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Form 3160-3
(June 2015)

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.
NMNM059386

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.
CORRAL CANYON 36-25 FED COM
44H

2. Name of Operator
OXY USA INCORPORATED

9. API Well No.
30-015-46539

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
~~LIVINGSTON RIDGE~~ / WOLFCAMP
PURPLE SAGE 98220

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface LOT 1 / 910 FNL / 150 FEL / LAT 32.16408 / LONG -103.92994
At proposed prod. zone NENE / 20 FNL / 940 FEL / LAT 32.195584 / LONG -103.932513

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 1 / T25S / R29E / NMP

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

12. County or Parish
EDDY

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
240

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
11495 feet / 22350 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3144 feet

22. Approximate date work will start*
01/04/2020

23. Estimated duration
20 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)	David Stewart / Ph: (432)685-5717	07/10/2019

Title
Sr. Regulatory Advisor

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	11/08/2019

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.

APPROVED WITH CONDITIONS
Approval Date: 11/08/2019

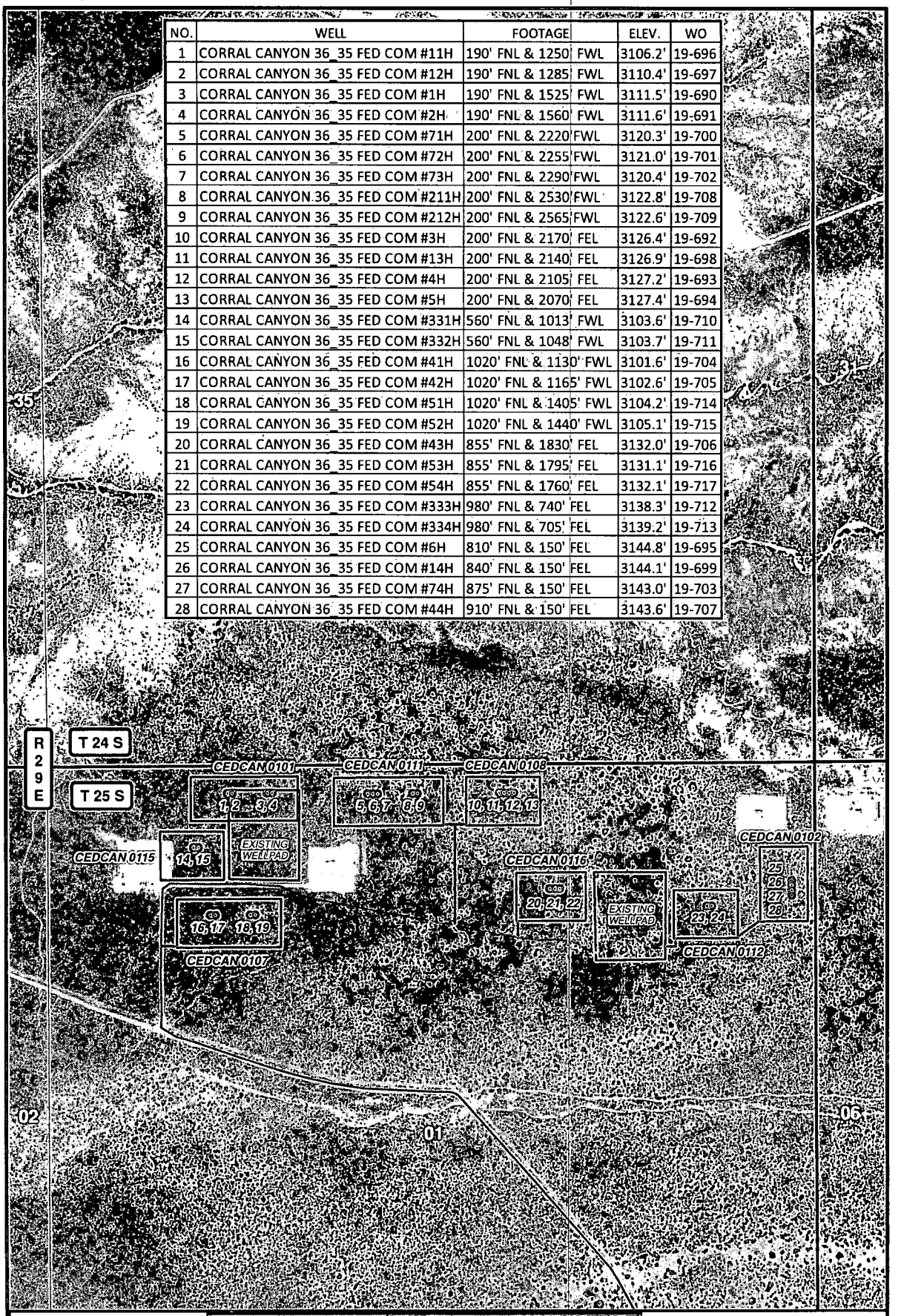
RWP
12-26-19.

NSL

(Continued on page 2)

*(Instructions on page 2)

NO.	WELL	FOOTAGE	ELEV.	WO
1	CORRAL CANYON 36_35 FED COM #11H	190' FNL & 1250' FWL	3106.2'	19-696
2	CORRAL CANYON 36_35 FED COM #12H	190' FNL & 1285' FWL	3110.4'	19-697
3	CORRAL CANYON 36_35 FED COM #1H	190' FNL & 1525' FWL	3111.5'	19-690
4	CORRAL CANYON 36_35 FED COM #2H	190' FNL & 1560' FWL	3111.6'	19-691
5	CORRAL CANYON 36_35 FED COM #71H	200' FNL & 2220' FWL	3120.3'	19-700
6	CORRAL CANYON 36_35 FED COM #72H	200' FNL & 2255' FWL	3121.0'	19-701
7	CORRAL CANYON 36_35 FED COM #73H	200' FNL & 2290' FWL	3120.4'	19-702
8	CORRAL CANYON 36_35 FED COM #211H	200' FNL & 2530' FWL	3122.8'	19-708
9	CORRAL CANYON 36_35 FED COM #212H	200' FNL & 2565' FWL	3122.6'	19-709
10	CORRAL CANYON 36_35 FED COM #3H	200' FNL & 2170' FEL	3126.4'	19-692
11	CORRAL CANYON 36_35 FED COM #13H	200' FNL & 2140' FEL	3126.9'	19-698
12	CORRAL CANYON 36_35 FED COM #4H	200' FNL & 2105' FEL	3127.2'	19-693
13	CORRAL CANYON 36_35 FED COM #5H	200' FNL & 2070' FEL	3127.4'	19-694
14	CORRAL CANYON 36_35 FED COM #331H	560' FNL & 1013' FWL	3103.6'	19-710
15	CORRAL CANYON 36_35 FED COM #332H	560' FNL & 1048' FWL	3103.7'	19-711
16	CORRAL CANYON 36_35 FED COM #41H	1020' FNL & 1130' FWL	3101.6'	19-704
17	CORRAL CANYON 36_35 FED COM #42H	1020' FNL & 1165' FWL	3102.6'	19-705
18	CORRAL CANYON 36_35 FED COM #51H	1020' FNL & 1405' FWL	3104.2'	19-714
19	CORRAL CANYON 36_35 FED COM #52H	1020' FNL & 1440' FWL	3105.1'	19-715
20	CORRAL CANYON 36_35 FED COM #43H	855' FNL & 1830' FEL	3132.0'	19-706
21	CORRAL CANYON 36_35 FED COM #53H	855' FNL & 1795' FEL	3131.1'	19-716
22	CORRAL CANYON 36_35 FED COM #54H	855' FNL & 1760' FEL	3132.1'	19-717
23	CORRAL CANYON 36_35 FED COM #333H	980' FNL & 740' FEL	3138.3'	19-712
24	CORRAL CANYON 36_35 FED COM #334H	980' FNL & 705' FEL	3139.2'	19-713
25	CORRAL CANYON 36_35 FED COM #6H	810' FNL & 150' FEL	3144.8'	19-695
26	CORRAL CANYON 36_35 FED COM #14H	840' FNL & 150' FEL	3144.1'	19-699
27	CORRAL CANYON 36_35 FED COM #74H	875' FNL & 150' FEL	3143.0'	19-703
28	CORRAL CANYON 36_35 FED COM #44H	910' FNL & 150' FEL	3143.6'	19-707



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

CORRAL CANYON 36_35 FEDERAL COM WELLS

SECTION: 1 TOWNSHIP: 25 S. RANGE: 29 E.

STATE: NEW MEXICO COUNTY: EDDY SURVEY: N.M.P.M

W.O. # 19-690-717 LEASE: CORRAL CANYON 36_35 FED COM

0 750 1,500 2,250 FEET

0 0.05 0.1 0.2 Miles

1 IN = 750 FT

LOCATION MAP IMAGERY 6/14/2019 A.M.

OXY USA INC.

HARCROW SURVEYING, LLC.
2316 W. MAIN ST, ARTESIA, NM 88210
PH: (575) 746-2158
c.harcrow@harcrowsurveying.com

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA INCORPORATED
LEASE NO.:	NMNM059386
WELL NAME & NO.:	44H – CORRAL CANYON 36-25 FED COM
SURFACE HOLE FOOTAGE:	910'/N & 150'/E
BOTTOM HOLE FOOTAGE	20'/N & 940'/E
LOCATION:	SECTION 1, T25S, R29E, NMPM
COUNTY:	EDDY

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 **10-3/4** inch surface casing shall be set at approximately **850** feet (a minimum of **70 feet (Eddy 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 **24 hours in the Potash Area** 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 1/3 fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **7-5/8** 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.

❖ In **R111 Potash Areas** if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

The pilot hole plugging procedure is approved as written. Note plug tops on subsequent drilling report.

Or,

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted **(575-361-2822 Eddy County) (575-393-3612 Lea County)** prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Note plug tops on subsequent drilling report.

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

Option 1 (Single Stage):

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

Operator has proposed to pump down 7-5/8" X 5 1/2" x 5" annulus. Operator must run a CBL / Ecometer from TD of the 5 1/2 x 5" casing to surface. Submit results to BLM.

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 **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 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 **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 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 Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, 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.

Offline Cementing

- Contact the BLM prior to the commencement of any offline cementing procedure.

BOP Break Testing Variance

- BOP break testing is not permitted on this well pending submittion of break testing sundry.

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.

NMK10212019

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

Corral Canyon 36-25 Federal Com 1H	190 FNL and 1,525 FWL	Section 1, Township 25 South, Range 29 East	SLO
Corral Canyon 36-25 Federal Com 2H	190 FNL and 1,560 FWL		
Corral Canyon 36-25 Federal Com 3H	200 FNL and 2,170 FEL		
Corral Canyon 36-25 Federal Com 4H	200 FNL and 2,105 FEL		
Corral Canyon 36-25 Federal Com 5H	200 FNL and 2,070 FEL		
Corral Canyon 36-25 Federal Com 6H	810 FNL and 150 FEL		
Corral Canyon 36-25 Federal Com 11H	190 FNL and 1,250 FWL		
Corral Canyon 36-25 Federal Com 12H	190 FNL and 1,285 FWL		
Corral Canyon 36-25 Federal Com 13H	200 FNL and 2,140 FEL		
Corral Canyon 36-25 Federal Com 14H	840 FNL and 150 FEL		
Corral Canyon 36-25 Federal Com 41H	1,020 FNL and 1,130 FWL		
Corral Canyon 36-25 Federal Com 42H	1,020 FNL and 1,165 FWL		
Corral Canyon 36-25 Federal Com 43H	855 FNL and 1,830 FEL		
Corral Canyon 36-25 Federal Com 44H	910 FNL and 150 FEL		
Corral Canyon 36-25 Federal Com 51H	1,020 FNL and 1,405 FWL		
Corral Canyon 36-25 Federal Com 52H	1,020 FNL and 1,440 FWL		
Corral Canyon 36-25 Federal Com 53H	855 FNL and 1,795 FEL		
Corral Canyon 36-25 Federal Com 54H	855 FNL and 1,760 FEL		
Corral Canyon 36-25 Federal Com 71H	200 FNL and 2,220 FWL		
Corral Canyon 36-25 Federal Com 72H	200 FNL and 2,255 FWL		
Corral Canyon 36-25 Federal Com 73H	200 FNL and 2,290 FWL		
Corral Canyon 36-25 Federal Com 74H	875 FNL and 150 FEL		
Corral Canyon 36-25 Federal Com 211H	200 FNL and 2,530 FWL		
Corral Canyon 36-25 Federal Com 212H	200 FNL and 2,565 FWL		
Corral Canyon 36-25 Federal Com 331H	560 FNL and 1,013 FWL		
Corral Canyon 36-25 Federal Com 332H	560 FNL and 1,048 FWL		
Corral Canyon 36-25 Federal Com 333H	980 FNL and 740 FEL		
Corral Canyon 36-25 Federal Com 334H	980 FNL and 705 FEL		

TABLE OF CONTENTS

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.

Approval Date: 11/08/2019

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☐ **Special Requirements**
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities

- ☐ **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)

Fee Fee Fed

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.

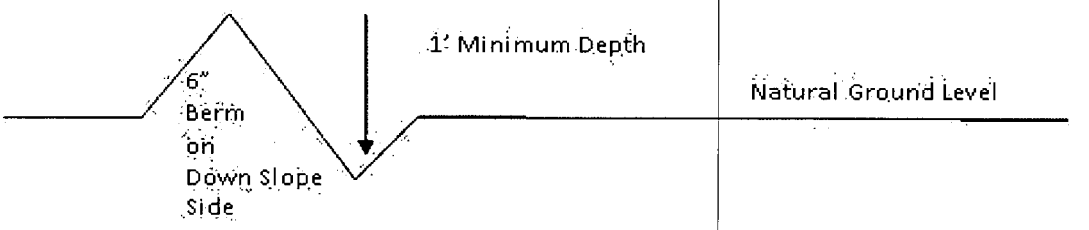
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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:

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

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

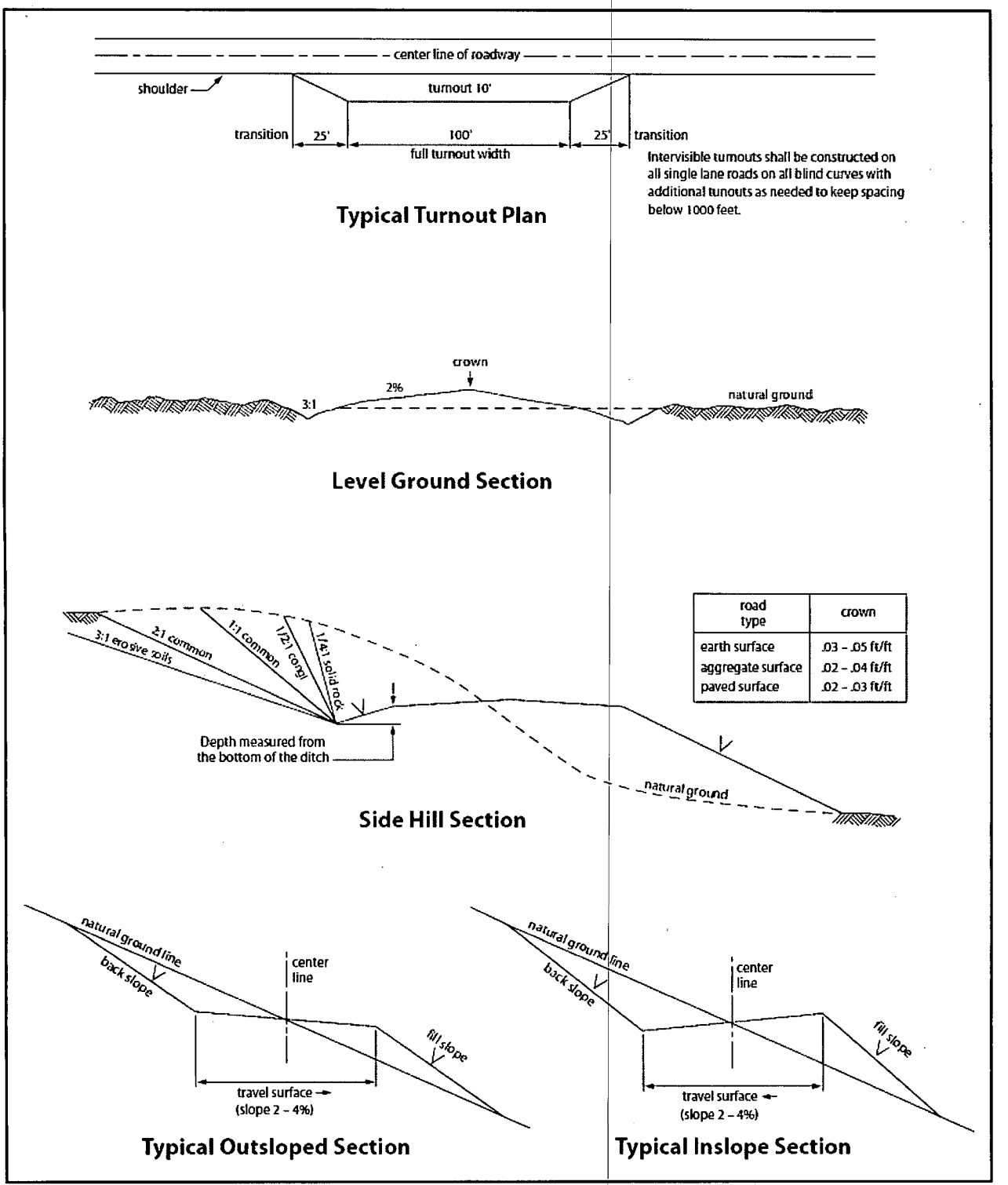


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

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).

