would be utilized and the necessary production equipment will be installed at the well site. See proposed facilities layout diagram. b. All flow lines will adhere to API standards. They will consist of 3 – 4” composite flowlines operating 75% MAWP, lines to follow surveyed route. Survey of a strip of land 30’ wide and 7953.2’ (1.506 mi) in length crossing USA Land in Sections 26 & 27, T22S R32E, NMPM Eddy County, NM, and being 15’ left and 15’ right of the centerline survey, see attached. 2-8” steel gas lines operating 1500psig, buried and 1 buried fiber optic cable, gas lift lines to follow surveyed route. Survey of a strip of land 30‘ wide and 12673.1’ (2.4mi) in length crossing USA land in Sections 26, 27 & 28, T22S, R32E, NMPM, Lea County, NM and being 15’ left and 15’ right of the centerline survey, see attached. c. Electric line will follow a route approved by the BLM. Survey of a strip of land 50’ wide and 3038.7’ (0.576mi) in length crossing USA land in Sections 27 & 28, T22S R32E NMPM, Lea County, NM and being 25’ left and 25’ right of the centerline survey, see attached. d. See

attached for additional information on the Red Tank 27-28 Central Tank Battery and the Red Tank 27-28 Pad Expansion.

Production Facilities map:

LionOil28_33FdCom16H_FacilityPLEL_20190322104734.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: GW WELL

Water source use type: SURFACE CASING

INTERMEDIATE/PRODUCTION CASING

OTHER **Describe use type:** Drilling

Source latitude: **Source longitude:**

Source datum:

Water source permit type: WATER WELL

Water source transport method: TRUCKING

PIPELINE

Source land ownership: COMMERCIAL

Source transportation land ownership: COMMERCIAL

Water source volume (barrels): 2000 **Source volume (acre-feet):** 0.25778618

Source volume (gal): 84000

Water source and transportation map:

LionOil28_33FdCom16H_GRRWtrSrc_20190322104800.pdf

LionOil28_33FdCom16H_MesqWtrSrc_20190322104820.pdf

Water source comments: This well will be drilled using a combination of water mud systems. It will be obtained from commercial water stations (Gregory Rockhouse, Mesquite) in the area and will be hauled to location by transport truck using existing and proposed roads.

New water well? NO

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Primary - All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM/State/Fee approved pit or from prevailing deposits found on the location. Will use BLM recommended extra caliche from other locations close by for roads, if available. Secondary - The secondary way of obtaining caliche to build locations and roads will be by “turning over” the location. This means, caliche will be obtained from the actual well site. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cubic yards is max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel: a. The top 6” of topsoil is pushed off and stockpiled along the side of the location. b. An approximate 120’ X 120’ area is used within the proposed well site to remove caliche. c. Subsoil is removed and piled alongside the 120’ X 120’ within the pad site. d. When caliche is found, material will be stockpiled within the pad site to build the location and road. e. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road. f. Once the well is drilled the stockpiled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the edge of the pad. Caliche will be provided from a pit located in Section 25 T23S R31E. Water will be provided from a frac pond located in Sections 26 T23S R31E.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Water-Based Cuttings, Water-Based Mud, Oil-Based Cuttings, Oil-Based Mud, Produced Water

Amount of waste: 2029.1 barrels

Waste disposal frequency : Daily

Safe containment description: Haul-Off Bins

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Disposal location description: An approved facility that can process drill cuttings, drill fluids, flowback water, produced water, contaminated soils, and other non-hazardous wastes.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location A closed loop system will be utilized consisting of above ground steel tanks and haul-off bins. Disposal of liquids, drilling fluids and cuttings will be disposed of at an approved facility.

