Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

**SUNDRY NOTICES AND REPORTS ON WELLS**

***Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.***

***SUBMIT IN TRIPLICATE*** *- Other instructions on page 2*

5. Lease Serial No. MULTIPLE

6. If Indian, Allottee or Tribe Name: MULTIPLE

7. If Unit of CA/Agreement, Name and/or No.: MULTIPLE

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

8. Well Name and No.: MULTIPLE

2. Name of Operator: OXY USA INCORPORATED

9. API Well No.: MULTIPLE

3a. Address: 5 Greenway Plaza, Suite 110, Houston, TX 7704(

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

10. Field and Pool or Exploratory Area: MULTIPLE

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*: MULTIPLE

11. Country or Parish, State: MULTIPLE

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☑ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Subsequent Report | ☐ Alter Casing | ☐ Hydraulic Fracturing | ☐ Reclamation | ☐ Well Integrity |
| ☐ Final Abandonment Notice | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☑ Other |
| | ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| | ☐ Convert to Injection | ☐ Plug Back | ☐ Water Disposal | |

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

OXY USA Inc. kindly requests the following updates to the approved APD's for the subject wells. Supporting docs for each well are attached to this bulk sundry. The updates to each of the wells included in this bulk sundry are similar and are noted below. A datasheet is included on page 1 of the attachments and provides the updated drilling data for the well with the deepest TVD (Top Spot 12_13 Fed Com 21H). There are no updates to surface hole locations.

Top Spot 12_13 Fed Com 21H - HSU 640 acres to 320 acres (C102 & Drill Path), 3 string to 4 string casing, Target TVD 10320' to 10372' (Drill Plan, Directional Survey, Directional Plot, Wellhead Diagram, W425/W461 Casing Connection Datasheets).

Top Spot 12_13 Fed Com 1H - HSU 640 acres to 320 acres (C102 & Drill Path), 3 string to 4 string casing, Target TVD 9596' to 9881' (Drill Plan, Directional Survey, Directional Plot, Wellhead Diagram, W425/W461 Casing Connection Datasheets).

Top Spot 12_13 Fed Com 11H - HSU 640 acres to 320 acres (C102 & Drill Path), 3 string to 4 string casing, Target TVD 8935' to 8994' (Drill

Continued on page 3 additional information

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*: RONI MATHEW / Ph: (713) 215-7827

Title: REGULATORY SPECIALIST

Signature

Date: 09/29/2022

**THE SPACE FOR FEDERAL OR STATE OFICE USE**

Approved by: KEITH P IMMATTY / Ph: (575) 988-4722 / Approved

Title: ENGINEER

Date: 11/28/2022

Conditions of approval, if any, are attached. Approval of this notice 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.

Office: CARLSBAD

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.

(Instructions on page 2)

## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law 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, are either shown below, will be issued by or may be obtained from the local Federal office.

## SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13:* Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. 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 the 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., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.
PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.
ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.
EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.
Response to this request is mandatory.
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 ofthis form to U.S. Department ofthe Interior, Bureau ofLand Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

## Additional Information

### Additional Remarks

Plan, Directional Survey, Directional Plot, Wellhead Diagram, W425/W461 Casing Connection Datasheets).

### Batch Well Data

TOP SPOT 12_13 FED COM 1H, US Well Number: 3001548594, Case Number: NMNM29233, Lease Number: NMNM29233, Operator:OXY USA INCORPORATED

TOP SPOT 12_13 FED COM 11H, US Well Number: 3001548595, Case Number: NMNM29233, Lease Number: NMNM29233, Operator:OXY USA INCORPORATED

TOP SPOT 12_13 FED COM 21H, US Well Number: 3001547771, Case Number: NMNM29233, Lease Number: NMNM29233, Operator:OXY USA INCORPORATED

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

# Sundry Print Report

11/29/2022

| Well Name | Well Number | US Well Number | Lease Number | Case Number | Operator |
|---|---|---|---|---|---|
| TOP SPOT 12_13 | 1H | 3001548594 | NMNM29233 | NMNM29233 | OXY USA |
| TOP SPOT 12_13 | 11H | 3001548595 | NMNM29233 | NMNM29233 | OXY USA |
| TOP SPOT 12_13 | 21H | 3001547771 | NMNM29233 | NMNM29233 | OXY USA |

## Notice of Intent

**Sundry ID:** 2695470

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 09/29/2022

**Time Sundry Submitted:** 12:11

**Date proposed operation will begin:** 10/07/2022

**Procedure Description:** OXY USA Inc. kindly requests the following updates to the approved APD's for the subject wells. Supporting docs for each well are attached to this bulk sundry. The updates to each of the wells included in this bulk sundry are similar and are noted below. A datasheet is included on page 1 of the attachments and provides the updated drilling data for the well with the deepest TVD (Top Spot 12_13 Fed Com 21H). There are no updates to surface hole locations. Top Spot 12_13 Fed Com 21H - HSU 640 acres to 320 acres (C102 & Drill Path), 3 string to 4 string casing, Target TVD 10320' to 10372' (Drill Plan, Directional Survey, Directional Plot, Wellhead Diagram, W425/W461 Casing Connection Datasheets). Top Spot 12_13 Fed Com 1H - HSU 640 acres to 320 acres (C102 & Drill Path), 3 string to 4 string casing, Target TVD 9596' to 9881' (Drill Plan, Directional Survey, Directional Plot, Wellhead Diagram, W425/W461 Casing Connection Datasheets). Top Spot 12_13 Fed Com 11H - HSU 640 acres to 320 acres (C102 & Drill Path), 3 string to 4 string casing, Target TVD 8935' to 8994' (Drill Plan, Directional Survey, Directional Plot, Wellhead Diagram, W425/W461 Casing Connection Datasheets).

## NOI Attachments

**Procedure Description**

TOP_SPOT_12_13_FED_COM_11H_SundryUpdates9.28.22_20220929110451.pdf

TOP_SPOT_12_13_FED_COM_1H_SundryUpdates9.28.22_20220929110428.pdf

TOP_SPOT_12_13_FED_COM_21H_SundryUpdates9.28.22_20220929110408.pdf

## Conditions of Approval

**Additional**

TOP_SPOT_12_13_FEDERAL_COM_BATCH___SUNDRY_COA_20221122095821.pdf

## Operator

*I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a*

**Operator Electronic Signature:** RONI MATHEW **Signed on:** SEP 29, 2022 12:10 PM

**Name:** OXY USA INCORPORATED

**Title:** REGULATORY SPECIALIST

**Street Address:** 5 Greenway Plaza, Suite 110

**City:** Houston **State:** TX

**Phone:** (713) 215-7827

**Email address:** RONI_MATHEW@OXY.COM

## Field

**Representative Name:** JIM WILSON

**Street Address:** 6001 DEAUVILLE BLVD.

**City:** MIDLAND **State:** TX **Zip:** 79710

**Phone:** (575)631-2442

**Email address:** JIM_WILSON@OXY.COM

## BLM Point of Contact

**BLM POC Name:** KEITH P IMMATTY **BLM POC Title:** ENGINEER

**BLM POC Phone:** 5759884722 **BLM POC Email Address:** KIMMATTY@BLM.GOV

**Disposition:** Approved **Disposition Date:** 11/28/2022

**Signature:** KEITH IMMATTY

# Top Spot 12_13 Federal Com 11H, 1H, 21H - Bulk Sundry

| Well Name | API # | TVD | TD MD | KOP MD | Landing Point MD |
|---|---|---|---|---|---|
| Top Spot 12_13 Fed Com 11H | 30-015-48595 | 8994’ | 19722’ | 8599’ | 9622’ |
| Top Spot 12_13 Fed Com 1H | 30-015-48594 | 9783’ | 20702’ | 9435’ | 10452’ |
| **Top Spot 12_13 Fed Com 21H** | 30-015-47771 | 10308’ | 21233’ | 9982’ | 10982’ |

***As requested, the updated casing and cementing data tables provided below is for the deepest of the wells noted and highlighted above. Additionally, updated drill plans, directional surveys, and drill plots for each of the wells in the table above are attached to the bulk sundry submission in AFMSS.***

Oxy requests the option to run production casing with DQX, TORQ DQW, Wedge 425, Wedge 461, and/or Wedge 441 connections to accommodate hole conditions or drilling operations.