(Insert Seed Mixture Here)

AFMSS

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

Operator Certification Data Report

11/11/2019

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: David Stewart

Signed on: 07/08/2019

Title: Sr. Regulatory Advisor

Street Address: 6001 Deauville Blvd

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

Phone: (432)685-5717

Email address: david_stewart@oxy.com

Field Representative

Representative Name: Jim Wilson

Street Address: 6001 Deauville

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

Phone: (575)631-2442

Email address: jim_wilson@oxy.com

AFMSS

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

Application Data Report

11/11/2019

APD ID: 10400043435 **Submission Date:** 07/10/2019

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400043435 **Tie to previous NOS?** **Submission Date:** 07/10/2019

BLM Office: CARLSBAD **User:** David Stewart **Title:** Sr. Regulatory Advisor

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

Lease number: NMNM059386 **Lease Acres:** 240

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

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

Agreement number:

Agreement name:

Keep application confidential? NO

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: CORRAL CANYON 36-25 FED COM **Well Number:** 44H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** LIVINGSTON RIDGE **Pool Name:** WOLFCAMP

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

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

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

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:** CORRAL CANYON 36-25 FED COM **Number:** 6H

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 8 Miles **Distance to nearest well:** 35 FT **Distance to lease line:** 20 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: CorralCanyon36_25FdCom44H_C102_20190708121527.pdf

CorralCanyon36_25FdCom44H_SitePlan_20190708121539.pdf

Well work start Date: 01/04/2020 **Duration:** 20 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
SHL Leg #1	910	FNL	150	FEL	25S	29E	1	Lot 1	32.16408	-103.92994	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	3144	0	0	
KOP Leg #1	50	FSL	940	FEL	24S	29E	36	Aliquot SESE	32.166711	-103.932497	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-7874	11096	11018	

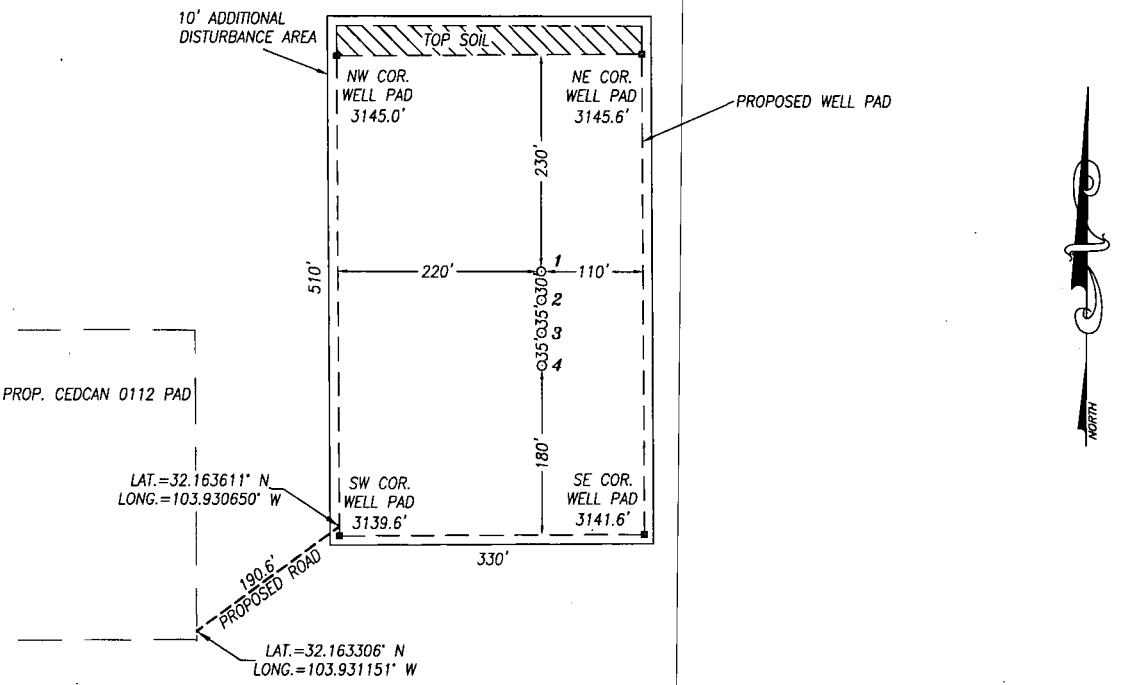
Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

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
PPP Leg #1	100	FSL	940	FEL	24S	29E	36	Aliquot SESE	32.166849	-103.932497	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-8347	11896	11491	
PPP Leg #1	3	FSL	949	FEL	24S	29E	25	Aliquot SESE	32.181086	-103.932504	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 059386	-8349	17082	11493	
PPP Leg #1	1320	FSL	947	FEL	24S	29E	25	Aliquot NESE	32.184723	-103.932506	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 065408	-8350	18402	11494	
EXIT Leg #1	100	FNL	940	FEL	24S	29E	25	Aliquot NENE	32.195364	-103.932513	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 065408	-8351	22270	11495	
BHL Leg #1	20	FNL	940	FEL	24S	29E	25	Aliquot NENE	32.195584	-103.932513	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 065408	-8351	22350	11495	

OXY USA INC.

SITE PLAN
CEDCAN 0102
FAA PERMIT: NO



NO.	WELL	FOOTAGE	LAT.	LONG.	ELEV.	ID#
1	CORRAL CANYON 36_25 FED COM #6H	810' FNL & 150' FEL	32.164355° N	103.929941° W	3144.8'	IP-SMS-2002
2	CORRAL CANYON 36_25 FED COM #14H	840' FNL & 150' FEL	32.164272° N	103.929940° W	3144.1'	IP-SMS-1992
3	CORRAL CANYON 36_25 FED COM #74H	875' FNL & 150' FEL	32.164176° N	103.929940° W	3143.0'	IP-SMS-2017
4	CORRAL CANYON 36_25 FED COM #44H	910' FNL & 150' FEL	32.164080° N	103.929940° W	3143.6'	IP-SMS-2011

NOTES:

1) LATS & LONGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.

2) DISTANCES ARE GRID VALUES.

3) ALL FEATURES ARE EXISTING UNLESS OTHERWISE NOTED

CERTIFICATION
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

CHAD HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow — 6/12/19

CHAD HARCROW N.M.P.S. NO. 17777 — DATE

HARCROW SURVEYING, LLC
2316 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158
c.harcrow@harcrowsurveying.com

200 0 200 400 Feet

Scale:1"=200'

OXY USA INC.		
SURVEY DATE: MAY 11, 2019		SITE PLAN
DRAFTING DATE: MAY 20, 2019		PAGE: 1 OF 1
APPROVED BY: CH	DRAWN BY: CD	FILE: 19-695

APD ID: 10400043435 **Submission Date:** 07/10/2019

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

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
1	RUSTLER	3144	434	434	ANHYDRITE,SHALE,DOLOMITE	USEABLE WATER	N
2	SALADO	2234	910	910	HALITE,ANHYDRITE,SHALE,DOLOMITE	OTHER : SALT	N
3	CASTILE	1259	1885	1885	ANHYDRITE	OTHER : salt	N
4	LAMAR	-231	3375	3375	LIMESTONE,SILTSTONE,SANDSTONE	OTHER,NATURAL GAS,OIL : BRINE	N
5	BELL CANYON	-246	3390	3390	SILTSTONE,SANDSTONE	USEABLE WATER,OTHER,NATURAL GAS,OIL : BRINE	N
6	CHERRY CANYON	-1161	4305	4305	SILTSTONE,SANDSTONE	OTHER,NATURAL GAS,OIL : BRINE	N
7	BRUSHY CANYON	-2491	5635	5635	LIMESTONE,SILTSTONE,SANDSTONE	OTHER,NATURAL GAS,OIL : BRINE	N
8	BONE SPRING	-4048	7192	7213	LIMESTONE,SILTSTONE,SANDSTONE	NATURAL GAS,OIL	Y
9	BONE SPRING 1ST	-5000	8144	8180	LIMESTONE,SILTSTONE,SANDSTONE	NATURAL GAS,OIL	Y
10	BONE SPRING 2ND	-5820	8965	9013	LIMESTONE,SILTSTONE,SANDSTONE	NATURAL GAS,OIL	Y
11	BONE SPRING 3RD	-6884	10029	10094	LIMESTONE,SILTSTONE,SANDSTONE	NATURAL GAS,OIL	Y
12	WOLFCAMP	-7232	10377	10447	SILTSTONE,SANDSTONE	NATURAL GAS,OIL	Y
13	PENN	-9104	12248	12329	SHALE	NATURAL GAS,OIL	Y
14	STRAWN	-9348	12492	12573	LIMESTONE	NATURAL GAS,OIL	Y

Section 2 - Blowout Prevention

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

Pressure Rating (PSI): 10M **Rating Depth:** 12581

Equipment: 13-5/8" 5/10M 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: OXY will utilize a 5M annular with a 10M BOPE stack. The 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. Per BLM's Memorandum No. NM-2017-008: Decision and Rationale for a Variance Allowing the Use of a 5M Annular Preventer with a 10M BOP Stack, Oxy requests to employ a 5M annular with a 10M BOPE stack in the pilot and lateral sections of the well and will ensure that two barriers to flow are maintained at all times. Please see attached Well Control Plan. BOP Break Testing Request OXY requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019. A separate sundry will be sent prior to spud that reflects the pad based break testing plan. BOP break test under the following conditions: 1. After a full BOP test is conducted 2. When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower. 3. When skidding to drill a production section that does not penetrate into the third Bone Spring or deeper. If the kill line is broken prior to skid, two tests will be performed. 1. Wellhead flange, co-flex hose, kill line connections and upper pipe rams 2. Wellhead flange, HCR valve, check valve, upper pipe rams If the kill line is not broken prior to skid, only one test will be performed. 1. Wellhead flange, co-flex hose, check valve, upper pipe rams

Choke Diagram Attachment:

CorralCanyon36_25FdCom44H_ChkManifold_20190708125821.pdf

BOP Diagram Attachment:

CorralCanyon36_25FdCom44H_FlexHoseCert_20190708125852.pdf

CorralCanyon36_25FdCom44H_WellControlPlan_20190708125906.pdf

CorralCanyon36_25FdCom44H_BOPAmd_20190930153751.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	14.75	10.75	NEW	API	N	0	850	0	850			850	J-55	40.5	BUTT	1.125	1.2	BUOY	1.4	BUOY	1.4

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

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
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	10996	0	10919			10996	HCL-80	26.4	OTHER - Butt/SF/FJ	1.125	1.2	BUOY	1.4	BUOY	1.4
3	PRODUCTION	6.75	5.5	NEW	API	N	0	11546	0	11405			11546	P-110	26	OTHER - DQX/SFTORQ/DQWTORQ	1.125	1.2	BUOY	1.4	BUOY	1.4
4	PRODUCTION	6.75	5.0	NEW	API	N	11546	22350	11405	11495			10804	P-110	21.4	OTHER - TORQDQW	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):

CorralCanyon36_25FdCom44H_CsgCriteria_20190709142947.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CorralCanyon36_25FdCom44H_CsgCriteria_20190930161226.pdf

CorralCanyon36_25FdCom44H_7.625_26.4_HCL80_TMKUPFJ_20190930161636.pdf

CorralCanyon36_25FdCom44H_7.625_26.4_HCL80_TMKUPSF_20190930161637.pdf

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CorralCanyon36_25FdCom44H_CsgCriteria_20190709143110.pdf

CorralCanyon36_25FdCom44H_5.5_20_P110CY_TMKUPDQWTORQ_20190709143123.pdf

CorralCanyon36_25FdCom44H_5.5_20_P110_DQX_20190709143123.pdf

CorralCanyon36_25FdCom44H_5.5_20_P110HC_TMKUPSFTORQ_20190709143124.pdf

CorralCanyon36_25FdCom44H_5.5_26_P110CYHP_TMKUPTORQSFW_20190930161801.pdf

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

CorralCanyon36_25FdCom44H_CsgCriteria_20190930162014.pdf

CorralCanyon36_25FdCom44H_5_21.4_P110CYHP_TMKUPTORQDQW_20190930162043.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	850	698	1.33	14.8	928	100	Cl C	Accelerator

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	5885	724	1.92	12.9	1390	10	Cl C	Accelerator
INTERMEDIATE	Tail		5885	10996	706	1.65	13.2	1165	5	Cl H	Retarder, Dispersant, Salt
PRODUCTION	Lead		10496	22350	1136	1.38	13.2	1568	20	Cl H	Retarder, Dispersant, Salt
PRODUCTION	Lead		10496	22350	1136	1.38	13.2	1568	20	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
850	10996	OTHER : Saturated Brine Based Mud and Water-Based or Oil-Based Mud	8	10							

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

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	850	WATER-BASED MUD	8.6	8.8							
10996	22350	OTHER : Water-Based and/or Oil-Based Mud - Lateral	9.5	13							
10996	12581	OTHER : Water-Based and/or Oil-Based Mud - Pilot Hole	9.5	13.5							

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 Bone Spring to TD. Triple Combo from Intermediate II Casing & Pilot Hole (Spectral Gamma, Dipole Sonic, CMR).

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: 8775 **Anticipated Surface Pressure:** 6246.1

Anticipated Bottom Hole Temperature(F): 180

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:

CorralCanyon36_25FdCom44H_H2S1_20190708130348.pdf

CorralCanyon36_25FdCom44H_H2S2_20190708130349.pdf

CorralCanyon36_25FdCom44H_H2S3ECL_20190708130349.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

CorralCanyon36_25FdCom44H_HrzLatDirectPlanAmd_20190930154017.pdf
CorralCanyon36_25FdCom44H_HrzLatDirectPlotAmd_20190930154018.pdf
CorralCanyon36_25FdCom44H_PilotDirectPlanAmd_20190930154018.pdf
CorralCanyon36_25FdCom44H_PilotDirectPlotAmd_20190930154019.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 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 respectfully requests a variance to cement the 9-5/8" and/or 7-5/8" intermediate casing string offline, see attached for additional information.

OXY requests to pump a two stage Intermediate casing cement job with the first stage being pumped conventionally with the calculated TOC @ the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to Surface.

Bradenhead CBL- OXY requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8" intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019.
Three string wells:
1. CBL will be required on one well per pad
2. If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
3. Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

A Pilot Hole will be drilled to the Strawn @ 12581', run logs, and plug back from 12581-10896' to the Wolfcamp and drill the horizontal lateral. The first plug will be @ 12581-12046' with 142sx NeoCemTM @ 1.032 yld, 14.4#. The second plug will be @ 12046-11496' with 146sx NeoCemTM @ 1.032 yld, 16.4#. The first two plug are designed to isolate the high pressure zones in the Pilot Hole from the KOP. The third plug will be @ 11496-10896' with 173sx Cl H cmt w/ retarder @ .952 yld, 17.5# and is designed to provide a strong foundation for sidetracking at the KOP.

OXY requests the option to run production casing with DQX, SF TORQ and/or DQW 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.

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:

CorralCanyon36_25FdCom44H_GasCapPlan__20190708130456.pdf

CorralCanyon36_25FdCom44H_SpudRigData_20190708130513.pdf

CorralCanyon36_25FdCom44H_DrillPlanAmd2_20191002162250.pdf

Other Variance attachment:

CorralCanyon36_25FdCom44H_OfflineCmtgDetail_20190708130547.pdf

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
New Mexico

Scope

This contingency plan establishes guidelines for the public, all company employees, and contract employees who's work activities may involve exposure to hydrogen sulfide (H2S) gas.
While drilling this well, it is possible to encounter H2S bearing formations. At all times, the first barrier to control H2S emissions will be the drilling fluid, which will have a density high enough to control influx.

Objective

1. Provide an immediate and predetermined response plan to any condition when H2S is detected. All H2S detections in excess of 10 parts per million (ppm) concentration are considered an Emergency.

2. Prevent any and all accidents, and prevent the uncontrolled release of hydrogen sulfide into the atmosphere.

3. Provide proper evacuation procedures to cope with emergencies.

4. Provide immediate and adequate medical attention should an injury occur.

Discussion

Implementation:	This plan with all details is to be fully implemented before drilling to commence.
Emergency response Procedure:	This section outlines the conditions and denotes steps to be taken in the event of an emergency.
Emergency equipment Procedure:	This section outlines the safety and emergency equipment that will be required for the drilling of this well.
Training provisions:	This section outlines the training provisions that must be adhered to prior to drilling.
Drilling emergency call lists:	Included are the telephone numbers of all persons to be contacted should an emergency exist.
Briefing:	This section deals with the briefing of all people involved in the drilling operation.
Public safety:	Public safety personnel will be made aware of any potential evacuation and any additional support needed.
Check lists:	Status check lists and procedural check lists have been included to insure adherence to the plan.
General information:	A general information section has been included to supply support information.

Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on the well:

1. The hazards and characteristics of H2S.
2. Proper use and maintenance of personal protective equipment and life support systems.
3. H2S detection.
4. Proper use of H2S detectors, alarms, warning systems, briefing areas, evacuation procedures and prevailing winds.
5. Proper techniques for first aid and rescue procedures.
6. Physical effects of hydrogen sulfide on the human body.
7. Toxicity of hydrogen sulfide and sulfur dioxide.
8. Use of SCBA and supplied air equipment.
9. First aid and artificial respiration.
10. Emergency rescue.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile strength tubular is to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling a well, blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan.

H2S training refresher must have been taken within one year prior to drilling the well. Specifics on the well to be drilled will be discussed during the pre-spud meeting. H2S and well control (choke) drills will be performed while drilling the well, at least on a weekly basis. This plan shall be available in the well site. All personnel will be required to carry the documentation proving that the H2S training has been taken.

Service company and visiting personnel

A. Each service company that will be on this well will be notified if the zone contains H2S.

B. Each service company must provide for the training and equipment of their employees before they arrive at the well site.

C. Each service company will be expected to attend a well site briefing

Emergency Equipment Requirements

1. Well control equipment

The well shall have hydraulic BOP equipment for the anticipated pressures. Equipment is to be tested on installation and follow Oxy Well Control standard, as well as BLM Onshore Order #2.

Special control equipment:

A. Hydraulic BOP equipment with remote control on ground. Remotely operated choke.
B. Rotating head
C. Gas buster equipment shall be installed before drilling out of surface pipe.

2. Protective equipment for personnel

A. Four (4) 30-minute positive pressure air packs (2 at each briefing area) on location.

B. Adequate fire extinguishers shall be located at strategic locations.

C. Radio / cell telephone communication will be available at the rig.

- Rig floor and trailers.
- Vehicle.

3. Hydrogen sulfide sensors and alarms

A. H2S sensor with alarms will be located on the rig floor, at the bell nipple, and at the flow line. These monitors will be set to alarm at 10 ppm with strobe light, and audible alarm.
B. Hand operated detectors with tubes.
C. H2S monitor tester (to be provided by contract Safety Company.)
D. There shall be one combustible gas detector on location at all times.

4. Visual Warning Systems

A. One sign located at each location entrance with the following language:

Caution – potential poison gas
Hydrogen sulfide
No admittance without authorization

Wind sock – wind streamers:

A. One 36" (in length) wind sock located at protection center, at height visible from rig floor.
B. One 36" (in length) wind sock located at height visible from pit areas.

Condition flags

A. One each condition flag to be displayed to denote conditions.

green – normal conditions
yellow – potential danger
red – danger, H2S present

B. Condition flag shall be posted at each location sign entrance.

5. Mud Program

The mud program is designed to minimize the risk of having H2S and other formation fluids at surface. Proper mud weight and safe drilling practices will be applied. H2S scavengers will be used to minimize the hazards while drilling. Below is a summary of the drilling program.

Mud inspection devices:

Garrett gas train or hatch tester for inspection of sulfide concentration in mud system.

6. Metallurgy

A. Drill string, casing, tubing, wellhead, blowout preventers, drilling spools or adapters, kill lines, choke manifold, lines and valves shall be suitable for the H2S service.
B. All the elastomers, packing, seals and ring gaskets shall be suitable for H2S service.

7. Well Testing

No drill stem test will be performed on this well.

8. Evacuation plan

Evacuation routes should be established prior to well spud for each well and discussed with all rig personnel.

9. Designated area

A. Parking and visitor area: all vehicles are to be parked at a predetermined safe distance from the wellhead.
B. There will be a designated smoking area.
C. Two briefing areas on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds perpendicularly, or at a 45-degree angle if wind direction tends to shift in the area.

Emergency procedures

A. In the event of any evidence of H2S level above 10 ppm, take the following steps:

1. The Driller will pick up off bottom, shut down the pumps, slow down the pipe rotation.

2. Secure and don escape breathing equipment, report to the upwind designated safe briefing / muster area.

3. All personnel on location will be accounted for and emergency search should begin for any missing, the Buddy System will be implemented.

4. Order non-essential personnel to leave the well site, order all essential personnel out of the danger zone and upwind to the nearest designated safe briefing / muster area.

5. Entrance to the location will be secured to a higher level than our usual "Meet and Greet" requirement, and the proper condition flag will be displayed at the entrance to the location.

6. Take steps to determine if the H2S level can be corrected or suppressed and, if so, proceed as required.

B. If uncontrollable conditions occur:

1. Take steps to protect and/or remove any public in the down-wind area from the rig – partial evacuation and isolation. Notify necessary public safety personnel and appropriate regulatory entities (i.e. BLM) of the situation.

2. Remove all personnel to the nearest upwind designated safe briefing / muster area or off location.

3. Notify public safety personnel of safe briefing / muster area.

4. An assigned crew member will blockade the entrance to the location. No unauthorized personnel will be allowed entry to the location.

5. Proceed with best plan (at the time) to regain control of the well. Maintain tight security and safety procedures.

C. Responsibility:

1. Designated personnel.

a. Shall be responsible for the total implementation of this plan.
b. Shall be in complete command during any emergency.
c. Shall designate a back-up.

All personnel:

1. On alarm, don escape unit and report to the nearest upwind designated safe briefing / muster area upw
2. Check status of personnel (buddy system).
3. Secure breathing equipment.
4. Await orders from supervisor.

Drill site manager:

1. Don escape unit if necessary and report to nearest upwind designated safe briefing / muster area.
2. Coordinate preparations of individuals to return to point of release with tool pusher and driller (using the buddy system).
3. Determine H2S concentrations.
4. Assess situation and take control measures.

Tool pusher:

1. Don escape unit Report to up nearest upwind designated safe briefing / muster area.
2. Coordinate preparation of individuals to return to point of release with tool pusher drill site manager (using the buddy system).
3. Determine H2S concentration.
4. Assess situation and take control measures.

Driller:

1. Don escape unit, shut down pumps, continue

rotating DP.

2. Check monitor for point of release.
3. Report to nearest upwind designated safe briefing / muster area.
4. Check status of personnel (in an attempt to rescue, use the buddy system).
5. Assigns least essential person to notify Drill Site Manager and tool pusher by quickest means in case of their absence.
6. Assumes the responsibilities of the Drill Site Manager and tool pusher until they arrive should they be absent.

Derrick man
Floor man #1
Floor man #2

1. Will remain in briefing / muster area until instructed by supervisor.

Mud engineer:

1. Report to nearest upwind designated safe briefing / muster area.
2. When instructed, begin check of mud for ph and H2S level. (Garett gas train.)

Safety personnel:

1. Mask up and check status of all personnel and secure operations as instructed by drill site manager.

Taking a kick

When taking a kick during an H2S emergency, all personnel will follow standard Well control procedures after reporting to briefing area and masking up.

Open-hole logging

All unnecessary personnel off floor. Drill Site Manager and safety personnel should monitor condition, advise status and determine need for use of air equipment.

Running casing or plugging

Following the same "tripping" procedure as above. Drill Site Manager and safety personnel should determine if all personnel have access to protective equipment.

Ignition procedures

The decision to ignite the well is the responsibility of the operator (Oxy Drilling Management). The decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope controlling the blowout under the prevailing conditions at the well.

Instructions for igniting the well

1. Two people are required for the actual igniting operation. They must wear self-contained breathing units and have a safety rope attached. One man (tool pusher or safety engineer) will check the atmosphere for explosive gases with the gas monitor. The other man is responsible for igniting the well.
2. Primary method to ignite: 25 mm flare gun with range of approximately 500 feet.
3. Ignite upwind and do not approach any closer than is warranted.
4. Select the ignition site best for protection, and which offers an easy escape route.
5. Before firing, check for presence of combustible gas.
6. After lighting, continue emergency action and procedure as before.
7. All unassigned personnel will remain in briefing area until instructed by supervisor or directed by the Drill Site Manager.

Remember: After well is ignited, burning hydrogen sulfide will convert to sulfur dioxide, which is also highly toxic. **Do not assume the area is safe after the well is ignited.**

Status check list

Note: All items on this list must be completed before drilling to production casing point.

1. H2S sign at location entrance.
2. Two (2) wind socks located as required.
3. Four (4) 30-minute positive pressure air packs (2 at each Briefing area) on location for all rig personnel and mud loggers.
4. Air packs inspected and ready for use.
5. Cascade system and hose line hook-up as needed.
6. Cascade system for refilling air bottles as needed.
7. Condition flag on location and ready for use.
8. H2S detection system hooked up and tested.
9. H2S alarm system hooked up and tested.
10. Hand operated H2S detector with tubes on location.
11. 1 – 100' length of nylon rope on location.
12. All rig crew and supervisors trained as required.
13. All outside service contractors advised of potential H2S hazard on well.
14. No smoking sign posted and a designated smoking area identified.
15. Calibration of all H2S equipment shall be noted on the IADC report.

Checked by:_____ Date:_____

Procedural check list during H2S events

Perform each tour:

1. Check fire extinguishers to see that they have the proper charge.

2. Check breathing equipment to ensure that it in proper working order.

3. Make sure all the H2S detection system is operative.

Perform each week:

1. Check each piece of breathing equipment to make sure that demand or forced air regulator is working. This requires that the bottle be opened and the mask assembly be put on tight enough so that when you inhale, you receive air or feel air flow.

2. BOP skills (well control drills).

3. Check supply pressure on BOP accumulator stand by source.

4. Check breathing equipment mask assembly to see that straps are loosened and turned back, ready to put on.

5. Check pressure on breathing equipment air bottles to make sure they are charged to full volume. (Air quality checked for proper air grade "D" before bringing to location)

6. Confirm pressure on all supply air bottles.

7. Perform breathing equipment drills with on-site personnel.

8. Check the following supplies for availability.

   A. Emergency telephone list.
   B. Hand operated H2S detectors and tubes.

General evacuation plan

1. When the company approved supervisor (Drill Site Manager, consultant, rig pusher, or driller) determines the H2S gas cannot be limited to the well location and the public will be involved, he will activate the evacuation plan.

2. Drill Site Manager or designee will notify local government agency that a hazardous condition exists and evacuation needs to be implemented.

3. Company or contractor safety personnel that have been trained in the use of H2S detection equipment and self-contained breathing equipment will monitor H2S concentrations, wind directions, and area of exposure. They will delineate the outer perimeter of the hazardous gas area. Extension to the evacuation area will be determined from information gathered.

4. Law enforcement personnel (state police, police dept., fire dept., and sheriff's dept.) Will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

5. After the discharge of gas has been controlled, company safety personnel will determine when the area is safe for re-entry.

Important: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

Emergency actions

Well blowout – if emergency

1. Evacuate all personnel to "Safe Briefing / Muster Areas" or off location if needed.
2. If sour gas – evacuate rig personnel.
3. If sour gas – evacuate public within 3000 ft radius of exposure.
4. Don SCBA and shut well in if possible using the buddy system.
5. Notify Drilling Superintendent and call 911 for emergency help (fire dept and ambulance) if needed.
6. Implement the Blowout Contingency Plan, and Drilling Emergency Action Plan.
6. Give first aid as needed.

Person down location/facility

1. If immediately possible, contact 911. Give location and wait for confirmation.
2. Don SCBA and perform rescue operation using buddy system.

Toxic effects of hydrogen sulfide

Hydrogen sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 ppm, which is .001% by volume. Hydrogen sulfide is heavier than air (specific gravity – 1.192) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. Hydrogen sulfide is almost as toxic as hydrogen cyanide and is between five and six times more toxic than carbon monoxide. Toxicity data for hydrogen sulfide and various other gases are compared in table i. Physical effects at various hydrogen sulfide exposure levels are shown in table ii.

Table i
Toxicity of various gases

Common name	Chemical formula	Specific gravity (sc=1)	Threshold limit (1)	Hazardous limit (2)	Lethal concentration (3)
Hydrogen Cyanide	Hcn	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H2S	1.18	10 ppm	250 ppm/hr	600 ppm
Sulfur Dioxide	So2	2.21	5 ppm	-	1000 ppm
Chlorine	Cl2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	Co	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	Co2	1.52	5000 ppm	5%	10%
Methane	Ch4	0.55	90,000 ppm	Combustible above 5% in air	

1) threshold limit – concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.

2) hazardous limit – concentration that will cause death with short-term exposure.

3) lethal concentration – concentration that will cause death with short-term exposure.

Toxic effects of hydrogen sulfide

Table ii
Physical effects of hydrogen sulfide

Concentration			Physical effects
Percent (%)	Ppm	Grains 100 std. Ft3*	
0.001	<10	00.65	Obvious and unpleasant odor.

0.002	10	01.30	Safe for 8 hours of exposure.
0.010	100	06.48	Kill smell in 3 – 15 minutes. May sting eyes and throat.
0.020	200	12.96	Kills smell shortly; stings eyes and throat.
0.050	500	32.96	Dizziness; breathing ceases in a few minutes; needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; death will result if not rescued promptly.
0.100	1000	64.30	Unconscious at once; followed by death within minutes.

*at 15.00 psia and 60'f.

Use of self-contained breathing equipment (SCBA)

1. Written procedures shall be prepared covering safe use of SCBA's in dangerous atmosphere, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available SCBA.

2 SCBA's shall be inspected frequently at random to insure that they are properly used, cleaned, and maintained.

3. Anyone who may use the SCBA's shall be trained in how to insure proper face-piece to face seal. They shall wear SCBA's in normal air and then wear them in a test atmosphere. (note: such items as facial hair {beard or sideburns} and eyeglasses will not allow proper seal.) Anyone that may be reasonably expected to wear SCBA's should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses or contact lenses.

4. Maintenance and care of SCBA's:

   a. A program for maintenance and care of SCBA's shall include the following:
      1. Inspection for defects, including leak checks.
      2. Cleaning and disinfecting.
      3. Repair.
      4. Storage.

   b. Inspection, self-contained breathing apparatus for emergency use shall be inspected monthly.
      1. Fully charged cylinders.
      2. Regulator and warning device operation.
      3. Condition of face piece and connections.
      4. Rubber parts shall be maintained to keep them pliable and prevent deterioration.

   c. Routinely used SCBA's shall be collected, cleaned and disinfected as frequently as necessary to insure proper protection is provided.

5. Persons assigned tasks that requires use of self-contained breathing equipment shall be certified physically fit (medically cleared) for breathing equipment usage at least annually.

6. SCBA's should be worn when:

   A. Any employee works near the top or on top of any tank unless test reveals less than 10 ppm of H2S.

B. When breaking out any line where H2S can reasonably be expected.

C. When sampling air in areas to determine if toxic concentrations of H2S exists.

D. When working in areas where over 10 ppm H2S has been detected.

E. At any time there is a doubt as to the H2S level in the area to be entered.

Rescue
First aid for H2S poisoning

Do not panic!

Remain calm – think!

1. Don SCBA breathing equipment.

2. Remove victim(s) utilizing buddy system to fresh air as quickly as possible. (go up-wind from source or at right angle to the wind. Not down wind.)

3. Briefly apply chest pressure – arm lift method of artificial respiration to clean the victim's lungs and to avoid inhaling any toxic gas directly from the victim's lungs.

4. Provide for prompt transportation to the hospital, and continue giving artificial respiration if needed.

5. Hospital(s) or medical facilities need to be informed, before-hand, of the possibility of H2S gas poisoning – no matter how remote the possibility is.

6. Notify emergency room personnel that the victim(s) has been exposed to H2S gas.

Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration.