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

LionOil28_33FdCom16H_WellSiteCL_20190322105616.pdf

Comments: V-Door-Northwest - CL Tanks-Southwest - 330' X 755' – 5 Well Pad

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: LION OIL 28-33 FEDERAL COM

Multiple Well Pad Number: 14H, 15H, 16H, 24H & 25H

Recontouring attachment:

Drainage/Erosion control construction: Reclamation to be wind rowed as needed to control erosion

Drainage/Erosion control reclamation: Reclamation to be wind rowed as needed to control erosion

Well pad proposed disturbance (acres): 5.72
Road proposed disturbance (acres): 0.07
Powerline proposed disturbance (acres): 2.09
Pipeline proposed disturbance (acres): 14.21
Other proposed disturbance (acres): 0

Total proposed disturbance: 22.09

Well pad interim reclamation (acres): 1.57
Road interim reclamation (acres): 0.04
Powerline interim reclamation (acres): 2.09
Pipeline interim reclamation (acres): 9.47
Other interim reclamation (acres): 0

Total interim reclamation: 13.17

Well pad long term disturbance (acres): 4.15
Road long term disturbance (acres): 0.03
Powerline long term disturbance (acres): 0
Pipeline long term disturbance (acres): 4.74
Other long term disturbance (acres): 0

Total long term disturbance: 8.92

Disturbance Comments: See Below

Reconstruction method: If the well is deemed commercially productive, caliche from the areas of the pad site not required for operations will be reclaimed. The original topsoil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original topsoil will again be returned to the pad and contoured, as close as possible, to the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation.
Topsoil redistribution: The original topsoil will be returned to the area of the drill pad not necessary to operate the well.

Soil treatment: To be determined by the BLM.

Existing Vegetation at the well pad: To be determined by the BLM at Onsite.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: To be determined by the BLM at Onsite.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: To be determined by the BLM at Onsite.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: To be determined by the BLM at Onsite.

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Jim **Last Name:** Wilson

Phone: (575)631-2442 **Email:** jim_wilson@oxy.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: To be determined by the BLM.

Weed treatment plan attachment:

Monitoring plan description: To be determined by the BLM.

Monitoring plan attachment:

Success standards: To be determined by the BLM.

Pit closure description: NA

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: OTHER

Describe: Electric Line

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Section 12 - Other Information

Right of Way needed? YES **Use APD as ROW?** YES

ROW Type(s): 281001 ROW - ROADS,285003 ROW – POWER TRANS,288100 ROW – O&G Pipeline,288101 ROW – O&G Facility Sites,289001 ROW- O&G Well Pad

ROW Applications

SUPO Additional Information: Permian Basin MOA - To be submitted after APD acceptance. GIS Shapefiles available for BLM download from shared FTP site after APD submittal.
Use a previously conducted onsite? NO

Previous Onsite information:

Other SUPO Attachment

LionOil28_33FdCom16H_StakeForm_20190322105648.pdf
LionOil28_33FdCom16H_GasCapPlan_20190322105658.pdf
LionOil28_33FdCom16H_MiscSvyPlats_20190322105713.pdf
LionOil28_33FdCom16H_SUPO_20190322105726.pdf

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

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 2-20-2019

☒ Original

Operator & OGRID No.: OXY USA INC. - 16696

☐ Amended - Reason for Amendment:_____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Red Tank 27-28 CTB