| | | MD | | TVD | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Section | Hole Size (in) | From (ft) | To (ft) | From (ft) | To (ft) | Csg. OD (in) | Csg Wt. (ppf) | Grade | Conn. |
| Surface | 17.5 | 0 | 893 | 0 | 893 | 13.375 | 54.5 | J-55 | BTC |
| Salt | 12.25 | 0 | 4563 | 0 | 4557 | 9.625 | 40 | L-80 HC | BTC |
| Intermediate | 8.75 | 0 | 9882 | 0 | 9627 | 7.625 | 26.4 | L-80 HC | Wedge 425 |
| Production | 6.75 | 0 | 21233 | 0 | 10372 | 5.5 | 20 | P-110 | Wedge 461 |

| Section | Stage | Slurry: | Sacks | Yield (ft^3/ft) | Density (lb/gal) | Excess: | TOC | Placement | Description |
|---|---|---|---|---|---|---|---|---|---|
| Surface | 1 | Surface - Tail | 933 | 1.33 | 14.8 | 100% | - | Circulate | Class C+Accel. |
| Int.1 | 1 | Intermediate - Tail | 141 | 1.33 | 14.8 | 20% | 4,063 | Circulate | Class C+Accel. |
| Int.1 | 1 | Intermediate - Lead | 1048 | 1.73 | 12.9 | 50% | - | Circulate | Class Pozz+Ret. |
| Int. 2 | 1 | Intermediate 1S - Tail | 188 | 1.65 | 13.2 | 5% | 6,934 | Circulate | Class H+Accel., Disper., Salt |
| Int. 2 | 2 | Intermediate 2S - Tail BH | 464 | 1.71 | 13.3 | 25% | - | Bradenhead | Class C+Accel. |
| Prod. | 1 | Production - Tail | 895 | 1.38 | 13.2 | 25% | 9,382 | Circulate | Class H+Ret., Disper., Salt |

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

☑ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| API Number | Pool Code | Pool Name |
|---|---|---|
| 30-015-47771 | 5695 | BILBREY BASIN; BONE SPRING |

| Property Code | Property Name | Well Number |
|---|---|---|
| 329719 | TOP SPOT 12_13 FEDERAL COM | 21H |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 16696 | OXY USA, INC. | 3568.0' |

## Surface Location

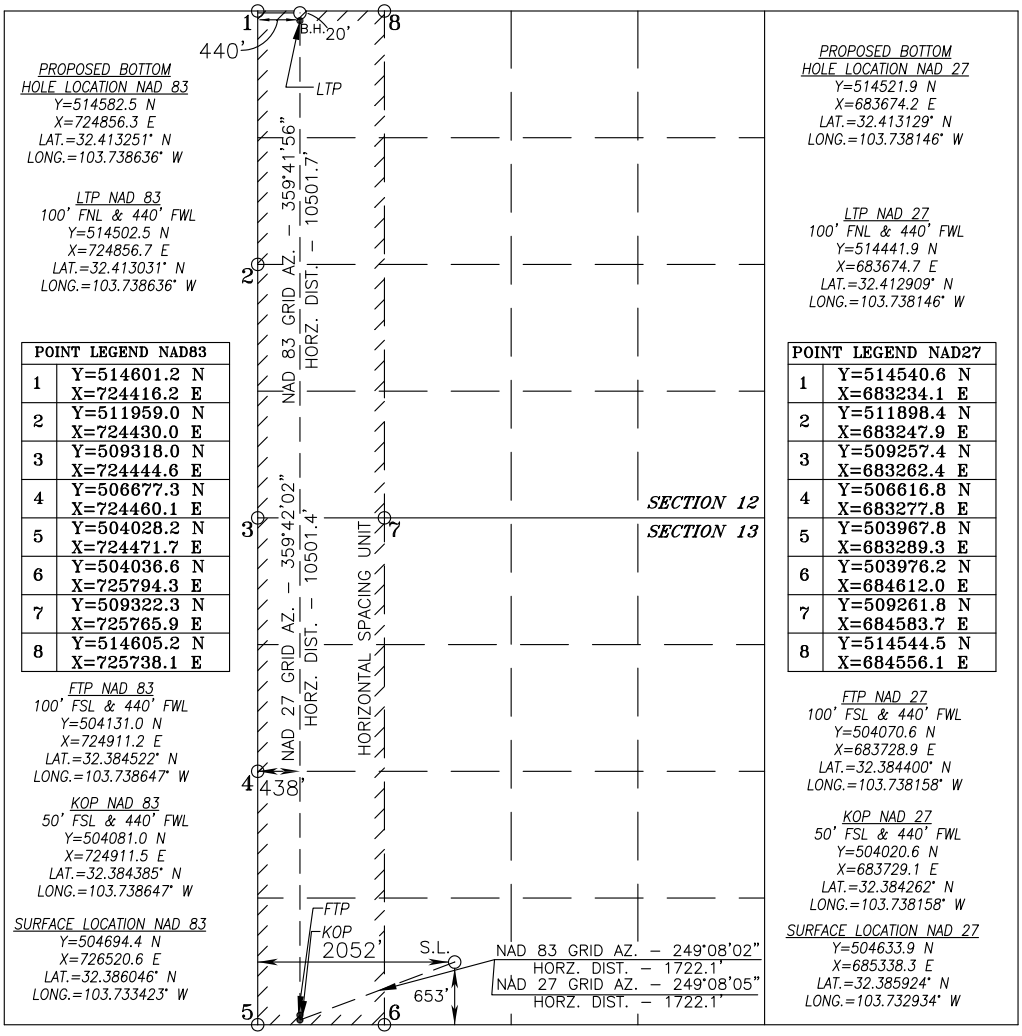
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| N | 13 | 22-S | 31-E | | 653 | SOUTH | 2052 | WEST | EDDY |

## Bottom Hole Location If Different From Surface

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| D | 12 | 22-S | 31-E | | 20 | NORTH | 440 | WEST | EDDY |

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|---|---|---|---|
| 320 | | | |

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




## OPERATOR CERTIFICATION

*I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*

Roni Mathew 8/30/2022
Signature Date

Roni Mathew
Printed Name

roni_mathew@oxy.com
E-mail Address

## SURVEYOR CERTIFICATION

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*

SEPTEMBER 9, 2019
Date of Survey

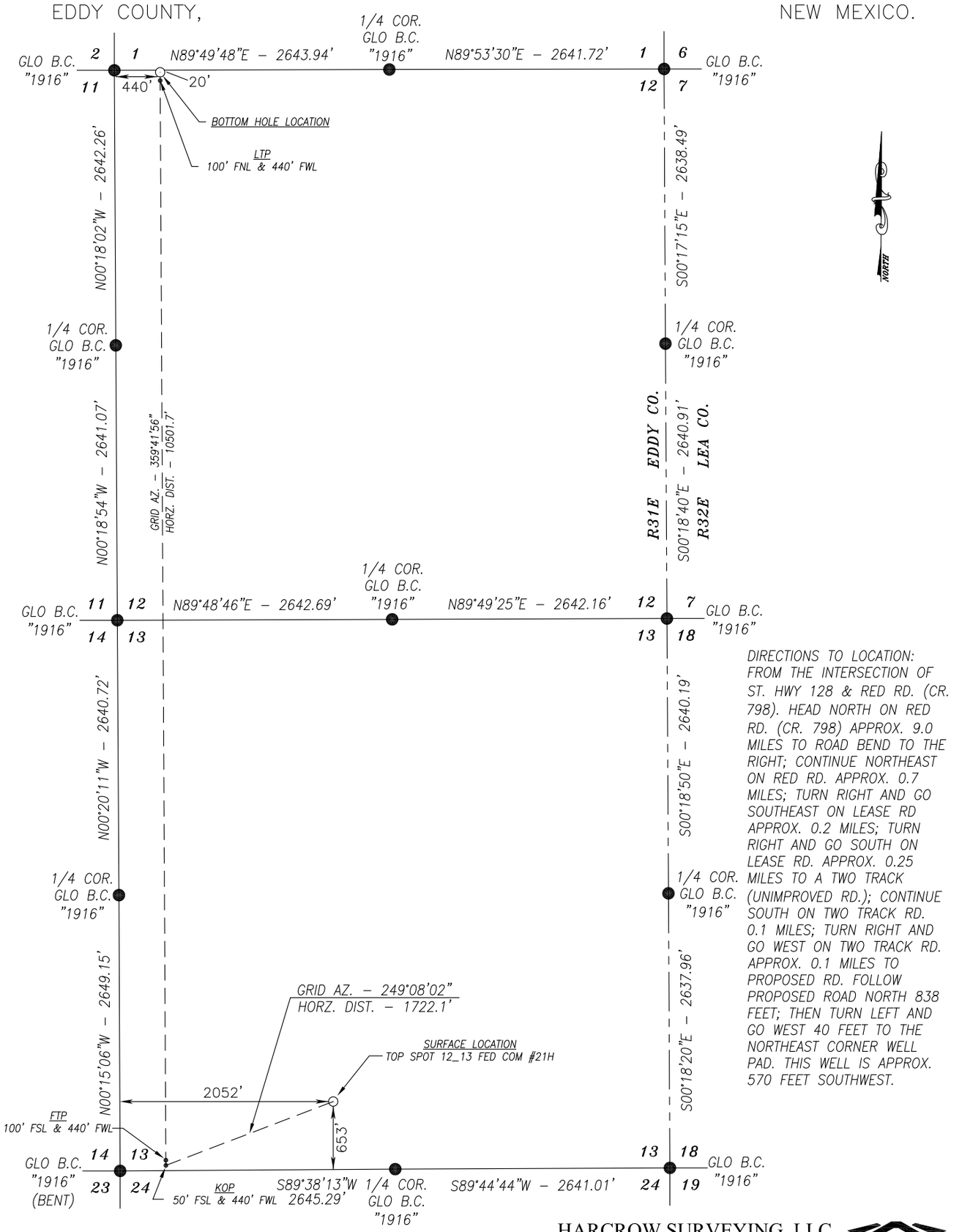
Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 8/17/22
Certificate No. CHAD HARCROW 17777
W.O. #22-821 DRAWN BY: WN