Revised CM 6/27/2012

OXY Permian Delaware NM Basin Drilling & Completions Incident Reporting

OXY Permian Crisis Team Hotline Notification

Person	Location	Office Phone	Cell/Mobile Phone
Drilling & Completions Department			
Drilling & Completions Manager: John Willis	Houston	(713) 366-5556	(713) 259-1417
Drilling Superintendent: Simon Benavides	Houston	(713) 215-7403	(832) 528-3547
Completions Superintendent: Chris Winter	Houston	(713) 366-5212	(806) 239-8774
Drilling Eng. Supervisor: Diego Tellez	Houston	(713) 350-4602	(713) 303-4932
Drilling Eng. Supervisor: Randy Neel	Houston	(713) 215-7987	(713) 517-5544
Completions Eng. Supervisor: Evan Hinkel	Houston	(713) 366-5436	(281) 236-6153
Drilling & Completions HES Lead. Ryan Green	Houston	713-336-5753	281-520-5216
Drilling & Completions HES Advisor:Kenny Williams	Carlsbad	(432) 686-1434	(337) 208-0911
Drilling & Completions HES Advisor:Kyle Holden	Carlsbad	(432) 686-1435	(661) 369-5328
Drilling & Completions HES Advisor Sr:Dave Schmidt	Carlsbad		(559) 310-8572
Drilling & Completions HES Advisor. :Seth Doyle	Carlsbad		(337) 499-0756
HES / Enviromental & Regulatory Department	Location	Office	Cell Phone
Jon Hamil-HES Manager	Houston	(713) 497-2494	(832) 537-9885
Mark Birk-HES Manager	Houston	(713) 350-4615	(949) 413-3127
Austin Tramell	Midland	(432) 699-4208	(575) 499-4919
Rico Munoz	Midland	(432) 699-8366	(432) 803-4116
Amber DuckWorth	Midland		(832) 966-1879
Kelley Montgomery- Regulatory Manager	Houston	(713) 366-5716	(832) 454-8137
Sandra Musallam -Regulatory Lead	Houston	+1 (713) 366-5106	+1 (713) 504-8577
Bishop, Steve-DOT Pipeline Coordinator	Midland	432-685-5614	
Wilson, Dusty-Safety Advisor	Midland	432-685-5771	(432) 254-2336
John W Dittrich Enviromental Advisor	Midland		(575) 390-2828
William (Jack) Calhoun-Environmental Lead	Houston	+713 (350) 4906	(281) 917-8571
Robert Barrow-Risk Engineer Manager	Houston	(713) 366-5611	(832) 867-5336
Sarah Holmes-HSE Cordinator	Midland	432-685-5758	
Administrative	Location	Office	
Sarah Holmes	Midland	432-685-5830	
Robertson, Debbie	Midland	432-685-5812	
Laci Hollaway	Midland	(432) 685-5716	(432) 631-6341
Administrative	Location	Office	
Rosalinda Escajeda	Midland	432-685-5831	

Person	Location	Office Phone	Cell/Mobile Phone
Moreno, Leslie (contract)	Hobbs	575-397-8247	
Sehon, Angela (contractor)	Levelland	806-894-8347	
Vasquez, Claudia (contractor)	North Cowden	432-385-3120	
XstremeMD	Location	Office	
Medical Case Management	Orla, TX	(337) 205-9314	
Axiom Medical Consulting	Location	Office	
Medical Case Management		(877) 502-9466	
Regulatory Agencies			
Bureau of Land Management	Carlsbad, NM	(505) 887-6544	
Bureau of Land Management	Hobbs, NM	(505) 393-3612	
Bureau of Land Management	Roswell, NM	(505) 393-3612	
Bureau of Land Management	Santa Fe, NM	(505) 988-6030	
DOT Juisdictional Pipelines-Incident Reporting New Mexico Public Regulaion Commission	Santa Fe, NM	(505) 827-3549 (505) 490-2375	
DOT Juisdictional Pipelines-Incident Reporting Texas Railroad Commission	Austin, TX	(512) 463-6788	
EPA Hot Line	Dallas, Texas	(214) 665-6444	
Federal OSHA, Area Office	Lubbock, Texas	(806) 472-7681	
National Response Center	Washington, D. C.	(800) 424-8802	
National Infrastructure Coordinator Center		(202) 282-9201	
New Mexico Air Quality Bureau	Santa Fe, NM	(505) 827-1494	
New Mexico Oil Conservation Division	Artesia, NM	(505) 748-1283	After Hours (505) 370-7545
New Mexico Oil Conservation Division	Hobbs, NM	(505) 393-6161	
New Mexico Oil Conservation Division	Santa Fe, NM	(505) 471-1068	
New Mexico OCD Environmental Bureau	Santa Fe, NM	(505) 476-3470	
New Mexico Environmental Department	Hobbs, NM	(505) 827-9329	
NM State Emergency Response Center	Santa Fe, NM	(505) 827-9222	
Railroad Commission of TX	District 1 San Antonio,	(210) 227-1313	
Railroad Commission of TX	District 7C San Angelo	(325) 657-7450	
Railroad Commission of TX	District 8, 8A Midland	(432) 684-5581	
Texas Emergency Response Center	Austin, TX	(512) 463-7727	
TCEQ Air	Region 2 Lubbock, TX	(806) 796-3494	
TCEQ Water/Waste/Air	Region 3 Abilene, TX	(325) 698-9674	
TCEQ Water/Waste/Air	Region 7 Midland, TX	(432) 570-1359	
TCEQ Water/Waste/Air	Region 9 San Antonio,	(512) 734-7981	
TCEQ Water/Waste/Air	Region 8 San Angelo	(325) 655-9479	
Medical Facilities			
Abernathy Medical Clinic	Abernathy, TX	(806) 298-2524	
Alliance Hospital	Odessa, TX	(432) 550-1000	
Artesia General Hospital	Artesia, NM	(505) 748-3333	
Brownfield Regional Medical Center	Brownfield, TX	(806) 637-3551	

Person	Location	Office Phone	Cell/Mobile Phone
Cogdell Memorial Hospital	Snyder, TX	(325) 573-6374	
Covenant Hospital Levelland	Levelland, TX	(806) 894-4963	
Covenant Medical Center	Lubbock, TX	(806) 725-1011	
Covenant Medical Center Lakeside	Lubbock, TX	(806) 725-6000	
Covenant Family Health	Synder, TX	(325) 573-1300	
Crockett County Hospital	Ozona, TX	(325) 392-2671	
Guadalupe Medical Center	Carlsbad, NM	(505) 887-6633	
Lea Regional Hospital	Hobbs, NM	(505) 492-5000	
McCamey Hospital	McCamey, TX	(432) 652-8626	
Medical Arts Hospital	Lamesa, TX	(806) 872-2183	
Medical Center Hospital	Odessa, TX	(432) 640-4000	
Medi Center Hospital	San Angelo, TX	(325) 653-6741	
Memorial Hospital	Ft. Stockton	(432) 336-2241	
Memorial Hospital	Seminole, TX	(432) 758-5811	
Midland Memorial Hospital	Midland, TX	(432) 685-1111	
Nor-Lea General Hospital	Lovington, NM	(505) 396-6611	
Odessa Regional Hospital	Odessa, TX	(432) 334-8200	
Permian General Hospital	Andrews, TX	(432) 523-2200	
Reagan County Hospital	Big Lake, TX	(325) 884-2561	
Reeves County Hospital	Pecos, TX	(432) 447-3551	
Shannon Medical Center	San Angelo, TX	(325) 653-6741	
Union County General Hospital	Clayton, NM	(505) 374-2585	
University Medical Center	Lubbock, TX	(806) 725-8200	
Val Verde Regional Medical Center	Del Rio, TX	(830) 775-8566	
Ward Memorial Hospital	Monahans, TX	(432) 943-2511	
Yoakum County Hospital	Denver City, TX	(806) 592-5484	
Law Enforcement - Sheriff			
Andrews Cty Sheriff's Department	Andrews County(Andr	(432) 523-5545	
Crane Cty Sheriff's Department	Crane, County (Crane)	(432) 558-3571	
Crockett Cty Sheriff's Department	Crockett County (Ozor	(325) 392-2661	
Dawson Cty Sheriff's Department	Dawson County (Lame	(806) 872-7560	
Ector Cty Sheriff's Department	Ector County (Odessa)	(432) 335-3050	
Eddy Cty Sheriff's Department	Eddy County (Artesia)	(505) 746-2704	
Eddy Cty Sheriff's Department	Eddy County (Carlsbac	(505) 887-7551	
Gaines Cty Sheriff's Department	Gaines County (Semin	(432) 758-9871	
Hockley Cty Sheriff's Department	Hockley County(Level	(806) 894-3126	
Kent Cty (Jayton City Sheriff's Dept.)	Kent County(Jayton)	(806) 237-3801	
Lea Cty Sheriff's Department	Lea County (Eunice)	(505) 384-2020	
Lea Cty Sheriff's Department	Lea County (Hobbs)	(505) 393-2515	
Lea Cty Sheriff's Department	Lea County (Lovingtor	(505) 396-3611	
Lubbock Cty Sheriff's Department	Lubbock Cty (Abernatl	(806) 296-2724	
Midland Cty Sheriff's Department	Midland County (Midl	(432) 688-1277	

Person	Location	Office Phone	Cell/Mobile Phone
Pecos Cty Sheriff's Department	Pecos County (Iraan)	(432) 639-2251	
Reeves Cty Sheriff's Department	Reeves County (Pecos)	(432) 445-4901	
Scurry Cty Sheriff's Department	Scurry County (Snyder	(325) 573-3551	
Terry Cty Sheriff's Department	Terry County (Brownfi	(806) 637-2212	
Union Cty Sheriff's Department	Union County (Clayton	(505) 374-2583	
Upton Cty Sheriff's Department	Upton County (Rankin	(432) 693-2422	
Ward Cty Sheriff's Department	Ward County (Monaha	(432) 943-3254	
Yoakum City Sheriff's Department	Yoakum Co. (Denever	(806) 456-2377	
Law Enforcement - Police			
Abernathy City Police	Abernathy, TX	(806) 298-2545	
Andrews City Police	Andrews, TX	(432) 523-5675	
Artesia City Police	Artesia, NM	(505) 746-2704	
Brownfield City Police	Brownfield, TX	(806) 637-2544	
Carlsbad City Police	Carlsbad, NM	(505) 885-2111	
Clayton City Police	Clayton, NM	(505) 374-2504	
Denver City Police	Denver City, TX	(806) 592-3516	
Eunice City Police	Eunice, NM	(505) 394-2112	
Hobbs City Police	Hobbs, NM	393-2677	
Jal City Police	Jal, NM	(505) 395-2501	
Jayton City Police	Jayton, TX	(806) 237-3801	
Lamesa City Police	Lamesa, TX	(806) 872-2121	
Levelland City Police	Levelland, TX	(806) 894-6164	
Lovington City Police	Lovington, NM	(505) 396-2811	
Midland City Police	Midland, TX	(432) 685-7113	
Monahans City Police	Monahans, TX	(432) 943-3254	
Odessa City Police	Odessa, TX	(432) 335-3378	
Seminole City Police	Seminole, TX	(432) 758-9871	
Snyder City Police	Snyder, TX	(325) 573-2611	
Sundown City Police	Sundown, TX	(806) 229-8241	
Law Enforcement - FBI			
FBI	Alburqueque, NM	(505) 224-2000	
FBI	Midland, TX	(432) 570-0255	
Law Enforcement - DPS			
NM State Police	Artesia, NM	(505) 746-2704	
NM State Police	Carlsbad, NM	(505) 885-3137	
NM State Police	Eunice, NM	(505) 392-5588	
NM State Police	Hobbs, NM	(505) 392-5588	
NM State Police	Clayton, NM	(505) 374-2473; 911	
TX Dept of Public Safety	Andrews, TX	(432) 524-1443	
TX Dept of Public Safety	Big Lake, TX	(325) 884-2301	

Person	Location	Office Phone	Cell/Mobile Phone
TX Dept of Public Safety	Brownfield, TX	(806) 637-2312	
TX Dept of Public Safety	Iraan, TX	(432) 639-3232	
TX Dept of Public Safety	Lamesa, TX	(806) 872-8675	
TX Dept of Public Safety	Levelland, TX	(806) 894-4385	
TX Dept of Public Safety	Lubbock, TX	(806) 747-4491	
TX Dept of Public Safety	Midland, TX	(432) 697-2211	
TX Dept of Public Safety	Monahans, TX	(432) 943-5857	
TX Dept of Public Safety	Odessa, TX	(432) 332-6100	
TX Dept of Public Safety	Ozona, TX	(325) 392-2621	
TX Dept of Public Safety	Pecos, TX	(432) 447-3533	
TX Dept of Public Safety	Seminole, TX	(432) 758-4041	
TX Dept of Public Safety	Snyder, TX	(325) 573-0113	
TX Dept of Public Safety	Terry County TX	(806) 637-8913	
TX Dept of Public Safety	Yoakum County TX	(806) 456-2377	
Firefighting & Rescue			
Abernathy	Abernathy, TX	(806) 298-2022	
Amistad/Rosebud	Amistad/Rosebud, NM	(505) 633-9113	
Andrews	Andrews, TX	523-3111	
Artesia	Artesia, NM	(505) 746-5051	
Big Lake	Big Lake, TX	(325) 884-3650	
Brownfield-Administrative & other calls	Brownfield, TX	(816) 637-4547	
Brownfield emergency only	Brownfield, TX	-911	
Carlsbad	Carlsbad, NM	(505) 885-3125	
Clayton	Clayton, NM	(505) 374-2435	
Cotton Center	Cotton Center, TX	(806) 879-2157	
Crane	Crane, TX	(432) 558-2361	
Del Rio	Del Rio, TX	(830) 774-8650	
Denver City	Denver City, TX	(806) 592-3516	
Eldorado	Eldorado, TX	(325) 853-2691	
Eunice	Eunice, NM	(505) 394-2111	
Garden City	Garden City, TX	(432) 354-2404	
Goldsmith	Goldsmith, TX	(432) 827-3445	
Hale Center	Hale Center, TX	(806) 839-2411	
Halfway	Halfway, TX		
Hobbs	Hobbs, NM	(505) 397-9308	
Jal	Jal, NM	(505) 395-2221	
Jayton	Jayton, TX	(806) 237-3801	
Kermit	Kermit, TX	(432) 586-3468	
Lamesa	Lamesa, TX	(806) 872-4352	
Levelland	Levelland, TX	(806) 894-3154	
Lovington	Lovington, NM	(505) 396-2359	
Maljamar	Maljamar, NM	(505) 676-4100	

Person	Location	Office Phone	Cell/Mobile Phone
McCamey	McCamey, TX	(432) 652-8232	
Midland	Midland, TX	(432) 685-7346	
Monahans	Monahans, TX	(432) 943-4343	
Nara Visa	Nara Visa, NM	(505) 461-3300	
Notrees	Notress, TX	(432) 827-3445	
Odessa	Odessa, TX	(432) 335-4659	
Ozona	Ozona, TX	(325) 392-2626	
Pecos	Pecos, TX	(432) 445-2421	
Petersburg	Petersburg, TX	(806) 667-3461	
Plains	Plains, TX	(806) 456-8067	
Plainview	Plainview, TX	(806) 296-1170	
Rankin	Rankin, TX	(432) 693-2252	
San Angelo	San Angelo, TX	(325) 657-4355	
Sanderson	Sanderson, TX	(432) 345-2525	
Seminole	Seminole, TX	758-9871	
Smyer	Smyer, TX	(806) 234-3861	
Snyder	Snyder, TX	(325) 573-6215	
Sundown	Sundown, TX	**911**	
Tucumcari	Tucumcari, NM	911	
West Odessa	Odessa, TX	(432) 381-3033	
Ambulance			
Abernathy Ambulance	Abernathy, TX	(806) 298-2241	
Amistad/Rosebud	Amistad/Rosebud, NM	(505) 633-9113	
Andrews Ambulance	Andrews, TX	(432) 523-5675	
Artesia Ambulance	Artesia, NM	(505) 746-2701	
Big Lake Ambulance	Big Lake, TX	(325) 884-2423	
Big Spring Ambulance	Big Spring, TX	(432) 264-2550	
Brownfield Ambulance	Brownfield, TX	(806) 637-2511	
Carlsbad Ambulance	Carlsbad, NM	(505) 885-2111; 911	
Clayton, NM	Clayton, NM	(505) 374-2501	
Denver City Ambulance	Denver City, TX	(806) 592-3516	
Eldorado Ambulance	Eldorado, TX	(325) 853-3456	
Eunice Ambulance	Eunice, NM	(505) 394-3258	
Goldsmith Ambulance	Goldsmith, TX	(432) 827-3445	
Hobbs, NM	Hobbs, NM	(505) 397-9308	
Jal, NM	Jal, NM	(505) 395-2501	
Jayton Ambulance	Jayton, TX	(806) 237-3801	
Lamesa Ambulance	Lamesa, TX	(806) 872-3464	
Levelland Ambulance	Levelland, TX	(806) 894-8855	
Lovington Ambulance	Lovington, NM	(505) 396-2811	
McCamey Hospital	McCamey, TX	(432) 652-8626	
Midland Ambulance	Midland, TX	(432) 685-7499	

Person	Location	Office Phone	Cell/Mobile Phone
Monahans Ambulance	Monahans, TX	3731	
Nara Visa, NM	Nara Visa, NM	(505) 461-3300	
Odessa Ambulance	Odessa, TX	(432) 335-3378	
Ozona Ambulance	Ozona, TX	(325) 392-2671	
Pecos Ambulance	Pecos, TX	(432) 445-4444	
Rankin Ambulance	Rankin, TX	(432) 693-2443	
San Angelo Ambulance	San Angelo, TX	(325) 657-4357	
Seminole Ambulance	Seminole, TX	758-9871	
Snyder Ambulance	Snyder, TX	(325) 573-1911	
Stanton Ambulance	Stanton, TX	(432) 756-2211	
Sundown Ambulance	Sundown, TX	**911**	
Tucumcari, NM	Tucumcari, NM	911	
Medical Air Ambulance Service			
AEROCARE - Methodist Hospital	Lubbock, TX	(800) 627-2376	
San Angelo Med-Vac Air Ambulance	San Angelo, TX	(800) 277-4354	
Southwest Air Ambulance Service	Stanford, TX	(800) 242-6199	
Southwest MediVac	Snyder, TX	(800) 242-6199	
Southwest MediVac	Hobbs, NM	(800) 242-6199	
Odessa Care Star	Odessa, TX	(888) 624-3571	
NWTH Medivac	Amarillo, TX	(800) 692-1331	

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Corral Canyon 36-25 Fed Com
CORRAL CANYON 36_25 FED COM 44H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

19 September, 2019

Oxy Inc.
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well CORRAL CANYON 36_25 FED COM 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3170.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3170.10ft
Site:	Corral Canyon 36-25 Fed Com	**North Reference:**	Grid
Well:	CORRAL CANYON 36_25 FED COM 44H	**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 Corral Canyon 36-25 Fed Com