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Taco Cat 27_34 Fed Com #12H	Pending	Unit B Sec. 27 T22S R32E	280'FNL 2380'FEL	4,400	0	
Taco Cat 27_34 Fed Com #13H	Pending	Unit B Sec. 27 T22S R32E	280'FNL 2345'FEL	4,400	0	
Taco Cat 27_34 Fed Com #14H	Pending	Unit B Sec. 27 T22S R32E	280'FNL 2310'FEL	4,400	0	
Taco Cat 27_34 Fed Com #15H	Pending	Unit A Sec. 27 T22S R32E	261'FNL 220'FEL	4,400	0	
Taco Cat 27_34 Fed Com #16H	Pending	Unit A Sec. 27 T22S R32E	261'FNL 185'FEL	4,400	0	
Taco Cat 27_34 Fed Com #22H	Pending	Unit C Sec. 27 T22S R32E	520'FNL 1880'FWL	2,200	0	
Taco Cat 27_34 Fed Com #23H	Pending	Unit C Sec. 27 T22S R32E	520'FNL 1915'FWL	2,200	0	
Taco Cat 27_34 Fed Com #32H	Pending	Unit C Sec. 27 T22S R32E	340'FNL 1880'FWL	4,300	0	
Taco Cat 27_34 Fed Com #33H	Pending	Unit C Sec. 27 T22S R32E	340'FNL 1915'FWL	4,300	0	
Taco Cat 27_34 Fed Com #11H	30-025-44933	Unit D Sec. 27 T22S R32E	260'FNL 855'FWL	3,000	0	
Taco Cat 27_34 Fed Com #21H	30-025-44934	Unit D Sec. 27 T22S R32E	260'FNL 785'FWL	1,300	0	
Taco Cat 27_34 Fed Com #31H	30-025-44935	Unit D Sec. 27 T22S R32E	260'FNL 820'FWL	1,300	0	
Taco Cat 27_34 Fed Com #24H	Pending	Unit A Sec. 27 T22S R32E	520'FNL 1290'FEL	2,200	0	
Taco Cat 27_34 Fed Com #25H	Pending	Unit A Sec. 27 T22S R32E	520'FNL 1255'FEL	2,200	0	
Taco Cat 27_34 Fed Com #26H	Pending	Unit A Sec. 27 T22S R32E	520'FNL 1220'FEL	2,200	0	
Taco Cat 27_34 Fed Com #34H	Pending	Unit A Sec. 27 T22S R32E	340'FNL 1290'FEL	4,300	0	
Taco Cat 27_34 Fed Com #35H	Pending	Unit A Sec. 27 T22S R32E	340'FNL 1255'FEL	4,300	0	

Taco Cat 27_34 Fed Com #36H	Pending	Unit A Sec. 27 T22S R32E	340'FNL 1220'FEL	4,300	0	
Lion Oil 28_33 Fed Com # 24H	Pending	Unit A Sec. 28 T22S R32E	911'FNL 1155'FEL	2,200	0	
Lion Oil 28_33 Fed Com # 25H	Pending	Unit A Sec. 28 T22S R32E	919'FNL 1121'FEL	2,200	0	
Lion Oil 28_33 Fed Com # 34H	Pending	Unit B Sec. 28 T22S R32E	225'FNL 1550'FEL	4,300	0	
Lion Oil 28_33 Fed Com # 35H	Pending	Unit B Sec. 28 T22S R32E	255'FNL 1515'FEL	4,300	0	
Lion Oil 28_33 Fed Com # 14H	Pending	Unit B Sec. 28 T22S R32E	835'FNL 1456'FEL	4,400	0	
Lion Oil 28_33 Fed Com # 15H	Pending	Unit B Sec. 28 T22S R32E	844'FNL 1422'FEL	4,400	0	
Lion Oil 28_33 Fed Com # 16H	Pending	Unit B Sec. 28 T22S R32E	852'FNL 1388'FEL	4,400	0	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, where a gas transporter system is in place. The gas produced from production facility is dedicated to DCP Midstream, LP ("DCP") and is connected to DCP's low pressure gathering system located in Lea, New Mexico. OXY USA INC. ("OXY") provides (periodically) to DCP a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, OXY and DCP have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP's Processing Plant located in Sec. 30, 31 T22S R32E Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

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APD ID: 10400040168 **Submission Date:** 03/22/2019

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM **Well Number:** 16H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

07/30/2020

APD ID: 10400040168

Submission Date: 03/22/2019

Operator Name: OXY USA INCORPORATED

Well Name: LION OIL 28-33 FEDERAL COM

Well Number: 16H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: ESB000226

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

OCD – HOBBS
08/18/2020
RECEIVED

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025- **30-025-47620**	~~51863~~ 51683	RED TANK, BONE SPRING