# SECTION 13, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.




DIRECTIONS TO LOCATION:
FROM THE INTERSECTION OF ST. HWY 128 & RED RD. (CR. 798). HEAD NORTH ON RED RD. (CR. 798) APPROX. 9.0 MILES TO ROAD BEND TO THE RIGHT; CONTINUE NORTHEAST ON RED RD. APPROX. 0.7 MILES; TURN RIGHT AND GO SOUTHEAST ON LEASE RD APPROX. 0.2 MILES; TURN RIGHT AND GO SOUTH ON LEASE RD. APPROX. 0.25 MILES TO A TWO TRACK (UNIMPROVED RD.); CONTINUE SOUTH ON TWO TRACK RD. 0.1 MILES; TURN RIGHT AND GO WEST ON TWO TRACK RD. APPROX. 0.1 MILES TO PROPOSED RD. FOLLOW PROPOSED ROAD NORTH 838 FEET; THEN TURN LEFT AND GO WEST 40 FEET TO THE NORTHEAST CORNER WELL PAD. THIS WELL IS APPROX. 570 FEET SOUTHWEST.

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 09/26/19
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

1000 0 1000 2000 FEET
SCALE: 1"=1000'

## OXY USA INC.

TOP SPOT 12_13 FEDERAL COM #21H
SECTION 13, TOWNSHIP 22 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

| | | |
|---|---|---|
| SURVEY DATE: SEPTEMBER 9, 2019 | | DRILL PATH |
| DRAFTING DATE: SEPTEMBER 23, 2019 | | PAGE 1 OF 1 |
| APPROVED BY: CH | DRAWN BY: WN | FILE: 19–1599 |

# Oxy USA Inc. - Top Spot 12_13 Federal Com 21H
## Drill Plan

## 1. Geologic Formations

| | | | |
|---|---|---|---|
| TVD of Target (ft): | 10372 | Pilot Hole Depth (ft): | |
| Total Measured Depth (ft): | 21233 | Deepest Expected Fresh Water (ft): | 833 |

### Delaware Basin

| Formation | MD-RKB (ft) | TVD-RKB (ft) | Expected Fluids |
|---|---|---|---|
| Rustler | 833 | 833 | |
| Salado | 1140 | 1140 | Salt |
| Castile | 2897 | 2897 | Salt |
| Delaware | 4466 | 4463 | Oil/Gas/Brine |
| Bell Canyon | 4528 | 4524 | Oil/Gas/Brine |
| Cherry Canyon | 5509 | 5473 | Oil/Gas/Brine |
| Brushy Canyon | 6684 | 6591 | Losses |
| Bone Spring | 8516 | 8333 | Oil/Gas |
| Bone Spring 1st | 9715 | 9473 | Oil/Gas |
| Bone Spring 2nd | 10337 | 10060 | Oil/Gas |
| Bone Spring 3rd | | | Oil/Gas |
| Wolfcamp | | | Oil/Gas |
| Penn | | | Oil/Gas |
| Strawn | | | Oil/Gas |

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

## 2. Casing Program

| | | MD | | TVD | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Section | Hole Size (in) | From (ft) | To (ft) | From (ft) | To (ft) | Csg. OD (in) | Csg Wt. (ppf) | Grade | Conn. |
| Surface | 17.5 | 0 | 893 | 0 | 893 | 13.375 | 54.5 | J-55 | BTC |
| Salt | 12.25 | 0 | 4563 | 0 | 4557 | 9.625 | 40 | L-80 HC | BTC |
| Intermediate | 8.75 | 0 | 9882 | 0 | 9627 | 7.625 | 26.4 | L-80 HC | Wedge 425 |
| Production | 6.75 | 0 | 21233 | 0 | 10372 | 5.5 | 20 | P-110 | Wedge 461 |

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

*Oxy requests the option to run production casing with DQX, TORQ DQW, Wedge 425, Wedge 461, and/or Wedge 441 connections to accommodate hole conditions or drilling operations.

| *All Casing SF Values will meet or exceed those below* | | | |
|---|---|---|---|
| **SF Collapse** | **SF Burst** | **Body SF Tension** | **Joint SF Tension** |
| 1.125 | 1.2 | 1.4 | 1.4 |

## Annular Clearance Variance Request

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

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

| | Y or N |
|---|---|
| Is casing new? If used, attach certification as required in Onshore Order #1 | Y |
| Does casing meet API specifications? If no, attach casing specification sheet. | Y |
| Is premium or uncommon casing planned? If yes attach casing specification sheet. | Y |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y |
| Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing? | Y |
| | |
| Is well located within Capitan Reef? | N |
| If yes, does production casing cement tie back a minimum of 50' above the Reef? | |
| Is well within the designated 4 string boundary. | |
| | |
| Is well located in SOPA but not in R-111-P? | N |
| If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing? | |
| | |
| Is well located in R-111-P and SOPA? | Y |
| If yes, are the first three strings cemented to surface? | Y |
| Is 2nd string set 100' to 600' below the base of salt? | Y |
| | |
| 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

| Section | Stage | Slurry: | Sacks | Yield (ft^3/ft) | Density (lb/gal) | Excess: | TOC | Placement | Description |
|---|---|---|---|---|---|---|---|---|---|
| Surface | 1 | Surface - Tail | 933 | 1.33 | 14.8 | 100% | - | Circulate | Class C+Accel. |
| Int.1 | 1 | Intermediate - Tail | 141 | 1.33 | 14.8 | 20% | 4,063 | Circulate | Class C+Accel. |
| Int.1 | 1 | Intermediate - Lead | 1048 | 1.73 | 12.9 | 50% | - | Circulate | Class Pozz+Ret. |
| Int. 2 | 1 | Intermediate 1S - Tail | 188 | 1.65 | 13.2 | 5% | 6,934 | Circulate | Class H+Accel., Disper., Salt |
| Int. 2 | 2 | Intermediate 2S - Tail BH | 464 | 1.71 | 13.3 | 25% | - | Bradenhead | Class C+Accel. |
| Prod. | 1 | Production - Tail | 895 | 1.38 | 13.2 | 25% | 9,382 | Circulate | Class H+Ret., Disper., Salt |

## Offline Cementing

Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365.

The summarized operational sequence will be as follows:
Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe).
Land casing.
Fill pipe with kill weight fluid, and confirm well is static.
If well Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365.

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.

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.

**Four string wells:**

- CBL is not required
- If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
- Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

## 4. Pressure Control Equipment

| BOP installed and tested before drilling which hole? | Size? | Min. Required WP | Type | ✓ | Tested to: | TVD Depth (ft) per Section: |
|---|---|---|---|---|---|---|
| 12.25" Hole | 13-5/8" | 3M | Annular | ✓ | 70% of working pressure | 4557 |
| | | 3M | Blind Ram | ✓ | 250 psi / 3000 psi | |
| | | | Pipe Ram | | | |
| | | | Double Ram | ✓ | | |
| | | | Other* | | | |
| 8.75" Hole | 13-5/8" | 5M | Annular | ✓ | 70% of working pressure | 9627 |
| | | 5M | Blind Ram | ✓ | 250 psi / 5000 psi | |
| | | | Pipe Ram | | | |
| | | | Double Ram | ✓ | | |
| | | | Other* | | | |
| 6.75" Hole | 13-5/8" | 5M | Annular | ✓ | 70% of working pressure | 10372 |
| | | 5M | Blind Ram | ✓ | 250 psi / 5000 psi | |
| | | | Pipe Ram | | | |
| | | | Double Ram | ✓ | | |
| | | | Other* | | | |

*Specify if additional ram is utilized

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

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

| | | |
|---|---|---|
| | 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.<br><br>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.

BOP break test under the following conditions:
- After a full BOP test is conducted
- When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower.