Site Position:		**Northing:**	424,164.47 usft	**Latitude:**	32° 9' 55.801317 N
From:	Map	**Easting:**	662,497.64 usft	**Longitude:**	103° 56' 30.391750 W
Position Uncertainty:	50.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.21 °

Well CORRAL CANYON 36_25 FED COM 44H

Well Position	**+N/-S**	-503.05 ft	**Northing:**	423,661.46 usft	**Latitude:**	32° 9' 50.689663 N
	+E/-W	3,664.27 ft	**Easting:**	666,161.63 usft	**Longitude:**	103° 55' 47.786775 W
Position Uncertainty		2.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,143.60 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	6/14/2019	6.85	59.83	47,869.20000000

Design Permitting Plan

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	11,096.30

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	355.82

Plan Survey Tool Program **Date** 9/19/2019

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	11,096.30	22,350.39	Permitting Plan (Wellbore #1)	B001Mb_MWD+HRGM OWSG MWD + HRGM	

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
11,096.30	10.00	359.76	11,017.63	440.13	-792.24	0.00	0.00	0.00	0.00	
11,896.08	89.98	359.76	11,491.10	1,004.16	-794.60	10.00	10.00	0.00	0.00	
22,350.39	89.98	359.76	11,495.10	11,458.37	-838.32	0.00	0.00	0.00	0.00	PBHL (Corral

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well CORRAL CANYON 36_25 FED COM 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3170.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3170.10ft
Site:	Corral Canyon 36-25 Fed Com	**North Reference:**	Grid
Well:	CORRAL CANYON 36_25 FED COM 44H	**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)
11,096.30	10.00	359.76	11,017.63	440.13	-792.24	496.76	0.00	0.00	0.00
11,100.00	10.37	359.76	11,021.27	440.78	-792.24	497.42	10.00	10.00	0.00
11,200.00	20.37	359.76	11,117.57	467.25	-792.35	523.82	10.00	10.00	0.00
11,300.00	30.37	359.76	11,207.82	510.05	-792.53	566.51	10.00	10.00	0.00
11,400.00	40.37	359.76	11,289.26	567.86	-792.78	624.19	10.00	10.00	0.00
11,500.00	50.37	359.76	11,359.42	638.93	-793.07	695.10	10.00	10.00	0.00
11,600.00	60.37	359.76	11,416.18	721.11	-793.42	777.08	10.00	10.00	0.00
11,700.00	70.37	359.76	11,457.80	811.90	-793.80	867.65	10.00	10.00	0.00
11,800.00	80.37	359.76	11,483.02	908.53	-794.20	964.06	10.00	10.00	0.00
11,896.08	89.98	359.76	11,491.10	1,004.16	-794.60	1,059.46	10.00	10.00	0.00
11,900.00	89.98	359.76	11,491.10	1,008.08	-794.62	1,063.37	0.00	0.00	0.00
12,000.00	89.98	359.76	11,491.14	1,108.08	-795.04	1,163.13	0.00	0.00	0.00
12,100.00	89.98	359.76	11,491.18	1,208.07	-795.45	1,262.90	0.00	0.00	0.00
12,200.00	89.98	359.76	11,491.21	1,308.07	-795.87	1,362.66	0.00	0.00	0.00
12,300.00	89.98	359.76	11,491.25	1,408.07	-796.29	1,462.42	0.00	0.00	0.00
12,400.00	89.98	359.76	11,491.29	1,508.07	-796.71	1,562.19	0.00	0.00	0.00
12,500.00	89.98	359.76	11,491.33	1,608.07	-797.13	1,661.95	0.00	0.00	0.00
12,600.00	89.98	359.76	11,491.37	1,708.07	-797.54	1,761.71	0.00	0.00	0.00
12,700.00	89.98	359.76	11,491.41	1,808.07	-797.96	1,861.47	0.00	0.00	0.00
12,800.00	89.98	359.76	11,491.44	1,908.07	-798.38	1,961.24	0.00	0.00	0.00
12,900.00	89.98	359.76	11,491.48	2,008.07	-798.80	2,061.00	0.00	0.00	0.00
13,000.00	89.98	359.76	11,491.52	2,108.07	-799.22	2,160.76	0.00	0.00	0.00
13,100.00	89.98	359.76	11,491.56	2,208.07	-799.64	2,260.53	0.00	0.00	0.00
13,200.00	89.98	359.76	11,491.60	2,308.06	-800.05	2,360.29	0.00	0.00	0.00
13,300.00	89.98	359.76	11,491.64	2,408.06	-800.47	2,460.05	0.00	0.00	0.00
13,400.00	89.98	359.76	11,491.67	2,508.06	-800.89	2,559.82	0.00	0.00	0.00
13,500.00	89.98	359.76	11,491.71	2,608.06	-801.31	2,659.58	0.00	0.00	0.00
13,600.00	89.98	359.76	11,491.75	2,708.06	-801.73	2,759.34	0.00	0.00	0.00
13,700.00	89.98	359.76	11,491.79	2,808.06	-802.15	2,859.11	0.00	0.00	0.00
13,800.00	89.98	359.76	11,491.83	2,908.06	-802.56	2,958.87	0.00	0.00	0.00
13,900.00	89.98	359.76	11,491.86	3,008.06	-802.98	3,058.63	0.00	0.00	0.00
14,000.00	89.98	359.76	11,491.90	3,108.06	-803.40	3,158.39	0.00	0.00	0.00
14,100.00	89.98	359.76	11,491.94	3,208.06	-803.82	3,258.16	0.00	0.00	0.00
14,200.00	89.98	359.76	11,491.98	3,308.06	-804.24	3,357.92	0.00	0.00	0.00
14,300.00	89.98	359.76	11,492.02	3,408.06	-804.65	3,457.68	0.00	0.00	0.00
14,400.00	89.98	359.76	11,492.06	3,508.05	-805.07	3,557.45	0.00	0.00	0.00
14,500.00	89.98	359.76	11,492.09	3,608.05	-805.49	3,657.21	0.00	0.00	0.00
14,600.00	89.98	359.76	11,492.13	3,708.05	-805.91	3,756.97	0.00	0.00	0.00
14,700.00	89.98	359.76	11,492.17	3,808.05	-806.33	3,856.74	0.00	0.00	0.00
14,800.00	89.98	359.76	11,492.21	3,908.05	-806.75	3,956.50	0.00	0.00	0.00
14,900.00	89.98	359.76	11,492.25	4,008.05	-807.16	4,056.26	0.00	0.00	0.00
15,000.00	89.98	359.76	11,492.29	4,108.05	-807.58	4,156.03	0.00	0.00	0.00
15,100.00	89.98	359.76	11,492.32	4,208.05	-808.00	4,255.79	0.00	0.00	0.00
15,200.00	89.98	359.76	11,492.36	4,308.05	-808.42	4,355.55	0.00	0.00	0.00
15,300.00	89.98	359.76	11,492.40	4,408.05	-808.84	4,455.31	0.00	0.00	0.00
15,400.00	89.98	359.76	11,492.44	4,508.05	-809.25	4,555.08	0.00	0.00	0.00
15,500.00	89.98	359.76	11,492.48	4,608.04	-809.67	4,654.84	0.00	0.00	0.00
15,600.00	89.98	359.76	11,492.52	4,708.04	-810.09	4,754.60	0.00	0.00	0.00
15,700.00	89.98	359.76	11,492.55	4,808.04	-810.51	4,854.37	0.00	0.00	0.00
15,800.00	89.98	359.76	11,492.59	4,908.04	-810.93	4,954.13	0.00	0.00	0.00
15,900.00	89.98	359.76	11,492.63	5,008.04	-811.35	5,053.89	0.00	0.00	0.00
16,000.00	89.98	359.76	11,492.67	5,108.04	-811.76	5,153.66	0.00	0.00	0.00
16,100.00	89.98	359.76	11,492.71	5,208.04	-812.18	5,253.42	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well CORRAL CANYON 36_25 FED COM 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3170.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3170.10ft
Site:	Corral Canyon 36-25 Fed Com	**North Reference:**	Grid
Well:	CORRAL CANYON 36_25 FED COM 44H	**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)
16,200.00	89.98	359.76	11,492.75	5,308.04	-812.60	5,353.18	0.00	0.00	0.00
16,300.00	89.98	359.76	11,492.78	5,408.04	-813.02	5,452.95	0.00	0.00	0.00
16,400.00	89.98	359.76	11,492.82	5,508.04	-813.44	5,552.71	0.00	0.00	0.00
16,500.00	89.98	359.76	11,492.86	5,608.04	-813.86	5,652.47	0.00	0.00	0.00
16,600.00	89.98	359.76	11,492.90	5,708.03	-814.27	5,752.23	0.00	0.00	0.00
16,700.00	89.98	359.76	11,492.94	5,808.03	-814.69	5,852.00	0.00	0.00	0.00
16,800.00	89.98	359.76	11,492.98	5,908.03	-815.11	5,951.76	0.00	0.00	0.00
16,900.00	89.98	359.76	11,493.01	6,008.03	-815.53	6,051.52	0.00	0.00	0.00
17,000.00	89.98	359.76	11,493.05	6,108.03	-815.95	6,151.29	0.00	0.00	0.00
17,100.00	89.98	359.76	11,493.09	6,208.03	-816.36	6,251.05	0.00	0.00	0.00
17,200.00	89.98	359.76	11,493.13	6,308.03	-816.78	6,350.81	0.00	0.00	0.00
17,300.00	89.98	359.76	11,493.17	6,408.03	-817.20	6,450.58	0.00	0.00	0.00
17,400.00	89.98	359.76	11,493.20	6,508.03	-817.62	6,550.34	0.00	0.00	0.00
17,500.00	89.98	359.76	11,493.24	6,608.03	-818.04	6,650.10	0.00	0.00	0.00
17,600.00	89.98	359.76	11,493.28	6,708.03	-818.46	6,749.87	0.00	0.00	0.00
17,700.00	89.98	359.76	11,493.32	6,808.03	-818.87	6,849.63	0.00	0.00	0.00
17,800.00	89.98	359.76	11,493.36	6,908.02	-819.29	6,949.39	0.00	0.00	0.00
17,900.00	89.98	359.76	11,493.40	7,008.02	-819.71	7,049.15	0.00	0.00	0.00
18,000.00	89.98	359.76	11,493.43	7,108.02	-820.13	7,148.92	0.00	0.00	0.00
18,100.00	89.98	359.76	11,493.47	7,208.02	-820.55	7,248.68	0.00	0.00	0.00
18,200.00	89.98	359.76	11,493.51	7,308.02	-820.97	7,348.44	0.00	0.00	0.00
18,300.00	89.98	359.76	11,493.55	7,408.02	-821.38	7,448.21	0.00	0.00	0.00
18,400.00	89.98	359.76	11,493.59	7,508.02	-821.80	7,547.97	0.00	0.00	0.00
18,500.00	89.98	359.76	11,493.63	7,608.02	-822.22	7,647.73	0.00	0.00	0.00
18,600.00	89.98	359.76	11,493.66	7,708.02	-822.64	7,747.50	0.00	0.00	0.00
18,700.00	89.98	359.76	11,493.70	7,808.02	-823.06	7,847.26	0.00	0.00	0.00
18,800.00	89.98	359.76	11,493.74	7,908.02	-823.47	7,947.02	0.00	0.00	0.00
18,900.00	89.98	359.76	11,493.78	8,008.01	-823.89	8,046.79	0.00	0.00	0.00
19,000.00	89.98	359.76	11,493.82	8,108.01	-824.31	8,146.55	0.00	0.00	0.00
19,100.00	89.98	359.76	11,493.86	8,208.01	-824.73	8,246.31	0.00	0.00	0.00
19,200.00	89.98	359.76	11,493.89	8,308.01	-825.15	8,346.07	0.00	0.00	0.00
19,300.00	89.98	359.76	11,493.93	8,408.01	-825.57	8,445.84	0.00	0.00	0.00
19,400.00	89.98	359.76	11,493.97	8,508.01	-825.98	8,545.60	0.00	0.00	0.00
19,500.00	89.98	359.76	11,494.01	8,608.01	-826.40	8,645.36	0.00	0.00	0.00
19,600.00	89.98	359.76	11,494.05	8,708.01	-826.82	8,745.13	0.00	0.00	0.00
19,700.00	89.98	359.76	11,494.09	8,808.01	-827.24	8,844.89	0.00	0.00	0.00
19,800.00	89.98	359.76	11,494.12	8,908.01	-827.66	8,944.65	0.00	0.00	0.00
19,900.00	89.98	359.76	11,494.16	9,008.01	-828.07	9,044.42	0.00	0.00	0.00
20,000.00	89.98	359.76	11,494.20	9,108.00	-828.49	9,144.18	0.00	0.00	0.00
20,100.00	89.98	359.76	11,494.24	9,208.00	-828.91	9,243.94	0.00	0.00	0.00
20,200.00	89.98	359.76	11,494.28	9,308.00	-829.33	9,343.71	0.00	0.00	0.00
20,300.00	89.98	359.76	11,494.32	9,408.00	-829.75	9,443.47	0.00	0.00	0.00
20,400.00	89.98	359.76	11,494.35	9,508.00	-830.17	9,543.23	0.00	0.00	0.00
20,500.00	89.98	359.76	11,494.39	9,608.00	-830.58	9,642.99	0.00	0.00	0.00
20,600.00	89.98	359.76	11,494.43	9,708.00	-831.00	9,742.76	0.00	0.00	0.00
20,700.00	89.98	359.76	11,494.47	9,808.00	-831.42	9,842.52	0.00	0.00	0.00
20,800.00	89.98	359.76	11,494.51	9,908.00	-831.84	9,942.28	0.00	0.00	0.00
20,900.00	89.98	359.76	11,494.54	10,008.00	-832.26	10,042.05	0.00	0.00	0.00
21,000.00	89.98	359.76	11,494.58	10,108.00	-832.68	10,141.81	0.00	0.00	0.00
21,100.00	89.98	359.76	11,494.62	10,208.00	-833.09	10,241.57	0.00	0.00	0.00
21,200.00	89.98	359.76	11,494.66	10,307.99	-833.51	10,341.34	0.00	0.00	0.00
21,300.00	89.98	359.76	11,494.70	10,407.99	-833.93	10,441.10	0.00	0.00	0.00
21,400.00	89.98	359.76	11,494.74	10,507.99	-834.35	10,540.86	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well CORRAL CANYON 36_25 FED COM 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3170.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3170.10ft
Site:	Corral Canyon 36-25 Fed Com	**North Reference:**	Grid
Well:	CORRAL CANYON 36_25 FED COM 44H	**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)
21,500.00	89.98	359.76	11,494.77	10,607.99	-834.77	10,640.63	0.00	0.00	0.00
21,600.00	89.98	359.76	11,494.81	10,707.99	-835.18	10,740.39	0.00	0.00	0.00
21,700.00	89.98	359.76	11,494.85	10,807.99	-835.60	10,840.15	0.00	0.00	0.00
21,800.00	89.98	359.76	11,494.89	10,907.99	-836.02	10,939.91	0.00	0.00	0.00
21,900.00	89.98	359.76	11,494.93	11,007.99	-836.44	11,039.68	0.00	0.00	0.00
22,000.00	89.98	359.76	11,494.97	11,107.99	-836.86	11,139.44	0.00	0.00	0.00
22,100.00	89.98	359.76	11,495.00	11,207.99	-837.28	11,239.20	0.00	0.00	0.00
22,200.00	89.98	359.76	11,495.04	11,307.99	-837.69	11,338.97	0.00	0.00	0.00
22,300.00	89.98	359.76	11,495.08	11,407.98	-838.11	11,438.73	0.00	0.00	0.00
22,350.39	89.98	359.76	11,495.10	11,458.37	-838.32	11,489.00	0.00	0.00	0.00

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 (Corral Canyon - plan hits target center - Point	0.00	0.00	11,491.10	1,004.16	-794.60	424,665.54	665,367.09	32° 10' 0.655328 N	103° 55' 56.986812
PBHL (Corral Canyon - plan hits target center - Point	0.00	0.00	11,495.10	11,458.37	-838.32	435,118.97	665,323.37	32° 11' 44.102925 N	103° 55' 57.042320

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
11,096.30	11,017.63	440.13	-792.24	Tie In, Build 10°/100'
11,896.08	11,491.10	1,004.16	-794.60	Landing Point
22,350.39	11,495.10	11,458.37	-838.32	TD at 22350.39' MD

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: Corral Canyon 36-25 Fed Com
Well: CORRAL CANYON 36_25 FED COM 44H
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

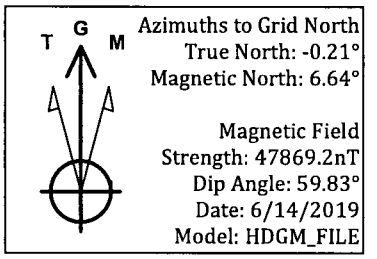
WELL DETAILS: CORRAL CANYON 36_25 FED COM 44H

Ground Level: 3143.60

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	423661.46	666161.63	32° 9' 50.689663 N	103° 55' 47.786775 W