Property Code	Property Name	Well Number
327301	LION OIL "28_33" FEDERAL COM	16H

OGRID No.	Operator Name	Elevation
16696	OXY USA INC.	3617.7'

Surface Location

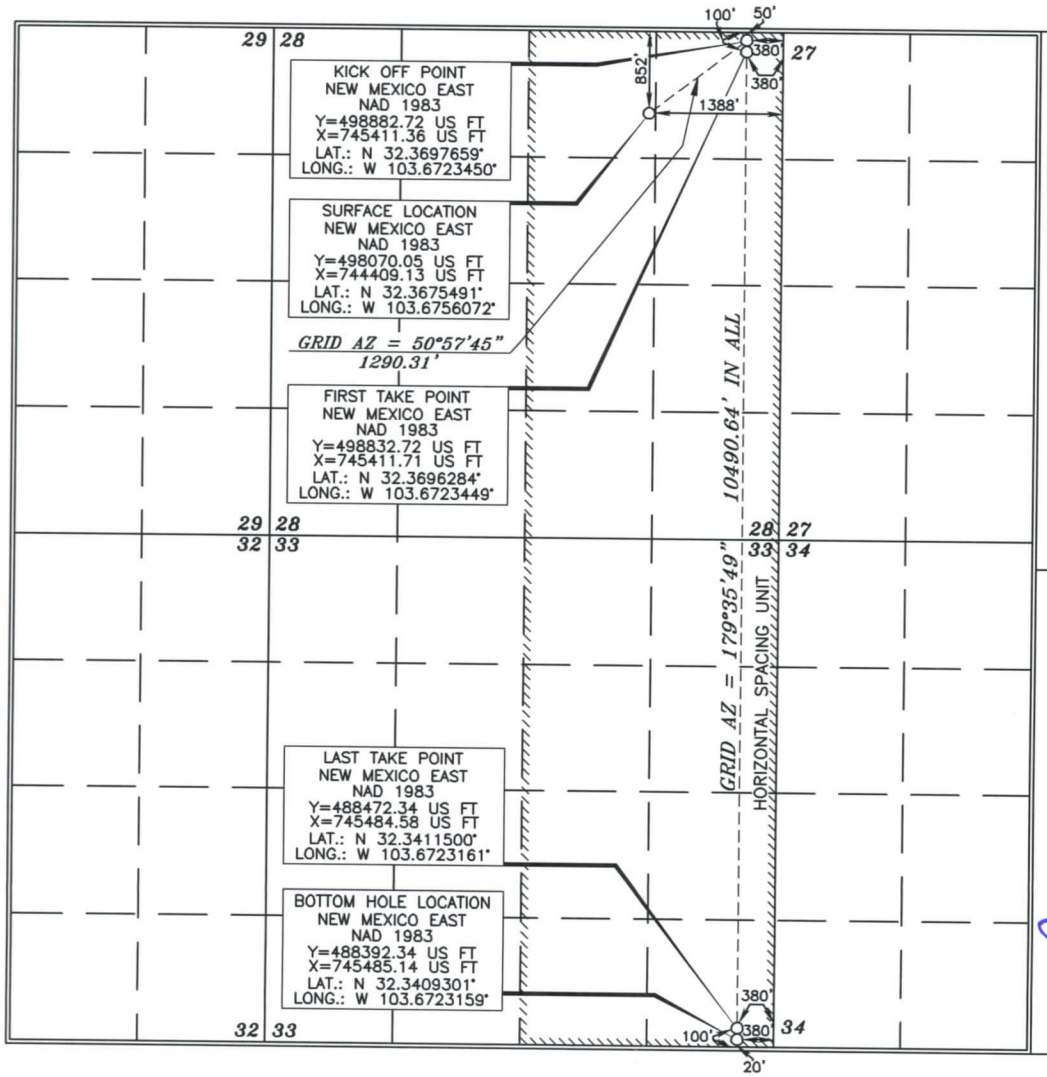
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	28	22 SOUTH	32 EAST, N.M.P.M.		852'	NORTH	1388'	EAST	LEA

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
P	33	22 SOUTH	32 EAST, N.M.P.M.		20'	SOUTH	380'	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

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 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.