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

| Section | Depth | | Depth - TVD | | Type | Weight (ppg) | Viscosity | Water Loss |
|---|---|---|---|---|---|---|---|---|
| | From (ft) | To (ft) | From (ft) | To (ft) | | | | |
| Surface | 0 | 893 | 0 | 893 | Water-Based Mud | 8.6 - 8.8 | 40-60 | N/C |
| Intermediate 1 | 893 | 4563 | 893 | 4557 | Saturated Brine-Based or Oil-Based Mud | 8.0 - 10.0 | 35-45 | N/C |
| Intermediate 2 | 4563 | 9882 | 4557 | 9627 | Water-Based or Oil-Based Mud | 8.0 - 10.0 | 38-50 | N/C |
| Production | 9882 | 21233 | 9627 | 10372 | Water-Based or Oil-Based Mud | 8.0 - 9.6 | 38-50 | N/C |

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

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

## 6. Logging and Testing Procedures

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

| Additional logs planned | | Interval |
|---|---|---|
| No | Resistivity | |
| No | Density | |
| No | CBL | |
| Yes | Mud log | Bone Spring – TD |
| No | PEX | |

## 7. Drilling Conditions

| Condition | Specify what type and where? |
|---|---|
| BH Pressure at deepest TVD | 5178 psi |
| Abnormal Temperature | No |
| BH Temperature at deepest TVD | 163°F |

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal

| 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

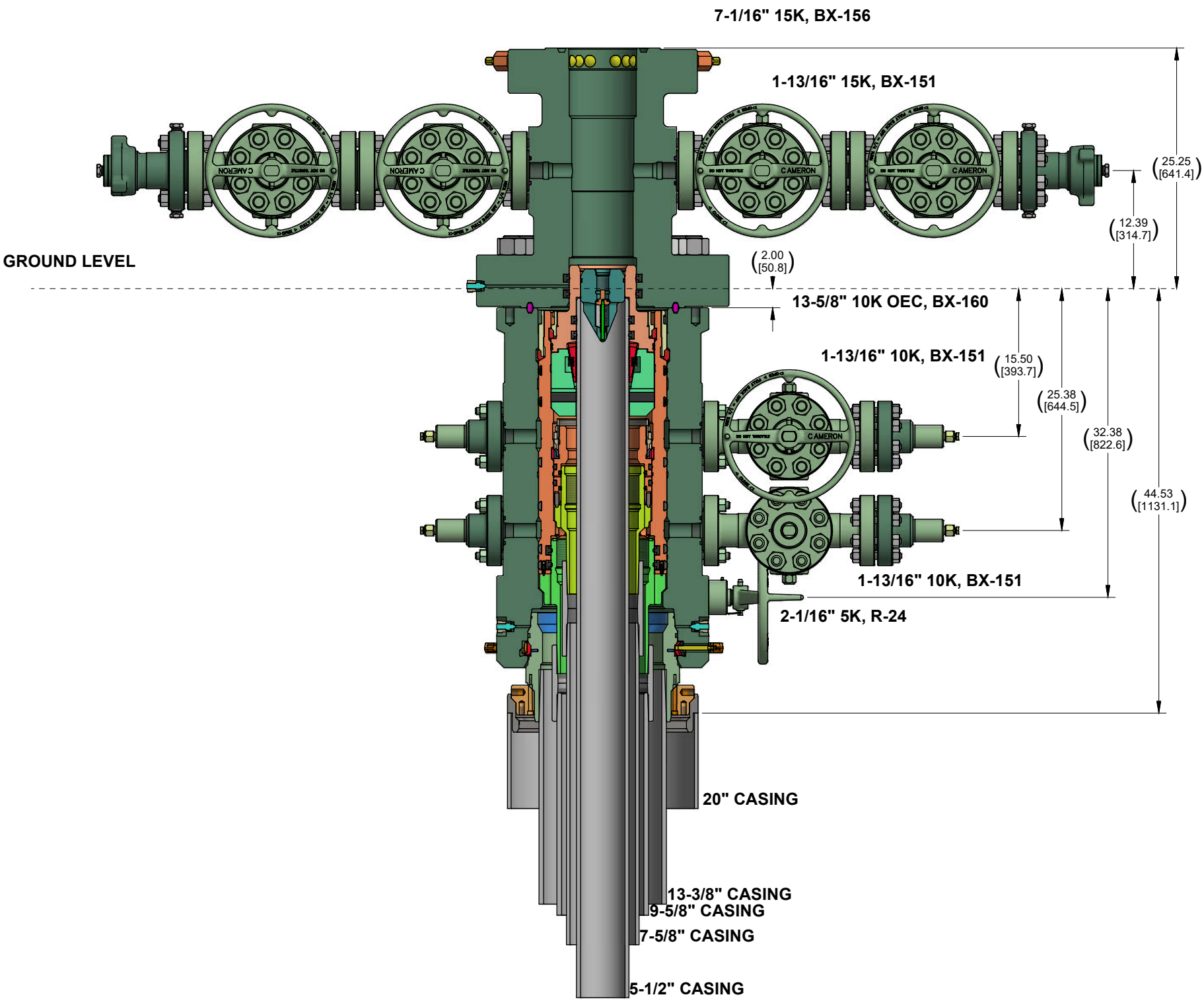
| | Yes/No |
|---|---|
| Will the well be drilled with a walking/skidding operation? If yes, describe.<br>We plan to drill the 3 well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well. | Yes |
| Will more than one drilling rig be used for drilling operations? If yes, describe.<br>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:** 1699 bbls

Attachments
_x__ Directional Plan
_x__ H2S Contingency Plan
_x__ Flex III Attachments
_x__ Spudder Rig Attachment
_x__ Premium Connection Specs

## 9. Company Personnel

| Name | Title | Office Phone | Mobile Phone |
|---|---|---|---|
| Garrett Granier | Drilling Engineer | 713-513-6633 | 832-265-0581 |
| Filip Krneta | Drilling Engineer Supervisor | 713-350-4751 | 832-244-4980 |
| Simon Benavides | Drilling Superintendent | 713-522-8652 | 281-684-6897 |
| Diego Tellez | Drilling Manager | 713-350-4602 | 713-303-4932 |




CONFIDENTIAL

| | | | | |
|---|---|---|---|---|
| SURFACE TREATMENT | DO NOT SCALE | | CAMERON A Schlumberger Company | SURFACE SYSTEMS |
| | DRAWN BY: A. SKLENKA | DATE 26 Apr 22 | | |
| MATERIAL & HEAT TREAT | CHECKED BY: A. SKLENKA | DATE 26 Apr 22 | OXY ADAPT NST 10K 3 STAGE WELLHEAD STANDARD / EMERGENCY SYSTEM | |
| | APPROVED BY: A. SKLENKA | DATE 26 Apr 22 | | |
| ESTIMATED WEIGHT: 7968.4 LBS 3614.4 KG | INITIAL USE B/M: I T# 7836394 | | SHEET 1 OF 1 | LO-096232-62 REV: 01 |

INVENTOR - D

# OXY

**PRD NM DIRECTIONAL PLANS (NAD 1983)**
**Top Spot 12_13 Fed Com**
**Top Spot 12_13 Federal Com 21H**

**Wellbore #1**

**Plan: Permitting Plan**

# Standard Planning Report

**22 September, 2022**

# OXY
## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | HOPSPP | **Local Co-ordinate Reference:** | Well Top Spot 12_13 Federal Com 21H |
| **Company:** | ENGINEERING DESIGNS | **TVD Reference:** | RKB=25' @ 3593.00ft |
| **Project:** | PRD NM DIRECTIONAL PLANS (NAD 1983) | **MD Reference:** | RKB=25' @ 3593.00ft |
| **Site:** | Top Spot 12_13 Fed Com | **North Reference:** | Grid |
| **Well:** | Top Spot 12_13 Federal Com 21H | **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** Top Spot 12_13 Fed Com

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 514,494.39 usft | **Latitude:** | 32.413000 |
| **From:** | Map | **Easting:** | 725,461.56 usft | **Longitude:** | -103.736677 |
| **Position Uncertainty:** | 49.91 ft | **Slot Radius:** | 13.200 in | **Grid Convergence:** | 0.32 ° |

**Well** Top Spot 12_13 Federal Com 21H

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | -9,800.52 ft | **Northing:** | 504,694.40 usft | **Latitude:** | 32.386046 |
| | **+E/-W** | 1,059.10 ft | **Easting:** | 726,520.60 usft | **Longitude:** | -103.733423 |
| **Position Uncertainty** | | 1.00 ft | **Wellhead Elevation:** | 0.00 ft | **Ground Level:** | 3,568.00 ft |

**Wellbore** Wellbore #1

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | HDGM_FILE | 11/6/2019 | 6.75 | 60.10 | 48,028.10000000 |

**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 (°) |
|---|---|---|---|---|
| | -1.50 | 0.00 | 0.00 | 350.45 |

**Plan Survey Tool Program** **Date** 9/22/2022

| | Depth From (ft) | Depth To (ft) | Survey (Wellbore) | Tool Name | Remarks |
|---|---|---|---|---|---|
| 1 | 0.00 | 21,232.84 | Permitting Plan (Wellbore #1) | B001Mb_MWD+HRGM<br>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 | |
| 3,570.00 | 0.00 | 0.00 | 3,570.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 5,369.95 | 18.00 | 236.98 | 5,340.49 | -152.80 | -235.12 | 1.00 | 1.00 | 0.00 | 236.98 | |
| 9,982.25 | 18.00 | 236.98 | 9,727.06 | -929.44 | -1,430.17 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 10,981.84 | 90.36 | 359.70 | 10,371.75 | -362.03 | -1,610.54 | 10.00 | 7.24 | 12.28 | 121.33 | |
| 21,232.84 | 90.36 | 359.70 | 10,308.00 | 9,888.63 | -1,664.39 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL (Top Spot |