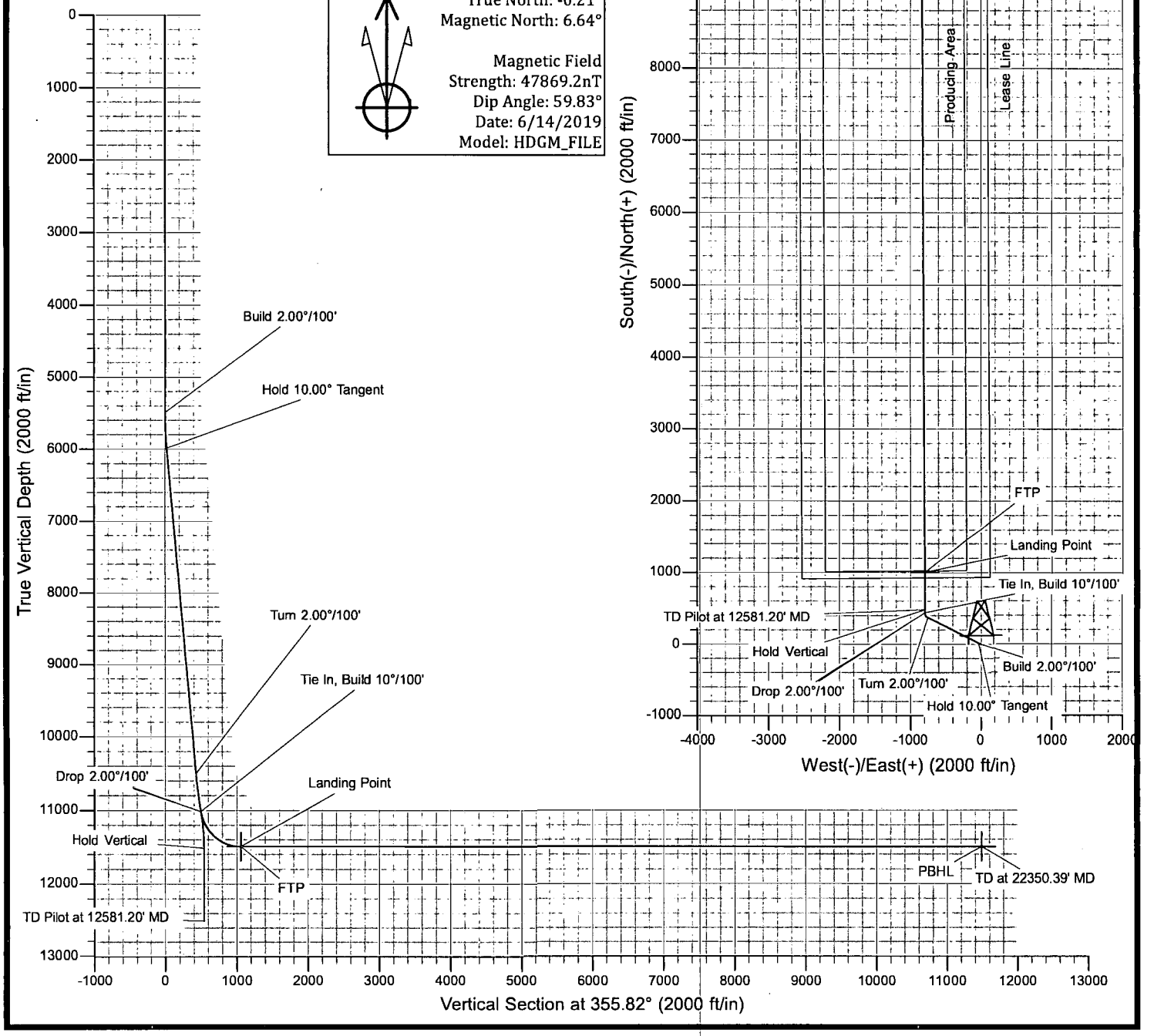
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
11096.30	10.00	359.76	11017.63	440.13	-792.24	0.00	0.00	496.76	Tie In, Build 10°/100'
11896.08	89.98	359.76	11491.10	1004.16	-794.60	10.00	0.00	1059.46	Landing Point
22350.39	89.98	359.76	11495.10	11458.37	-838.32	0.00	0.00	11489.00	TD at 22350.39' MD



Azimuths to Grid North
True North: -0.21°
Magnetic North: 6.64°

Magnetic Field
Strength: 47869.2nT
Dip Angle: 59.83°
Date: 6/14/2019
Model: HDGM_FILE



OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Corral Canyon 36-25 Fed Com
CORRAL CANYON 36_25 FED COM 44H

Pilot Hole

Plan: Permitting Plan

Standard Planning Report

19 September, 2019

Oxy Inc.
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well CORRAL CANYON 36_25 FED COM 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3170.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3170.10ft
Site:	Corral Canyon 36-25 Fed Com	**North Reference:**	Grid
Well:	CORRAL CANYON 36_25 FED COM 44H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Pilot Hole		
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 Corral Canyon 36-25 Fed Com

Site Position:		**Northing:**	424,164.47 usft	**Latitude:**	32° 9' 55.801317 N
From:	Map	**Easting:**	662,497.64 usft	**Longitude:**	103° 56' 30.391750 W
Position Uncertainty:	50.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.21 °

Well CORRAL CANYON 36_25 FED COM 44H

Well Position	**+N/-S**	-503.05 ft	**Northing:**	423,661.46 usft	**Latitude:**	32° 9' 50.689663 N
	+E/-W	3,664.27 ft	**Easting:**	666,161.63 usft	**Longitude:**	103° 55' 47.786775 W
Position Uncertainty		2.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,143.60 ft

Wellbore Pilot Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	9/19/2019	6.82	59.83	47,838.80000000

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	301.40

Plan Survey Tool Program **Date** 9/19/2019

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	12,581.20	Permitting Plan (Pilot Hole)	B001Mb_MWD+HRGM OWSG MWD + HRGM	

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	
5,490.00	0.00	0.00	5,490.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,989.96	10.00	296.48	5,987.43	19.41	-38.95	2.00	2.00	0.00	296.48	
10,573.71	10.00	296.48	10,501.55	374.34	-751.33	0.00	0.00	0.00	0.00	
11,096.31	10.00	359.76	11,017.64	440.13	-792.24	2.00	0.00	12.11	121.24	
11,596.31	0.00	0.00	11,515.11	483.65	-792.42	2.00	-2.00	0.00	180.00	
12,581.20	0.00	0.00	12,500.00	483.65	-792.42	0.00	0.00	0.00	0.00	

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well CORRAL CANYON 36_25 FED COM 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3170.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3170.10ft
Site:	Corral Canyon 36-25 Fed Com	**North Reference:**	Grid
Well:	CORRAL CANYON 36_25 FED COM 44H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Pilot Hole		
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
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well CORRAL CANYON 36_25 FED COM 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3170.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3170.10ft
Site:	Corral Canyon 36-25 Fed Com	**North Reference:**	Grid
Well:	CORRAL CANYON 36_25 FED COM 44H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Pilot Hole		
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)
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,490.00	0.00	0.00	5,490.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.20	296.48	5,500.00	0.01	-0.02	0.02	2.00	2.00	0.00
5,600.00	2.20	296.48	5,599.97	0.94	-1.89	2.10	2.00	2.00	0.00
5,700.00	4.20	296.48	5,699.81	3.43	-6.89	7.67	2.00	2.00	0.00
5,800.00	6.20	296.48	5,799.40	7.47	-15.00	16.69	2.00	2.00	0.00
5,900.00	8.20	296.48	5,898.60	13.06	-26.22	29.18	2.00	2.00	0.00
5,989.96	10.00	296.48	5,987.43	19.41	-38.95	43.36	2.00	2.00	0.00
6,000.00	10.00	296.48	5,997.31	20.18	-40.51	45.09	0.00	0.00	0.00
6,100.00	10.00	296.48	6,095.79	27.93	-56.05	62.39	0.00	0.00	0.00
6,200.00	10.00	296.48	6,194.28	35.67	-71.59	79.69	0.00	0.00	0.00
6,300.00	10.00	296.48	6,292.76	43.41	-87.13	96.99	0.00	0.00	0.00
6,400.00	10.00	296.48	6,391.24	51.16	-102.67	114.29	0.00	0.00	0.00
6,500.00	10.00	296.48	6,489.72	58.90	-118.22	131.59	0.00	0.00	0.00
6,600.00	10.00	296.48	6,588.20	66.64	-133.76	148.89	0.00	0.00	0.00
6,700.00	10.00	296.48	6,686.68	74.39	-149.30	166.19	0.00	0.00	0.00
6,800.00	10.00	296.48	6,785.16	82.13	-164.84	183.49	0.00	0.00	0.00
6,900.00	10.00	296.48	6,883.64	89.87	-180.38	200.79	0.00	0.00	0.00
7,000.00	10.00	296.48	6,982.12	97.62	-195.92	218.09	0.00	0.00	0.00
7,100.00	10.00	296.48	7,080.60	105.36	-211.46	235.39	0.00	0.00	0.00
7,200.00	10.00	296.48	7,179.09	113.10	-227.01	252.69	0.00	0.00	0.00
7,300.00	10.00	296.48	7,277.57	120.85	-242.55	269.99	0.00	0.00	0.00
7,400.00	10.00	296.48	7,376.05	128.59	-258.09	287.29	0.00	0.00	0.00
7,500.00	10.00	296.48	7,474.53	136.33	-273.63	304.59	0.00	0.00	0.00
7,600.00	10.00	296.48	7,573.01	144.08	-289.17	321.89	0.00	0.00	0.00
7,700.00	10.00	296.48	7,671.49	151.82	-304.71	339.19	0.00	0.00	0.00
7,800.00	10.00	296.48	7,769.97	159.56	-320.25	356.49	0.00	0.00	0.00
7,900.00	10.00	296.48	7,868.45	167.31	-335.80	373.79	0.00	0.00	0.00
8,000.00	10.00	296.48	7,966.93	175.05	-351.34	391.09	0.00	0.00	0.00
8,100.00	10.00	296.48	8,065.41	182.79	-366.88	408.39	0.00	0.00	0.00
8,200.00	10.00	296.48	8,163.90	190.54	-382.42	425.69	0.00	0.00	0.00
8,300.00	10.00	296.48	8,262.38	198.28	-397.96	442.99	0.00	0.00	0.00
8,400.00	10.00	296.48	8,360.86	206.02	-413.50	460.29	0.00	0.00	0.00
8,500.00	10.00	296.48	8,459.34	213.77	-429.04	477.59	0.00	0.00	0.00
8,600.00	10.00	296.48	8,557.82	221.51	-444.59	494.89	0.00	0.00	0.00
8,700.00	10.00	296.48	8,656.30	229.25	-460.13	512.19	0.00	0.00	0.00
8,800.00	10.00	296.48	8,754.78	237.00	-475.67	529.49	0.00	0.00	0.00
8,900.00	10.00	296.48	8,853.26	244.74	-491.21	546.79	0.00	0.00	0.00
9,000.00	10.00	296.48	8,951.74	252.48	-506.75	564.09	0.00	0.00	0.00
9,100.00	10.00	296.48	9,050.22	260.23	-522.29	581.39	0.00	0.00	0.00
9,200.00	10.00	296.48	9,148.71	267.97	-537.83	598.68	0.00	0.00	0.00
9,300.00	10.00	296.48	9,247.19	275.71	-553.37	615.98	0.00	0.00	0.00
9,400.00	10.00	296.48	9,345.67	283.46	-568.92	633.28	0.00	0.00	0.00
9,500.00	10.00	296.48	9,444.15	291.20	-584.46	650.58	0.00	0.00	0.00
9,600.00	10.00	296.48	9,542.63	298.94	-600.00	667.88	0.00	0.00	0.00
9,700.00	10.00	296.48	9,641.11	306.69	-615.54	685.18	0.00	0.00	0.00
9,800.00	10.00	296.48	9,739.59	314.43	-631.08	702.48	0.00	0.00	0.00
9,900.00	10.00	296.48	9,838.07	322.17	-646.62	719.78	0.00	0.00	0.00
10,000.00	10.00	296.48	9,936.55	329.92	-662.16	737.08	0.00	0.00	0.00
10,100.00	10.00	296.48	10,035.03	337.66	-677.71	754.38	0.00	0.00	0.00
10,200.00	10.00	296.48	10,133.52	345.40	-693.25	771.68	0.00	0.00	0.00
10,300.00	10.00	296.48	10,232.00	353.15	-708.79	788.98	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well CORRAL CANYON 36_25 FED COM 44H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3170.10ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3170.10ft
Site:	Corral Canyon 36-25 Fed Com	**North Reference:**	Grid
Well:	CORRAL CANYON 36_25 FED COM 44H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Pilot Hole		
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)
10,400.00	10.00	296.48	10,330.48	360.89	-724.33	806.28	0.00	0.00	0.00
10,500.00	10.00	296.48	10,428.96	368.63	-739.87	823.58	0.00	0.00	0.00
10,573.71	10.00	296.48	10,501.55	374.34	-751.33	836.33	0.00	0.00	0.00
10,600.00	9.74	299.14	10,527.45	376.44	-755.31	840.83	2.00	-1.00	10.11
10,700.00	8.95	310.50	10,626.13	385.61	-768.61	856.96	2.00	-0.79	11.36
10,800.00	8.57	323.42	10,724.97	396.65	-778.97	871.55	2.00	-0.39	12.92
10,900.00	8.64	336.81	10,823.86	409.53	-786.36	884.57	2.00	0.07	13.40
11,000.00	9.15	349.35	10,922.67	424.24	-790.79	896.02	2.00	0.51	12.53
11,096.31	10.00	359.76	11,017.64	440.13	-792.24	905.53	2.00	0.88	10.81
11,100.00	9.93	359.76	11,021.28	440.77	-792.24	905.87	2.00	-2.00	0.00
11,200.00	7.93	359.76	11,120.06	456.28	-792.31	914.00	2.00	-2.00	0.00
11,300.00	5.93	359.76	11,219.33	468.34	-792.36	920.33	2.00	-2.00	0.00
11,400.00	3.93	359.76	11,318.95	476.93	-792.39	924.83	2.00	-2.00	0.00
11,500.00	1.93	359.76	11,418.82	482.03	-792.42	927.51	2.00	-2.00	0.00
11,596.31	0.00	0.00	11,515.11	483.65	-792.42	928.36	2.00	-2.00	0.00
11,600.00	0.00	0.00	11,518.80	483.65	-792.42	928.36	0.00	0.00	0.00
11,700.00	0.00	0.00	11,618.80	483.65	-792.42	928.36	0.00	0.00	0.00
11,800.00	0.00	0.00	11,718.80	483.65	-792.42	928.36	0.00	0.00	0.00
11,900.00	0.00	0.00	11,818.80	483.65	-792.42	928.36	0.00	0.00	0.00
12,000.00	0.00	0.00	11,918.80	483.65	-792.42	928.36	0.00	0.00	0.00
12,100.00	0.00	0.00	12,018.80	483.65	-792.42	928.36	0.00	0.00	0.00
12,200.00	0.00	0.00	12,118.80	483.65	-792.42	928.36	0.00	0.00	0.00
12,300.00	0.00	0.00	12,218.80	483.65	-792.42	928.36	0.00	0.00	0.00
12,400.00	0.00	0.00	12,318.80	483.65	-792.42	928.36	0.00	0.00	0.00
12,500.00	0.00	0.00	12,418.80	483.65	-792.42	928.36	0.00	0.00	0.00
12,581.20	0.00	0.00	12,500.00	483.65	-792.42	928.36	0.00	0.00	0.00

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
5,490.00	5,490.00	0.00	0.00	Build 2.00°/100'
5,989.96	5,987.43	19.41	-38.95	Hold 10.00° Tangent
10,573.71	10,501.55	374.34	-751.33	Turn 2.00°/100'
11,096.31	11,017.64	440.13	-792.24	Drop 2.00°/100'
11,596.31	11,515.11	483.65	-792.42	Hold Vertical
12,581.20	12,500.00	483.65	-792.42	TD Pilot at 12581.20' MD

Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)
Site:	Corral Canyon 36-25 Fed Com
Well:	CORRAL CANYON 36_25 FED COM 44H
Wellbore:	Pilot Hole
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

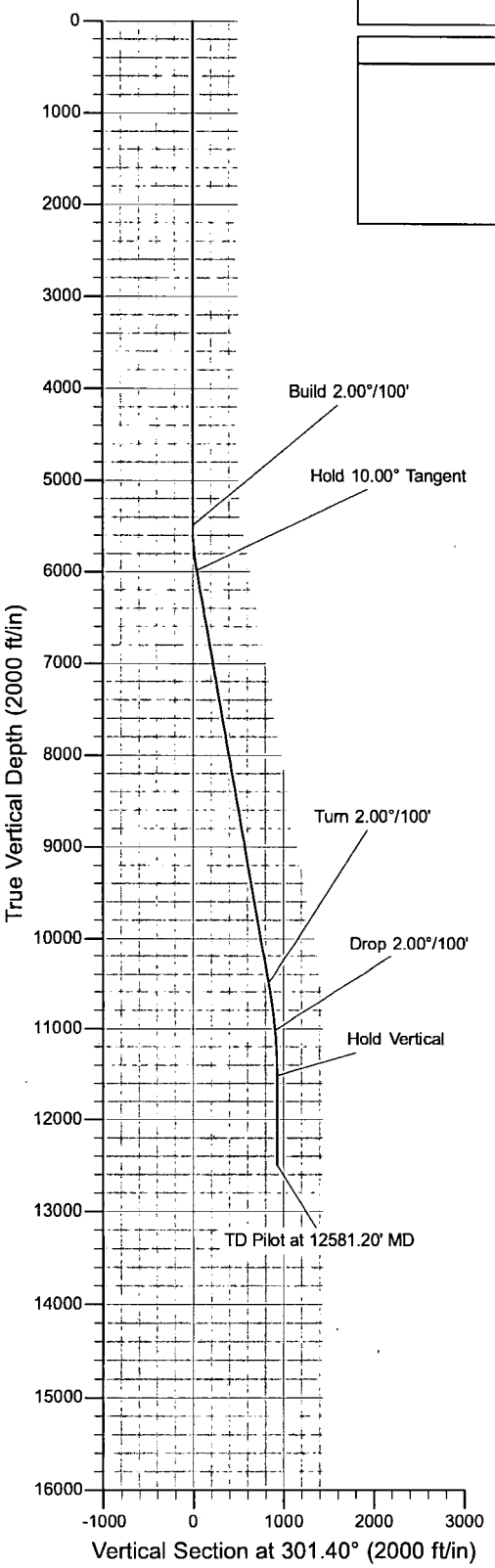
WELL DETAILS: CORRAL CANYON 36_25 FED COM 44H