Leslie Reeves 03/19/19
Signature Date

LESLIE REEVES
Printed Name

LESLIE_REEVES@OXY.COM
E-mail Address

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.

JERRY J ASEL
NEW MEXICO
15079
REGISTERED PROFESSIONAL LAND SURVEYOR

OCTOBER 11, 2018
Date of Survey

Signature and Seal of Professional Surveyor:

Jerry J. Asel 11/7/2019

Certificate Number 15079

WO# 181011WL–b (KA)

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State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original to Appropriate District Office

OCD – HOBBS
08/18/2020
RECEIVED

GAS CAPTURE PLAN

Date: 2-20-2019

☒ Original

Operator & OGRID No.: OXY USA INC. - 16696

☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Red Tank 27-28 CTB

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Taco Cat 27_34 Fed Com #12H	Pending	Unit B Sec. 27 T22S R32E	280'FNL 2380'FEL	4,400	0	
Taco Cat 27_34 Fed Com #13H	Pending	Unit B Sec. 27 T22S R32E	280'FNL 2345'FEL	4,400	0	
Taco Cat 27_34 Fed Com #14H	Pending	Unit B Sec. 27 T22S R32E	280'FNL 2310'FEL	4,400	0	
Taco Cat 27_34 Fed Com #15H	Pending	Unit A Sec. 27 T22S R32E	261'FNL 220'FEL	4,400	0	
Taco Cat 27_34 Fed Com #16H	Pending	Unit A Sec. 27 T22S R32E	261'FNL 185'FEL	4,400	0	
Taco Cat 27_34 Fed Com #22H	Pending	Unit C Sec. 27 T22S R32E	520'FNL 1880'FWL	2,200	0	
Taco Cat 27_34 Fed Com #23H	Pending	Unit C Sec. 27 T22S R32E	520'FNL 1915'FWL	2,200	0	
Taco Cat 27_34 Fed Com #32H	Pending	Unit C Sec. 27 T22S R32E	340'FNL 1880'FWL	4,300	0	
Taco Cat 27_34 Fed Com #33H	Pending	Unit C Sec. 27 T22S R32E	340'FNL 1915'FWL	4,300	0	
Taco Cat 27_34 Fed Com #11H	30-025-44933	Unit D Sec. 27 T22S R32E	260'FNL 855'FWL	3,000	0	
Taco Cat 27_34 Fed Com #21H	30-025-44934	Unit D Sec. 27 T22S R32E	260'FNL 785'FWL	1,300	0	
Taco Cat 27_34 Fed Com #31H	30-025-44935	Unit D Sec. 27 T22S R32E	260'FNL 820'FWL	1,300	0	
Taco Cat 27_34 Fed Com #24H	Pending	Unit A Sec. 27 T22S R32E	520'FNL 1290'FEL	2,200	0	
Taco Cat 27_34 Fed Com #25H	Pending	Unit A Sec. 27 T22S R32E	520'FNL 1255'FEL	2,200	0	
Taco Cat 27_34 Fed Com #26H	Pending	Unit A Sec. 27 T22S R32E	520'FNL 1220'FEL	2,200	0	
Taco Cat 27_34 Fed Com #34H	Pending	Unit A Sec. 27 T22S R32E	340'FNL 1290'FEL	4,300	0	
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Lion Oil 28_33 Fed Com # 25H	Pending	Unit A Sec. 28 T22S R32E	919'FNL 1121'FEL	2,200	0	
Lion Oil 28_33 Fed Com # 34H	Pending	Unit B Sec. 28 T22S R32E	225'FNL 1550'FEL	4,300	0	
Lion Oil 28_33 Fed Com # 35H	Pending	Unit B Sec. 28 T22S R32E	255'FNL 1515'FEL	4,300	0	
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30-025-47620

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