# OXY

## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | HOPSPP | **Local Co-ordinate Reference:** | Well Top Spot 12_13 Federal Com 21H |
| **Company:** | ENGINEERING DESIGNS | **TVD Reference:** | RKB=25' @ 3593.00ft |
| **Project:** | PRD NM DIRECTIONAL PLANS (NAD 1983) | **MD Reference:** | RKB=25' @ 3593.00ft |
| **Site:** | Top Spot 12_13 Fed Com | **North Reference:** | Grid |
| **Well:** | Top Spot 12_13 Federal Com 21H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Permitting Plan | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 400.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 500.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 600.00 | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 700.00 | 0.00 | 0.00 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 800.00 | 0.00 | 0.00 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 900.00 | 0.00 | 0.00 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,000.00 | 0.00 | 0.00 | 1,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,100.00 | 0.00 | 0.00 | 1,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,200.00 | 0.00 | 0.00 | 1,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 0.00 | 0.00 | 1,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 0.00 | 0.00 | 1,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 0.00 | 0.00 | 1,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 0.00 | 0.00 | 1,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 0.00 | 0.00 | 1,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 0.00 | 0.00 | 1,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 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 |
| 3,570.00 | 0.00 | 0.00 | 3,570.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 0.30 | 236.98 | 3,600.00 | -0.04 | -0.07 | -0.03 | 1.00 | 1.00 | 0.00 |
| 3,700.00 | 1.30 | 236.98 | 3,699.99 | -0.80 | -1.24 | -0.59 | 1.00 | 1.00 | 0.00 |
| 3,800.00 | 2.30 | 236.98 | 3,799.94 | -2.52 | -3.87 | -1.84 | 1.00 | 1.00 | 0.00 |
| 3,900.00 | 3.30 | 236.98 | 3,899.82 | -5.18 | -7.97 | -3.78 | 1.00 | 1.00 | 0.00 |
| 4,000.00 | 4.30 | 236.98 | 3,999.60 | -8.79 | -13.52 | -6.42 | 1.00 | 1.00 | 0.00 |
| 4,100.00 | 5.30 | 236.98 | 4,099.24 | -13.35 | -20.54 | -9.75 | 1.00 | 1.00 | 0.00 |
| 4,200.00 | 6.30 | 236.98 | 4,198.73 | -18.85 | -29.01 | -13.78 | 1.00 | 1.00 | 0.00 |
| 4,300.00 | 7.30 | 236.98 | 4,298.03 | -25.31 | -38.94 | -18.49 | 1.00 | 1.00 | 0.00 |
| 4,400.00 | 8.30 | 236.98 | 4,397.10 | -32.70 | -50.32 | -23.90 | 1.00 | 1.00 | 0.00 |
| 4,500.00 | 9.30 | 236.98 | 4,495.92 | -41.04 | -63.15 | -29.99 | 1.00 | 1.00 | 0.00 |
| 4,600.00 | 10.30 | 236.98 | 4,594.46 | -50.31 | -77.42 | -36.77 | 1.00 | 1.00 | 0.00 |
| 4,700.00 | 11.30 | 236.98 | 4,692.69 | -60.52 | -93.13 | -44.23 | 1.00 | 1.00 | 0.00 |
| 4,800.00 | 12.30 | 236.98 | 4,790.57 | -71.67 | -110.28 | -52.37 | 1.00 | 1.00 | 0.00 |
| 4,900.00 | 13.30 | 236.98 | 4,888.09 | -83.74 | -128.85 | -61.19 | 1.00 | 1.00 | 0.00 |
| 5,000.00 | 14.30 | 236.98 | 4,985.20 | -96.74 | -148.85 | -70.69 | 1.00 | 1.00 | 0.00 |
| 5,100.00 | 15.30 | 236.98 | 5,081.88 | -110.66 | -170.27 | -80.86 | 1.00 | 1.00 | 0.00 |
| 5,200.00 | 16.30 | 236.98 | 5,178.10 | -125.49 | -193.10 | -91.70 | 1.00 | 1.00 | 0.00 |
| 5,300.00 | 17.30 | 236.98 | 5,273.83 | -141.24 | -217.34 | -103.21 | 1.00 | 1.00 | 0.00 |

# OXY
## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | HOPSPP | **Local Co-ordinate Reference:** | Well Top Spot 12_13 Federal Com 21H |
| **Company:** | ENGINEERING DESIGNS | **TVD Reference:** | RKB=25' @ 3593.00ft |
| **Project:** | PRD NM DIRECTIONAL PLANS (NAD 1983) | **MD Reference:** | RKB=25' @ 3593.00ft |
| **Site:** | Top Spot 12_13 Fed Com | **North Reference:** | Grid |
| **Well:** | Top Spot 12_13 Federal Com 21H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Permitting Plan | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 5,369.95 | 18.00 | 236.98 | 5,340.49 | -152.80 | -235.12 | -111.66 | 1.00 | 1.00 | 0.00 |
| 5,400.00 | 18.00 | 236.98 | 5,369.07 | -157.86 | -242.91 | -115.35 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 18.00 | 236.98 | 5,464.17 | -174.70 | -268.82 | -127.66 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 18.00 | 236.98 | 5,559.28 | -191.54 | -294.73 | -139.96 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 18.00 | 236.98 | 5,654.39 | -208.37 | -320.64 | -152.27 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 18.00 | 236.98 | 5,749.49 | -225.21 | -346.55 | -164.57 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 18.00 | 236.98 | 5,844.60 | -242.05 | -372.46 | -176.87 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 18.00 | 236.98 | 5,939.70 | -258.89 | -398.37 | -189.18 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 18.00 | 236.98 | 6,034.81 | -275.73 | -424.28 | -201.48 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 18.00 | 236.98 | 6,129.92 | -292.57 | -450.19 | -213.79 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 18.00 | 236.98 | 6,225.02 | -309.41 | -476.10 | -226.09 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 18.00 | 236.98 | 6,320.13 | -326.24 | -502.01 | -238.40 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 18.00 | 236.98 | 6,415.23 | -343.08 | -527.92 | -250.70 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 18.00 | 236.98 | 6,510.34 | -359.92 | -553.83 | -263.00 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 18.00 | 236.98 | 6,605.45 | -376.76 | -579.74 | -275.31 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 18.00 | 236.98 | 6,700.55 | -393.60 | -605.65 | -287.61 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 18.00 | 236.98 | 6,795.66 | -410.44 | -631.56 | -299.92 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 18.00 | 236.98 | 6,890.76 | -427.27 | -657.47 | -312.22 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 18.00 | 236.98 | 6,985.87 | -444.11 | -683.38 | -324.53 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 18.00 | 236.98 | 7,080.98 | -460.95 | -709.29 | -336.83 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 18.00 | 236.98 | 7,176.08 | -477.79 | -735.20 | -349.13 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 18.00 | 236.98 | 7,271.19 | -494.63 | -761.11 | -361.44 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 18.00 | 236.98 | 7,366.29 | -511.47 | -787.02 | -373.74 | 0.00 | 0.00 | 0.00 |
| 7,600.00 | 18.00 | 236.98 | 7,461.40 | -528.30 | -812.93 | -386.05 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 18.00 | 236.98 | 7,556.51 | -545.14 | -838.84 | -398.35 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 18.00 | 236.98 | 7,651.61 | -561.98 | -864.75 | -410.66 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 18.00 | 236.98 | 7,746.72 | -578.82 | -890.66 | -422.96 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 18.00 | 236.98 | 7,841.82 | -595.66 | -916.57 | -435.26 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 18.00 | 236.98 | 7,936.93 | -612.50 | -942.48 | -447.57 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 18.00 | 236.98 | 8,032.04 | -629.33 | -968.39 | -459.87 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 18.00 | 236.98 | 8,127.14 | -646.17 | -994.30 | -472.18 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 18.00 | 236.98 | 8,222.25 | -663.01 | -1,020.21 | -484.48 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 18.00 | 236.98 | 8,317.35 | -679.85 | -1,046.12 | -496.79 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 18.00 | 236.98 | 8,412.46 | -696.69 | -1,072.03 | -509.09 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 18.00 | 236.98 | 8,507.56 | -713.53 | -1,097.94 | -521.39 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 18.00 | 236.98 | 8,602.67 | -730.36 | -1,123.85 | -533.70 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 18.00 | 236.98 | 8,697.78 | -747.20 | -1,149.76 | -546.00 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 18.00 | 236.98 | 8,792.88 | -764.04 | -1,175.67 | -558.31 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 18.00 | 236.98 | 8,887.99 | -780.88 | -1,201.58 | -570.61 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 18.00 | 236.98 | 8,983.09 | -797.72 | -1,227.49 | -582.92 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 18.00 | 236.98 | 9,078.20 | -814.56 | -1,253.40 | -595.22 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 18.00 | 236.98 | 9,173.31 | -831.39 | -1,279.31 | -607.52 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 18.00 | 236.98 | 9,268.41 | -848.23 | -1,305.22 | -619.83 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 18.00 | 236.98 | 9,363.52 | -865.07 | -1,331.13 | -632.13 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 18.00 | 236.98 | 9,458.62 | -881.91 | -1,357.04 | -644.44 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 18.00 | 236.98 | 9,553.73 | -898.75 | -1,382.95 | -656.74 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 18.00 | 236.98 | 9,648.84 | -915.59 | -1,408.86 | -669.05 | 0.00 | 0.00 | 0.00 |
| 9,982.25 | 18.00 | 236.98 | 9,727.06 | -929.44 | -1,430.17 | -679.17 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 17.14 | 242.13 | 9,743.98 | -932.15 | -1,434.78 | -681.08 | 10.00 | -4.83 | 29.02 |
| 10,100.00 | 15.46 | 277.83 | 9,840.20 | -937.24 | -1,461.08 | -681.73 | 10.00 | -1.69 | 35.70 |
| 10,200.00 | 19.47 | 308.89 | 9,935.77 | -924.93 | -1,487.32 | -665.24 | 10.00 | 4.02 | 31.06 |
| 10,300.00 | 26.73 | 326.69 | 10,027.80 | -895.60 | -1,512.71 | -632.10 | 10.00 | 7.26 | 17.80 |
| 10,400.00 | 35.28 | 336.85 | 10,113.49 | -850.13 | -1,536.47 | -583.32 | 10.00 | 8.55 | 10.16 |
| 10,500.00 | 44.38 | 343.36 | 10,190.24 | -789.91 | -1,557.90 | -520.38 | 10.00 | 9.10 | 6.51 |
| 10,600.00 | 53.75 | 348.02 | 10,255.71 | -716.78 | -1,576.32 | -445.20 | 10.00 | 9.36 | 4.66 |