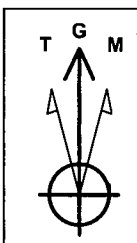
Ground Level: 3143.60

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	423661.46	666161.63	32° 9' 50.689663 N	103° 55' 47.786775 W

SECTION DETAILS

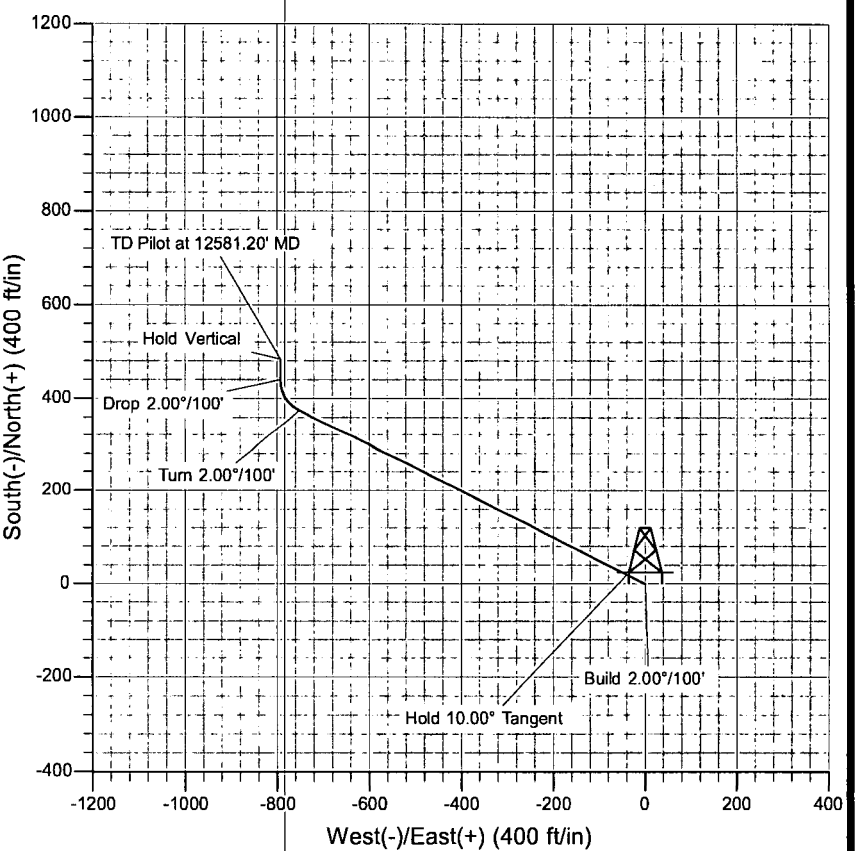
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5490.00	0.00	0.00	5490.00	0.00	0.00	0.00	0.00	0.00	Build 2.00°/100'
5989.96	10.00	296.48	5987.43	19.41	-38.95	2.00	296.48	43.36	Hold 10.00° Tangent
10573.71	10.00	296.48	10501.55	374.34	-751.33	0.00	0.00	836.33	Turn 2.00°/100'
11096.31	10.00	359.76	11017.64	440.13	-792.24	2.00	121.24	905.53	Drop 2.00°/100'
11596.31	0.00	0.00	11515.11	483.65	-792.42	2.00	180.00	928.36	Hold Vertical
12581.20	0.00	0.00	12500.00	483.65	-792.42	0.00	0.00	928.36	TD Pilot at 12581.20' MD





Azimuths to Grid North
True North: -0.21°
Magnetic North: 6.60°

Magnetic Field
Strength: 47838.8nT
Dip Angle: 59.83°
Date: 9/19/2019
Model: HDGM_FILE



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: 6/28/2019

☒ 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 – Name of facility

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
Corral Canyon 36-25 Fd Com 6H	Pending	1-1-25S-29E	810 FNL 150 FEL	3,100	0	
Corral Canyon 36-25 Fd Com 14H	Pending	1-1-25S-29E	840 FNL 150 FEL	3,900	0	
Corral Canyon 36-25 Fed Com 44H	Pending	1-1-25S-29E	910 FNL 150 FEL	7,100	0	
Corral Canyon 36-25 Fed Com 74H	Pending	1-1-25S-29E	875 FNL 150 FEL	1,200	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 the production facility is sent to ETC Texas Pipeline, LTD ("ETC") and is connected to ETC high pressure gathering system located in Eddy County, New Mexico. OXY USA INC. ("OXY") provides (periodically) to ETC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, OXY and ETC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Orla Plant Processing Plant located in Sec. 35, Block 57, T2, T&P RR CO, Reeves, County, Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enterprise system at that time. Based on current information, it is OXY's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

OXY USA Inc
APD ATTACHMENT: SPUDDER RIG DATA

OPERATOR NAME / NUMBER: OXY USA Inc

1. SUMMARY OF REQUEST:

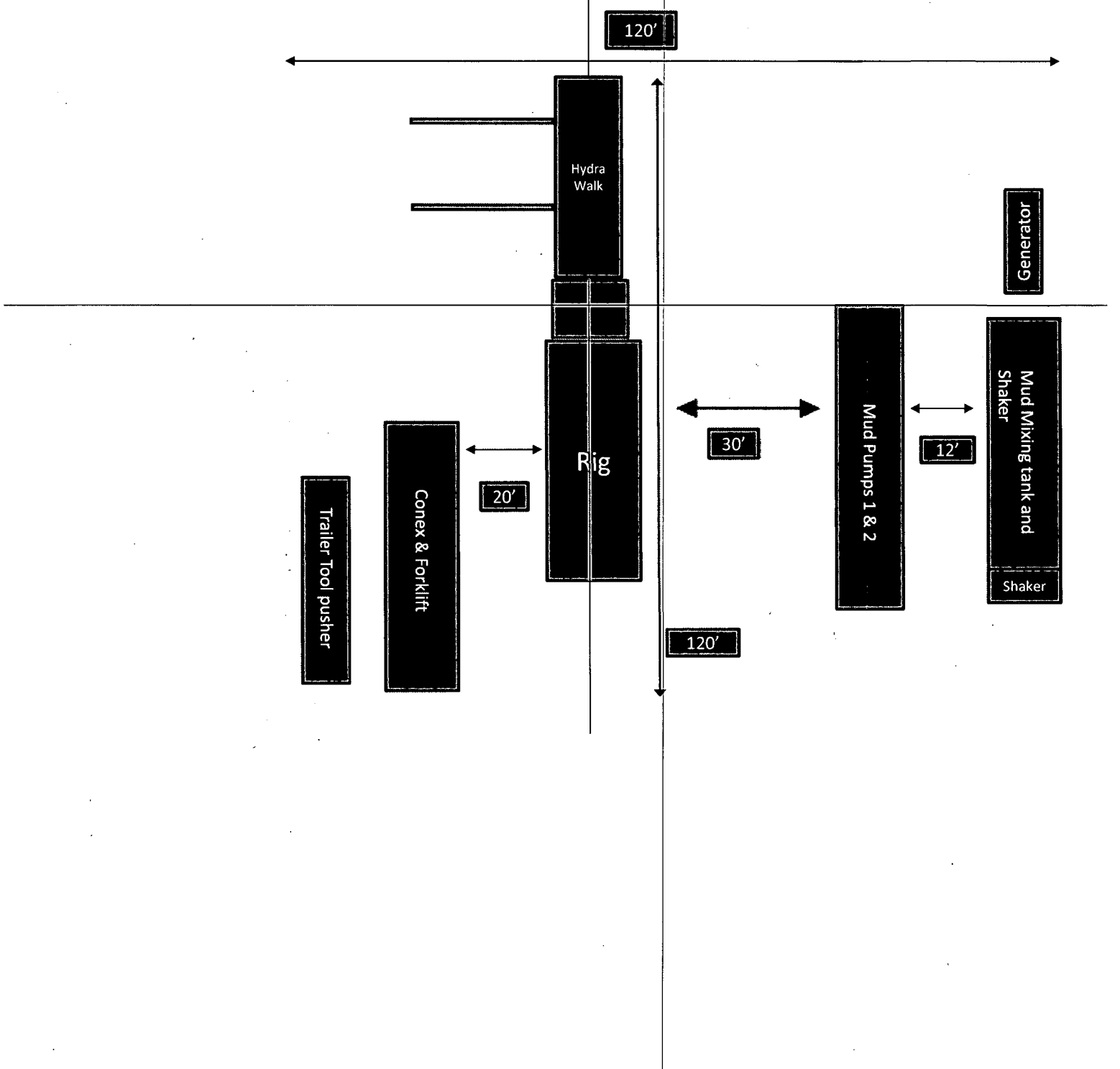
Oxy USA respectfully requests approval for the following operations for the surface hole in the drill plan:

1. Utilize a spudder rig to pre-set surface casing for time and cost savings.

2. Description of Operations

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
    a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
    b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and the WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
    a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
    a. The larger rig will move back onto the location within 90 days from the point at which the wells are secured and the spudder rig is moved off location.
    b. The BLM will be contacted / notified 24 hours before the larger rig moves back on the pre-set locations.
7. Oxy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, Oxy will secure the wellhead area by placing a guard rail around the cellar area.

Spudder Rig Layout



OXY USA Inc. – Corral Canyon 36-25 Federal Com 44H – Amended Drill Plan

1. Geologic Formations

TVD of target	11495'	Pilot Hole Depth	12581'
MD at TD:	22350'	Deepest Expected fresh water:	434'

Formation	TVD - RKB	Expected Fluids
Rustler	434	
Salado	910	Salt
Castile	1,885	Salt
Lamar/Delaware	3,375	Oil/Gas/Brine
Bell Canyon	3,390	Oil/Gas/Brine
Cherry Canyon	4,305	Oil/Gas/Brine
Brushy Canyon	5,635	Losses
Bone Spring	7,192	Oil/Gas
1st Bone Spring	8,144	Oil/Gas
2nd Bone Spring	8,965	Oil/Gas
3rd Bone Spring	10,029	Oil/Gas
Wolfcamp (Lateral)	**10,377**	**Oil/Gas**
Penn	12,248	Oil/Gas
Strawn (Pilot)	**12,492**	**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)								
14.75	0	850	10.75	40.5	J-55	BTC	1.125	1.2	1.4	1.4
9.875	0	10996	7.625	26.4	L-80 HC	BTC	1.125	1.2	1.4	1.4
6.75	0	11546	5.5	26	P-110 CYHP	TORQ SFW	1.125	1.2	1.4	1.4
6.75	11546	22350	5	21.4	P-110 CYHP	TORQ DQW	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, SF TORQ, and/or DQW 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?	
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?	
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)	698	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate 1st Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate 1st Stage (Tail)	706	13.2	1.65	8.640	11:54	Class H Cement, Retarder, Dispersant, Salt
Intermediate 2nd Stage (Tail Slurry) to be pumped as Bradenhead Squeeze from surface, down the Intermediate annulus						
Intermediate 2nd Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate 2nd Stage (Tail)	724	12.9	1.92	10.41	23:10	Class C Cement, Accelerator
Production (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Production (Tail)	1136	13.2	1.38	6.686	3:39	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	850	100%
Intermediate 1st Stage (Lead)	N/A	N/A	N/A
Intermediate 1st Stage (Tail)	5885	10996	5%
Intermediate 2nd Stage (Lead)	N/A	N/A	N/A
Intermediate 2nd Stage (Tail)	0	5885	10%
Production (Lead)	N/A	N/A	N/A
Production (Tail)	10496	22350	20%

*OXY requests a variance to cement the 9-5/8" and/or 7-5/8" intermediate casing strings offline, see attached for additional information.

Bradenhead CBL - Oxy requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8" intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019.

Three string wells:

1. CBL will be required on one well per pad
2. If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
3. Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

Pilot Hole Cementing specs:

Pilot hole depth: 12581'MD - KOP: 11096' MD (Open Hole)

Plug Top (MD)	Plug Bottom (MD)	Excess	No. Sacks	Wt. (lb/gal)	Yld (ft3/sack)	Water (gal/sk)	Slurry Description and Cement Type
12,046	12,581	10%	142	14.4	1.032	4.13	NeoCem TM
11,496	12,046	10%	146	16.4	1.032	4.13	NeoCem TM
10,896	11,496	10%	173	17.5	0.952	3.51	Class H Cement, Retarder

Note: The first and second plugs are designed to isolate the high pressure zones in the Pilot Hole from the KOP. The third plug is designed to provide a strong foundation for sidetracking at the KOP.

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
9.875" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 5000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		
6.75" Hole (Pilot and Lateral)	13-5/8"	5M	Annular	✓	100% of working pressure
		10M	Blind Ram	✓	250 psi / 5300 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

*Specify if additional ram is utilized.

Per BLM's Memorandum No. NM-2017-008: *Decision and Rationale for a Variance Allowing the Use of a 5M Annular Preventer with a 10M BOP Stack*, Oxy requests to employ a 5M annular with a 10M BOPE stack in the pilot and lateral sections of the well and will ensure that two barriers to flow are maintained at all times. Please see attached Well Control Plan.

Oxy will utilize a 5M annular with a 10M BOPE stack. The 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

Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019. A separate sundry will be sent prior to spud that reflects the pad based break testing plan.

BOP break test under the following conditions:

1. After a full BOP test is conducted
2. When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower.
3. When skidding to drill a production section that does not penetrate into the third Bone Spring or deeper.

If the kill line is broken prior to skid, two tests will be performed.

1. Wellhead flange, co-flex hose, kill line connections and upper pipe rams
2. Wellhead flange, HCR valve, check valve, upper pipe rams

If the kill line is not broken prior to skid, only one test will be performed.

1. Wellhead flange, co-flex hose, check valve, upper pipe rams

5. Mud Program

Pilot

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	850	Water-Based Mud	8.6-8.8	40-60	N/C
850	10996	Saturated Brine-Based or Oil-Based Mud	8.0-10.0	35-45	N/C
10996	12581	Water-Based or Oil-Based Mud	9.5-13.5	38-50	N/C

Lateral

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
10996	22350	Water-Based or Oil-Based Mud	9.5-13.0	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	Bone Spring – TD
Yes	Triple Combo (Spectral Gamma, Dipole Sonic, CMR)	Pilot

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8775 psi (Pilot), 7771 psi (Lateral)
Abnormal Temperature	No
BH Temperature at deepest TVD	180°F (Pilot) 172°F (Lateral)

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: 1709 bbls (Pilot and Lateral).

9. Company Personnel

Name	Title	Office Phone	Mobile Phone
Garrett Granier	Drilling Engineer	713-513-6633	832-265-0581
William Turner	Drilling Engineer Supervisor	713-350-4951	661-817-4586
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Diego Tellez	Drilling Manager	713-350-4602	713-303-4932

OXY USA Inc.
APD Attachment
Offline Cementing

OXY respectfully requests a variance to cement the 9-5/8" and/or 7-5/8" intermediate casing strings offline.

The summarized operational sequence will be as follows:

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe).
2. Land casing.
3. Fill pipe with kill weight fluid, and confirm well is static.
    a. If well is not static notify BLM and kill well.
    b. Once well is static notify BLM with intent to proceed with nipple down and offline cementing.
4. Set and pressure test annular packoff.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed.
6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange.
8. If well is not static notify BLM and kill well prior to cementing or nippling up for further remediation.
9. Install offline cement tool.
10. Rig up cement equipment.
    a. Notify BLM prior to cement job.
11. Perform cement job.
12. Confirm well is static and floats are holding after cement job.
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

APD ID: 10400043435 **Submission Date:** 07/10/2019

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

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:

CorralCanyon36_25FdCom44H_ExistRoads_20190708130646.pdf

Existing Road Purpose: 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:

CorralCanyon36_25FdCom44H_NewRoads_20190708130730.pdf

New road type: LOCAL

Length: 766.5 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:

CorralCanyon36_25FdCom44H_NewRoads_20190708130753.pdf

Access road engineering design? NO

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 pad and go 75.7' east, 55.2' north, 445' east and then 190.6' northeast to the southwest 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:

CorralCanyon36_25FdCom44H_ExistWells_20190708130822.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 Corral Canyon 36-25 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 production flowlines operating 75% MAWP, surface lines to follow surveyed route. Survey of a strip of land 30' wide and 9739.2' in length crossing in Section 1 T25S R29E, NMPM, Eddy 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 30' wide and 1071.1' in length crossing in Section 1 T25S R29E NMPM, Eddy County, NM and being 15' left and 15' right of the centerline survey, see attached.
Production Facilities map:

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

CorralCanyon36_25FdCom44H_FacilityPLEL_20190708130838.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: PIPELINE

TRUCKING

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:

CorralCanyon36_25FdCom44H_GRRWtrSrc_20190708130910.pdf

CorralCanyon36_25FdCom44H_MesqWtrSrc_20190708130929.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:

Aquifer documentation:

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

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

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 6, 20, 22 T24S R29E. Water will be provided from a frac pond located in Sections 15, 21, 22 T24S R29E.