# OXY
## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | HOPSPP | **Local Co-ordinate Reference:** | Well Top Spot 12_13 Federal Com 21H |
| **Company:** | ENGINEERING DESIGNS | **TVD Reference:** | RKB=25' @ 3593.00ft |
| **Project:** | PRD NM DIRECTIONAL PLANS (NAD 1983) | **MD Reference:** | RKB=25' @ 3593.00ft |
| **Site:** | Top Spot 12_13 Fed Com | **North Reference:** | Grid |
| **Well:** | Top Spot 12_13 Federal Com 21H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Permitting Plan | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 10,700.00 | 63.25 | 351.67 | 10,307.91 | -632.94 | -1,591.19 | -360.06 | 10.00 | 9.51 | 3.65 |
| 10,800.00 | 72.84 | 354.75 | 10,345.26 | -540.96 | -1,602.05 | -267.55 | 10.00 | 9.58 | 3.08 |
| 10,900.00 | 82.46 | 357.53 | 10,366.63 | -443.61 | -1,608.58 | -170.47 | 10.00 | 9.63 | 2.77 |
| 10,981.84 | 90.36 | 359.70 | 10,371.75 | -362.03 | -1,610.54 | -89.69 | 10.00 | 9.64 | 2.65 |
| 11,000.00 | 90.36 | 359.70 | 10,371.63 | -343.87 | -1,610.64 | -71.77 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 90.36 | 359.70 | 10,371.01 | -243.87 | -1,611.16 | 26.93 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 90.36 | 359.70 | 10,370.39 | -143.87 | -1,611.69 | 125.63 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 90.36 | 359.70 | 10,369.77 | -43.88 | -1,612.22 | 224.33 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 90.36 | 359.70 | 10,369.15 | 56.12 | -1,612.74 | 323.02 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 90.36 | 359.70 | 10,368.53 | 156.12 | -1,613.27 | 421.72 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 90.36 | 359.70 | 10,367.90 | 256.11 | -1,613.79 | 520.42 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 90.36 | 359.70 | 10,367.28 | 356.11 | -1,614.32 | 619.11 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 90.36 | 359.70 | 10,366.66 | 456.11 | -1,614.84 | 717.81 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 90.36 | 359.70 | 10,366.04 | 556.10 | -1,615.37 | 816.51 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 90.36 | 359.70 | 10,365.42 | 656.10 | -1,615.89 | 915.20 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 90.36 | 359.70 | 10,364.79 | 756.10 | -1,616.42 | 1,013.90 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 90.36 | 359.70 | 10,364.17 | 856.09 | -1,616.94 | 1,112.60 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 90.36 | 359.70 | 10,363.55 | 956.09 | -1,617.47 | 1,211.29 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 90.36 | 359.70 | 10,362.93 | 1,056.09 | -1,617.99 | 1,309.99 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 90.36 | 359.70 | 10,362.31 | 1,156.08 | -1,618.52 | 1,408.69 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 90.36 | 359.70 | 10,361.68 | 1,256.08 | -1,619.04 | 1,507.38 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 90.36 | 359.70 | 10,361.06 | 1,356.08 | -1,619.57 | 1,606.08 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 90.36 | 359.70 | 10,360.44 | 1,456.07 | -1,620.09 | 1,704.78 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 90.36 | 359.70 | 10,359.82 | 1,556.07 | -1,620.62 | 1,803.47 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 90.36 | 359.70 | 10,359.20 | 1,656.07 | -1,621.15 | 1,902.17 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 90.36 | 359.70 | 10,358.58 | 1,756.06 | -1,621.67 | 2,000.87 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 90.36 | 359.70 | 10,357.95 | 1,856.06 | -1,622.20 | 2,099.57 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 90.36 | 359.70 | 10,357.33 | 1,956.06 | -1,622.72 | 2,198.26 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 90.36 | 359.70 | 10,356.71 | 2,056.05 | -1,623.25 | 2,296.96 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 90.36 | 359.70 | 10,356.09 | 2,156.05 | -1,623.77 | 2,395.66 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 90.36 | 359.70 | 10,355.47 | 2,256.05 | -1,624.30 | 2,494.35 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 90.36 | 359.70 | 10,354.84 | 2,356.04 | -1,624.82 | 2,593.05 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 90.36 | 359.70 | 10,354.22 | 2,456.04 | -1,625.35 | 2,691.75 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 90.36 | 359.70 | 10,353.60 | 2,556.04 | -1,625.87 | 2,790.44 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 90.36 | 359.70 | 10,352.98 | 2,656.03 | -1,626.40 | 2,889.14 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 90.36 | 359.70 | 10,352.36 | 2,756.03 | -1,626.92 | 2,987.84 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 90.36 | 359.70 | 10,351.74 | 2,856.03 | -1,627.45 | 3,086.53 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 90.36 | 359.70 | 10,351.11 | 2,956.02 | -1,627.97 | 3,185.23 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 90.36 | 359.70 | 10,350.49 | 3,056.02 | -1,628.50 | 3,283.93 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 90.36 | 359.70 | 10,349.87 | 3,156.02 | -1,629.02 | 3,382.62 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 90.36 | 359.70 | 10,349.25 | 3,256.01 | -1,629.55 | 3,481.32 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 90.36 | 359.70 | 10,348.63 | 3,356.01 | -1,630.07 | 3,580.02 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 90.36 | 359.70 | 10,348.00 | 3,456.01 | -1,630.60 | 3,678.72 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 90.36 | 359.70 | 10,347.38 | 3,556.00 | -1,631.13 | 3,777.41 | 0.00 | 0.00 | 0.00 |
| 15,000.00 | 90.36 | 359.70 | 10,346.76 | 3,656.00 | -1,631.65 | 3,876.11 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 90.36 | 359.70 | 10,346.14 | 3,756.00 | -1,632.18 | 3,974.81 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 90.36 | 359.70 | 10,345.52 | 3,855.99 | -1,632.70 | 4,073.50 | 0.00 | 0.00 | 0.00 |
| 15,300.00 | 90.36 | 359.70 | 10,344.89 | 3,955.99 | -1,633.23 | 4,172.20 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 90.36 | 359.70 | 10,344.27 | 4,055.99 | -1,633.75 | 4,270.90 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 90.36 | 359.70 | 10,343.65 | 4,155.98 | -1,634.28 | 4,369.59 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 90.36 | 359.70 | 10,343.03 | 4,255.98 | -1,634.80 | 4,468.29 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 90.36 | 359.70 | 10,342.41 | 4,355.98 | -1,635.33 | 4,566.99 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 90.36 | 359.70 | 10,341.79 | 4,455.97 | -1,635.85 | 4,665.68 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 90.36 | 359.70 | 10,341.16 | 4,555.97 | -1,636.38 | 4,764.38 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 90.36 | 359.70 | 10,340.54 | 4,655.97 | -1,636.90 | 4,863.08 | 0.00 | 0.00 | 0.00 |

# OXY
## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | HOPSPP | **Local Co-ordinate Reference:** | Well Top Spot 12_13 Federal Com 21H |
| **Company:** | ENGINEERING DESIGNS | **TVD Reference:** | RKB=25' @ 3593.00ft |
| **Project:** | PRD NM DIRECTIONAL PLANS (NAD 1983) | **MD Reference:** | RKB=25' @ 3593.00ft |
| **Site:** | Top Spot 12_13 Fed Com | **North Reference:** | Grid |
| **Well:** | Top Spot 12_13 Federal Com 21H | **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) |
|---|---|---|---|---|---|---|---|---|---|
| 16,100.00 | 90.36 | 359.70 | 10,339.92 | 4,755.96 | -1,637.43 | 4,961.77 | 0.00 | 0.00 | 0.00 |
| 16,200.00 | 90.36 | 359.70 | 10,339.30 | 4,855.96 | -1,637.95 | 5,060.47 | 0.00 | 0.00 | 0.00 |
| 16,300.00 | 90.36 | 359.70 | 10,338.68 | 4,955.96 | -1,638.48 | 5,159.17 | 0.00 | 0.00 | 0.00 |
| 16,400.00 | 90.36 | 359.70 | 10,338.05 | 5,055.95 | -1,639.00 | 5,257.86 | 0.00 | 0.00 | 0.00 |
| 16,500.00 | 90.36 | 359.70 | 10,337.43 | 5,155.95 | -1,639.53 | 5,356.56 | 0.00 | 0.00 | 0.00 |
| 16,600.00 | 90.36 | 359.70 | 10,336.81 | 5,255.95 | -1,640.05 | 5,455.26 | 0.00 | 0.00 | 0.00 |
| 16,700.00 | 90.36 | 359.70 | 10,336.19 | 5,355.94 | -1,640.58 | 5,553.96 | 0.00 | 0.00 | 0.00 |
| 16,800.00 | 90.36 | 359.70 | 10,335.57 | 5,455.94 | -1,641.11 | 5,652.65 | 0.00 | 0.00 | 0.00 |
| 16,900.00 | 90.36 | 359.70 | 10,334.94 | 5,555.94 | -1,641.63 | 5,751.35 | 0.00 | 0.00 | 0.00 |
| 17,000.00 | 90.36 | 359.70 | 10,334.32 | 5,655.93 | -1,642.16 | 5,850.05 | 0.00 | 0.00 | 0.00 |
| 17,100.00 | 90.36 | 359.70 | 10,333.70 | 5,755.93 | -1,642.68 | 5,948.74 | 0.00 | 0.00 | 0.00 |
| 17,200.00 | 90.36 | 359.70 | 10,333.08 | 5,855.93 | -1,643.21 | 6,047.44 | 0.00 | 0.00 | 0.00 |
| 17,300.00 | 90.36 | 359.70 | 10,332.46 | 5,955.92 | -1,643.73 | 6,146.14 | 0.00 | 0.00 | 0.00 |
| 17,400.00 | 90.36 | 359.70 | 10,331.84 | 6,055.92 | -1,644.26 | 6,244.83 | 0.00 | 0.00 | 0.00 |
| 17,500.00 | 90.36 | 359.70 | 10,331.21 | 6,155.92 | -1,644.78 | 6,343.53 | 0.00 | 0.00 | 0.00 |
| 17,600.00 | 90.36 | 359.70 | 10,330.59 | 6,255.91 | -1,645.31 | 6,442.23 | 0.00 | 0.00 | 0.00 |
| 17,700.00 | 90.36 | 359.70 | 10,329.97 | 6,355.91 | -1,645.83 | 6,540.92 | 0.00 | 0.00 | 0.00 |
| 17,800.00 | 90.36 | 359.70 | 10,329.35 | 6,455.91 | -1,646.36 | 6,639.62 | 0.00 | 0.00 | 0.00 |
| 17,900.00 | 90.36 | 359.70 | 10,328.73 | 6,555.90 | -1,646.88 | 6,738.32 | 0.00 | 0.00 | 0.00 |
| 18,000.00 | 90.36 | 359.70 | 10,328.10 | 6,655.90 | -1,647.41 | 6,837.01 | 0.00 | 0.00 | 0.00 |
| 18,100.00 | 90.36 | 359.70 | 10,327.48 | 6,755.90 | -1,647.93 | 6,935.71 | 0.00 | 0.00 | 0.00 |
| 18,200.00 | 90.36 | 359.70 | 10,326.86 | 6,855.89 | -1,648.46 | 7,034.41 | 0.00 | 0.00 | 0.00 |
| 18,300.00 | 90.36 | 359.70 | 10,326.24 | 6,955.89 | -1,648.98 | 7,133.10 | 0.00 | 0.00 | 0.00 |
| 18,400.00 | 90.36 | 359.70 | 10,325.62 | 7,055.89 | -1,649.51 | 7,231.80 | 0.00 | 0.00 | 0.00 |
| 18,500.00 | 90.36 | 359.70 | 10,324.99 | 7,155.88 | -1,650.03 | 7,330.50 | 0.00 | 0.00 | 0.00 |
| 18,600.00 | 90.36 | 359.70 | 10,324.37 | 7,255.88 | -1,650.56 | 7,429.20 | 0.00 | 0.00 | 0.00 |
| 18,700.00 | 90.36 | 359.70 | 10,323.75 | 7,355.88 | -1,651.09 | 7,527.89 | 0.00 | 0.00 | 0.00 |
| 18,800.00 | 90.36 | 359.70 | 10,323.13 | 7,455.87 | -1,651.61 | 7,626.59 | 0.00 | 0.00 | 0.00 |
| 18,900.00 | 90.36 | 359.70 | 10,322.51 | 7,555.87 | -1,652.14 | 7,725.29 | 0.00 | 0.00 | 0.00 |
| 19,000.00 | 90.36 | 359.70 | 10,321.89 | 7,655.87 | -1,652.66 | 7,823.98 | 0.00 | 0.00 | 0.00 |
| 19,100.00 | 90.36 | 359.70 | 10,321.26 | 7,755.86 | -1,653.19 | 7,922.68 | 0.00 | 0.00 | 0.00 |
| 19,200.00 | 90.36 | 359.70 | 10,320.64 | 7,855.86 | -1,653.71 | 8,021.38 | 0.00 | 0.00 | 0.00 |
| 19,300.00 | 90.36 | 359.70 | 10,320.02 | 7,955.86 | -1,654.24 | 8,120.07 | 0.00 | 0.00 | 0.00 |
| 19,400.00 | 90.36 | 359.70 | 10,319.40 | 8,055.85 | -1,654.76 | 8,218.77 | 0.00 | 0.00 | 0.00 |
| 19,500.00 | 90.36 | 359.70 | 10,318.78 | 8,155.85 | -1,655.29 | 8,317.47 | 0.00 | 0.00 | 0.00 |
| 19,600.00 | 90.36 | 359.70 | 10,318.15 | 8,255.85 | -1,655.81 | 8,416.16 | 0.00 | 0.00 | 0.00 |
| 19,700.00 | 90.36 | 359.70 | 10,317.53 | 8,355.85 | -1,656.34 | 8,514.86 | 0.00 | 0.00 | 0.00 |
| 19,800.00 | 90.36 | 359.70 | 10,316.91 | 8,455.84 | -1,656.86 | 8,613.56 | 0.00 | 0.00 | 0.00 |
| 19,900.00 | 90.36 | 359.70 | 10,316.29 | 8,555.84 | -1,657.39 | 8,712.25 | 0.00 | 0.00 | 0.00 |
| 20,000.00 | 90.36 | 359.70 | 10,315.67 | 8,655.84 | -1,657.91 | 8,810.95 | 0.00 | 0.00 | 0.00 |
| 20,100.00 | 90.36 | 359.70 | 10,315.04 | 8,755.83 | -1,658.44 | 8,909.65 | 0.00 | 0.00 | 0.00 |
| 20,200.00 | 90.36 | 359.70 | 10,314.42 | 8,855.83 | -1,658.96 | 9,008.34 | 0.00 | 0.00 | 0.00 |
| 20,300.00 | 90.36 | 359.70 | 10,313.80 | 8,955.83 | -1,659.49 | 9,107.04 | 0.00 | 0.00 | 0.00 |
| 20,400.00 | 90.36 | 359.70 | 10,313.18 | 9,055.82 | -1,660.01 | 9,205.74 | 0.00 | 0.00 | 0.00 |
| 20,500.00 | 90.36 | 359.70 | 10,312.56 | 9,155.82 | -1,660.54 | 9,304.44 | 0.00 | 0.00 | 0.00 |
| 20,600.00 | 90.36 | 359.70 | 10,311.94 | 9,255.82 | -1,661.07 | 9,403.13 | 0.00 | 0.00 | 0.00 |
| 20,700.00 | 90.36 | 359.70 | 10,311.31 | 9,355.81 | -1,661.59 | 9,501.83 | 0.00 | 0.00 | 0.00 |
| 20,800.00 | 90.36 | 359.70 | 10,310.69 | 9,455.81 | -1,662.12 | 9,600.53 | 0.00 | 0.00 | 0.00 |
| 20,900.00 | 90.36 | 359.70 | 10,310.07 | 9,555.81 | -1,662.64 | 9,699.22 | 0.00 | 0.00 | 0.00 |
| 21,000.00 | 90.36 | 359.70 | 10,309.45 | 9,655.80 | -1,663.17 | 9,797.92 | 0.00 | 0.00 | 0.00 |
| 21,100.00 | 90.36 | 359.70 | 10,308.83 | 9,755.80 | -1,663.69 | 9,896.62 | 0.00 | 0.00 | 0.00 |
| 21,200.00 | 90.36 | 359.70 | 10,308.20 | 9,855.80 | -1,664.22 | 9,995.31 | 0.00 | 0.00 | 0.00 |
| 21,232.84 | 90.36 | 359.70 | 10,308.00 | 9,888.63 | -1,664.39 | 10,027.72 | 0.00 | 0.00 | 0.00 |