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: 1709 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:

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:

CorralCanyon36_25FdCom44H_WellSiteCL_20190708131019.pdf

Comments: V-Door-South - CL Tanks-East - 330' X 510' – 4 Well Pad

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** CORRAL CANYON 36-25 FED COM

Multiple Well Pad Number: 6H

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): 3.86
Road proposed disturbance (acres): 0.53
Powerline proposed disturbance (acres): 0.74
Pipeline proposed disturbance (acres): 6.71
Other proposed disturbance (acres): 0

Total proposed disturbance: 11.84

Well pad interim reclamation (acres): 1.29
Road interim reclamation (acres): 0.28
Powerline interim reclamation (acres): 0.74
Pipeline interim reclamation (acres): 4.47
Other interim reclamation (acres): 0.33

Total interim reclamation: 7.11

Well pad long term disturbance (acres): 2.57
Road long term disturbance (acres): 0.25
Powerline long term disturbance (acres): 0
Pipeline long term disturbance (acres): 2.24
Other long term disturbance (acres): 0

Total long term disturbance: 5.06

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.

Existing Vegetation Community at other disturbances attachment:

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

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 type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

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: PIPELINE

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

Disturbance type: WELL PAD

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO

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: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO

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? NO **Use APD as ROW?**

ROW Type(s):

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

CorralCanyon36_25FdCom44H_GasCapPlan__20190708131059.pdf
CorralCanyon36_25FdCom44H_ImageryMap_20190708131118.pdf
CorralCanyon36_25FdCom44H_LocDrillPath_20190708131118.pdf
CorralCanyon36_25FdCom44H_TopoMap_20190708131141.pdf

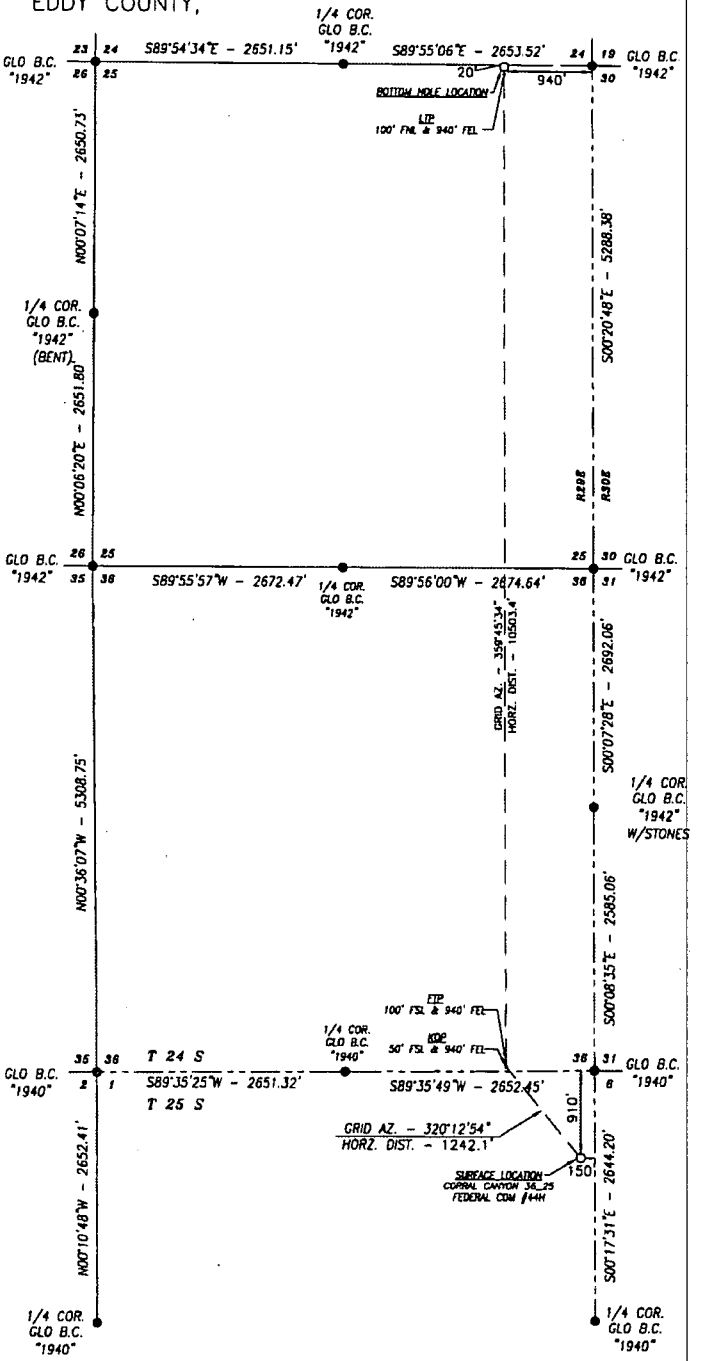
Operator Name: OXY USA INCORPORATED

Well Name: CORRAL CANYON 36-25 FED COM **Well Number:** 44H

CorralCanyon36_25FdCom44H_VicinityMap_20190708131142.pdf
CorralCanyon36_25FdCom44H_StakeForm_20190708131155.pdf
CorralCanyon36_25FdCom44H_SUPO_20190708131220.pdf

SECTION 1, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



DIRECTIONS TO LOCATION:
FROM THE INTERSECTION OF DUARTE RD (C.R. 720) AND McDONALD RD (C.R. 746) APPROX. 1.3 MILES EAST OF MALAGA, NM; GO SOUTH ON C.R. 746 APPROX. 0.75 MILES; ROAD CURVES LEFT (SOUTHEAST), CONTINUE ON C.R. 746 FOR APPROX. 4.8 MILES; ROAD CURVES BACK TO THE NORTH GO APPROX. 0.4 MILES; TURN LEFT AND GO WEST APPROX. 350 FEET; TURN RIGHT AND CONTINUE NORTH ON C.R. 746 APPROX. 0.7 MILES; ROAD CURVES TO THE EAST, GO APPROX. 0.9 MILES TO Y INTERSECTION; CONTINUE ON C.R. 746 (SOUTHEAST) FOR APPROX. 3.3 MILES; TURN RIGHT AND GO SOUTHWEST APPROX. 0.1 MILES; ROAD CURVES LEFT (SOUTHEAST) AND GO 1.8 MILES; TURN RIGHT AND GO SOUTH APPROX. 0.9 MILES; TURN RIGHT AND GO WEST APPROX. 0.4 MILES TO Y INTERSECTION; TURN LEFT AND GO SOUTHWEST APPROX. 400 FEET TO INTERSECTION; TURN RIGHT AND GO WEST-SOUTHWEST APPROX. 0.3 MILES; ROAD CURVES BACK TO THE RIGHT AND GO NORTHWEST 0.4 MILES; ROAD CURVES BACK TO THE LEFT AND GO WEST APPROX. 0.9 MILES; ROAD CURVES RIGHT AND GO NORTHWEST APPROX. 1.2 MILES; TURN RIGHT AND GO NORTH APPROX. 0.2 MILES TO EXISTING WELLPAD; TURN RIGHT AND GO EAST APPROX. 0.60 MILES TO EXISTING OXY WELL PAD. GO EAST ACROSS EXISTING OXY WELL PAD 480 FEET TO PROPOSED ROAD ON THE EAST SIDE OF EXISTING OXY WELL PAD. FOLLOW PROPOSED ROAD EAST 75.7 FEET AND NORTH 55.2 FEET TO THE SOUTHWEST CORNER OF WELL PAD CEDCAN 0112. GO EAST ACROSS WELL PAD CEDCAN 0112 APPROX. 445 FEET TO THE SOUTHEAST CORNER TO PROPOSED ROAD. FOLLOW PROPOSED ROAD NORTHEAST 190.6 FEET THE SOUTHWEST CORNER OF THIS WELL PAD. THIS LOCATION IS 278 FEET NORTHEAST.

BASIS OF BEARING:
BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE GRID VALUES.

CERTIFICATION
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

CHAD L. HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 6/12/19
CHAD HARCROW N.M.P.S. NO. 17777 DATE

HARCROW SURVEYING, LLC
2316 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158
c.harcrow@harcrowsurveying.com

1500 0 1500 3000 FEET
SCALE: 1"=1500'

OXY USA INC.

CORRAL CANYON 36_25 FEDERAL COM #44H
SECTION 1, TOWNSHIP 25 SOUTH, RANGE 29 EAST, NMPM, EDDY COUNTY, NEW MEXICO

SURVEY DATE: MAY 11, 2019		IP-SMS-2011
DRAFTING DATE: MAY 21, 2019		PAGE 1 OF 1
APPROVED BY: CH	DRAWN BY: CD	FILE: 19-707

NO.	WELL	FOOTAGE	ELEV.	WO
1	CORRAL CANYON 36_35 FED COM #11H	190' FNL & 1250' FWL	3106.2'	19-696
2	CORRAL CANYON 36_35 FED COM #12H	190' FNL & 1285' FWL	3110.4'	19-697
3	CORRAL CANYON 36_35 FED COM #1H	190' FNL & 1525' FWL	3111.5'	19-690
4	CORRAL CANYON 36_35 FED COM #2H	190' FNL & 1560' FWL	3111.6'	19-691
5	CORRAL CANYON 36_35 FED COM #71H	200' FNL & 2220' FWL	3120.3'	19-700
6	CORRAL CANYON 36_35 FED COM #72H	200' FNL & 2255' FWL	3121.0'	19-701
7	CORRAL CANYON 36_35 FED COM #73H	200' FNL & 2290' FWL	3120.4'	19-702
8	CORRAL CANYON 36_35 FED COM #211H	200' FNL & 2530' FWL	3122.8'	19-708
9	CORRAL CANYON 36_35 FED COM #212H	200' FNL & 2565' FWL	3122.6'	19-709
10	CORRAL CANYON 36_35 FED COM #3H	200' FNL & 2170' FEL	3126.4'	19-692
11	CORRAL CANYON 36_35 FED COM #13H	200' FNL & 2140' FEL	3126.9'	19-698
12	CORRAL CANYON 36_35 FED COM #4H	200' FNL & 2105' FEL	3127.2'	19-693
13	CORRAL CANYON 36_35 FED COM #5H	200' FNL & 2070' FEL	3127.4'	19-694
14	CORRAL CANYON 36_35 FED COM #331H	560' FNL & 1013' FWL	3103.6'	19-710
15	CORRAL CANYON 36_35 FED COM #332H	560' FNL & 1048' FWL	3103.7'	19-711
16	CORRAL CANYON 36_35 FED COM #41H	1020' FNL & 1130' FWL	3101.6'	19-704
17	CORRAL CANYON 36_35 FED COM #42H	1020' FNL & 1165' FWL	3102.6'	19-705
18	CORRAL CANYON 36_35 FED COM #51H	1020' FNL & 1405' FWL	3104.2'	19-714
19	CORRAL CANYON 36_35 FED COM #52H	1020' FNL & 1440' FWL	3105.1'	19-715
20	CORRAL CANYON 36_35 FED COM #43H	855' FNL & 1830' FEL	3132.0'	19-706
21	CORRAL CANYON 36_35 FED COM #53H	855' FNL & 1795' FEL	3131.1'	19-716
22	CORRAL CANYON 36_35 FED COM #54H	855' FNL & 1760' FEL	3132.1'	19-717
23	CORRAL CANYON 36_35 FED COM #333H	980' FNL & 740' FEL	3138.3'	19-712
24	CORRAL CANYON 36_35 FED COM #334H	980' FNL & 705' FEL	3139.2'	19-713
25	CORRAL CANYON 36_35 FED COM #6H	810' FNL & 150' FEL	3144.8'	19-695
26	CORRAL CANYON 36_35 FED COM #14H	840' FNL & 150' FEL	3144.1'	19-699
27	CORRAL CANYON 36_35 FED COM #74H	875' FNL & 150' FEL	3143.0'	19-703
28	CORRAL CANYON 36_35 FED COM #44H	910' FNL & 150' FEL	3143.6'	19-707

23S 29E

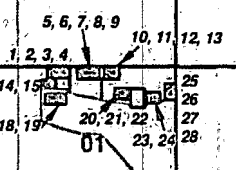
24S 29E

25S 29E

25S 30E

DUARTE RD - CR 720

MCDONALD RD. - CR. 746



LEGEND

- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

CORRAL CANYON 36_35 FEDERAL COM WELLS

SECTION: 1 TOWNSHIP: 25 S. RANGE: 29 E.

STATE: NEW MEXICO COUNTY: EDDY SURVEY: N.M.P.M

W.O. # 19-690-717 LEASE: CORRAL CANYON 36_35 FED COM

0 4,750 9,500 14,250 FEET

0 0.4 0.8 1.6 Miles 1 IN = 4,750 FT

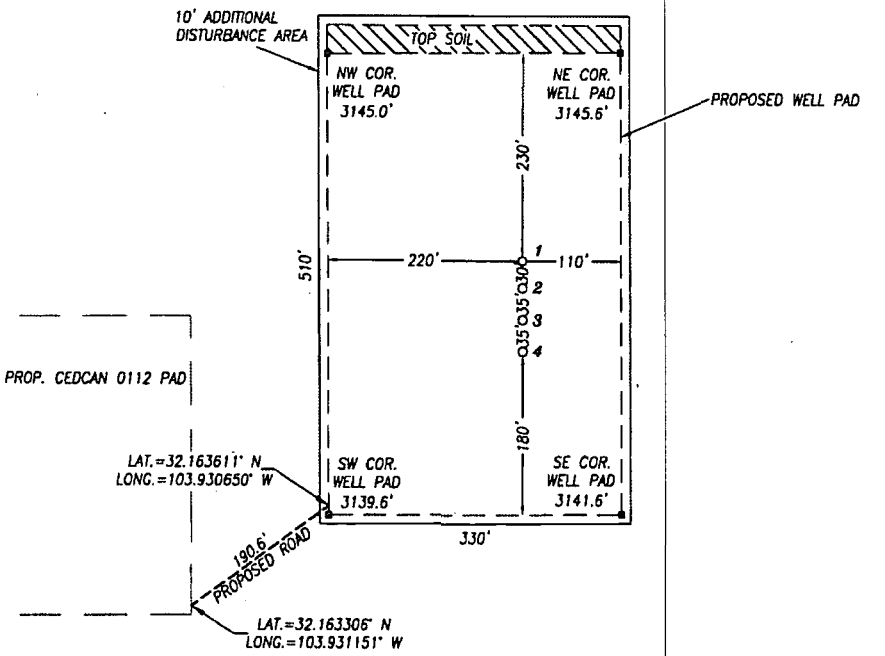
LOCATION MAP VICINITY 6/14/2019 A.M.

OXY USA INC.

HARCROW SURVEYING, LLC.
2316 W. MAIN ST, ARTESIA, NM 88210
PH: (575) 746-2158
c.harcrow@harcrowsurveying.com

OXY USA INC.

SITE PLAN
CEDCAN 0102
FAA PERMIT: NO



NO.	WELL	FOOTAGE	LAT.	LONG.	ELEV.	ID#
1	CORRAL CANYON 36_25 FED COM #6H	810' FNL & 150' FEL	32.164355° N	103.929941° W	3144.8'	IP-SMS-2002
2	CORRAL CANYON 36_25 FED COM #14H	840' FNL & 150' FEL	32.164272° N	103.929940° W	3144.1'	IP-SMS-1992
3	CORRAL CANYON 36_25 FED COM #74H	875' FNL & 150' FEL	32.164176° N	103.929940° W	3143.0'	IP--SMS-2017
4	CORRAL CANYON 36_25 FED COM #44H	910' FNL & 150' FEL	32.164080° N	103.929940° W	3143.6'	IP-SMS-2011

NOTES:

1) LATS & LONGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.

2) DISTANCES ARE GRID VALUES.

3) ALL FEATURES ARE EXISTING UNLESS OTHERWISE NOTED

CERTIFICATION
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

CHAD HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow
CHAD HARCROW N.M.P.S. NO. 17777

6/12/19
DATE

HARCROW SURVEYING, LLC
2316 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158
c.harcrow@harcrowsurveying.com

200 0 200 400 Feet
Scale: 1"=200'

OXY USA INC.		
SURVEY DATE: MAY 11, 2019		SITE PLAN
DRAFTING DATE: MAY 20, 2019		PAGE: 1 OF 1
APPROVED BY: CH	DRAWN BY: CD	FILE: 19-695