# OXY
## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | HOPSPP | **Local Co-ordinate Reference:** | Well Top Spot 12_13 Federal Com 21H |
| **Company:** | ENGINEERING DESIGNS | **TVD Reference:** | RKB=25' @ 3593.00ft |
| **Project:** | PRD NM DIRECTIONAL PLANS (NAD 1983) | **MD Reference:** | RKB=25' @ 3593.00ft |
| **Site:** | Top Spot 12_13 Fed Com | **North Reference:** | Grid |
| **Well:** | Top Spot 12_13 Federal Com 21H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Permitting Plan | | |

**Design Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| PBHL (Top Spot - plan hits target center - Point | 0.00 | 0.00 | 10,308.00 | 9,888.63 | -1,664.39 | 514,582.50 | 724,856.30 | 32.413251 | -103.738636 |
| FTP (Top Spot 12_13 - plan misses target center by 34.45ft at 10790.47ft MD (10342.38 TVD, -550.00 N, -1601.20 E) - Point | 0.00 | 0.00 | 10,373.00 | -563.43 | -1,609.49 | 504,131.00 | 724,911.20 | 32.384522 | -103.738647 |

**Formations**

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 831.00 | 831.00 | RUSTLER | | | |
| 1,140.00 | 1,140.00 | SALADO | | | |
| 2,895.00 | 2,895.00 | CASTILE | | | |
| 4,464.63 | 4,461.00 | DELAWARE | | | |
| 4,526.44 | 4,522.00 | BELL CANYON | | | |
| 5,509.28 | 5,473.00 | CHERRY CANYON | | | |
| 6,682.71 | 6,589.00 | BRUSHY CANYON | | | |
| 8,516.45 | 8,333.00 | BONE SPRING | | | |
| 9,713.01 | 9,471.00 | BONE SPRING 1ST | | | |
| 10,336.55 | 10,060.00 | BONE SPRING 2ND | | | |

**Plan Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 3,570.00 | 3,570.00 | 0.00 | 0.00 | Build 1°/100' |
| 5,369.95 | 5,340.49 | -152.80 | -235.12 | Hold 18° Tangent |
| 9,982.25 | 9,727.06 | -929.44 | -1,430.17 | KOP, Build & Turn 10°/100' |
| 10,981.84 | 10,371.75 | -362.03 | -1,610.54 | Landing Point |
| 21,232.84 | 10,308.00 | 9,888.63 | -1,664.39 | TD at 21232.84' MD |

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: Top Spot 12_13 Fed Com
Well: Top Spot 12_13 Federal Com 21H
Wellbore: Wellbore #1
Design: Permitting Plan

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: Top Spot 12_13 Federal Com 21H

Ground Level: 3568.00

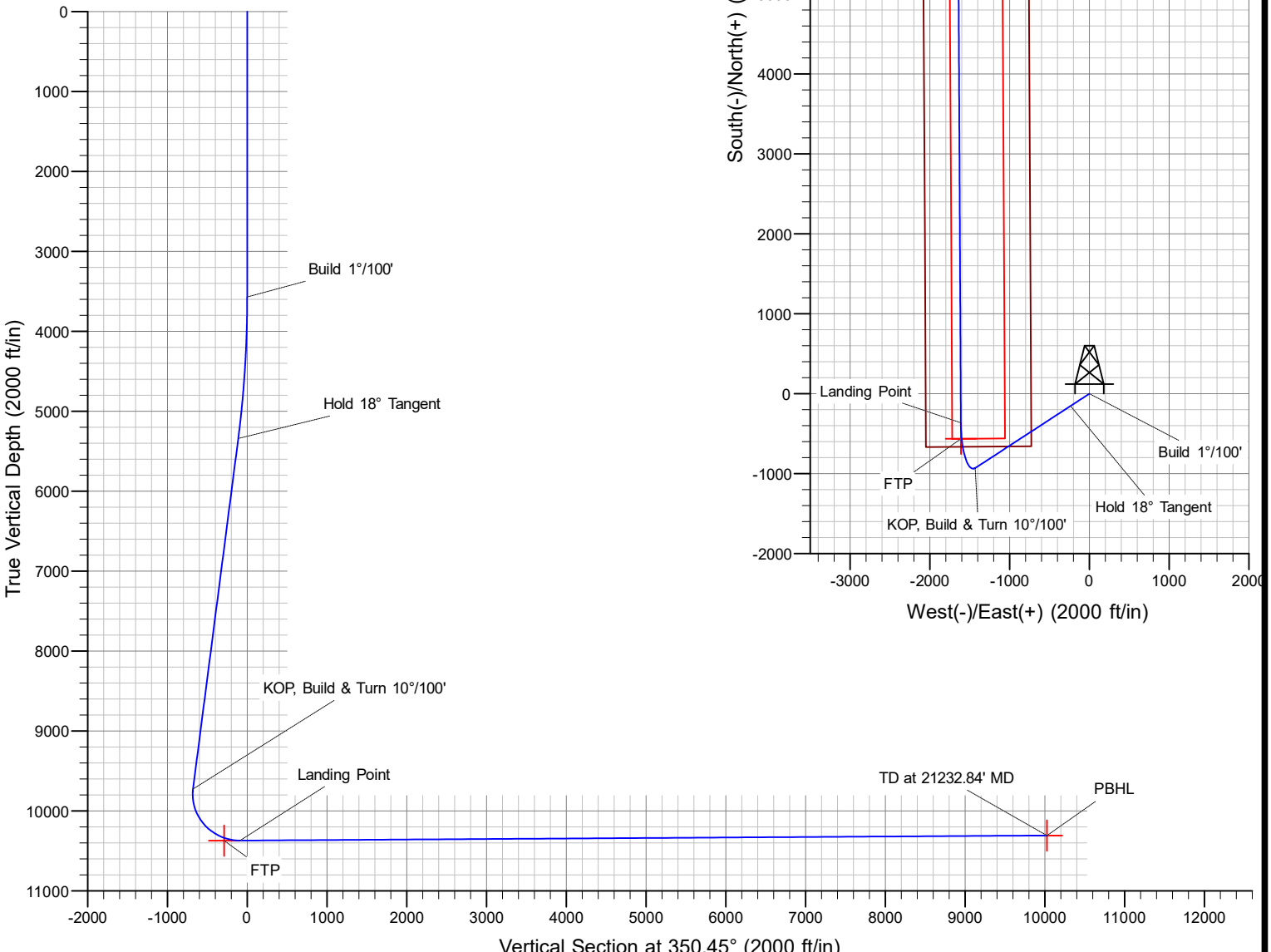
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|---|---|---|---|---|---|
| 0.00 | 0.00 | 504694.40 | 726520.60 | 32.386046 | -103.733423 |

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 | |
| 3570.00 | 0.00 | 0.00 | 3570.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Build 1°/100' |
| 5369.95 | 18.00 | 236.98 | 5340.49 | -152.80 | -235.12 | 1.00 | 236.98 | -111.66 | Hold 18° Tangent |
| 9982.25 | 18.00 | 236.98 | 9727.06 | -929.44 | -1430.17 | 0.00 | 0.00 | -679.17 | KOP, Build & Turn 10°/100' |
| 10981.84 | 90.36 | 359.70 | 10371.75 | -362.03 | -1610.54 | 10.00 | 121.33 | -89.69 | Landing Point |
| 21232.84 | 90.36 | 359.70 | 10308.00 | 9888.63 | -1664.39 | 0.00 | 0.00 | 10027.72 | TD at 21232.84' MD |


Azimuths to Grid North
True North: -0.32°
Magnetic North: 6.43°

Magnetic Field
Strength: 48028.1nT
Dip Angle: 60.10°
Date: 11/6/2019
Model: HDGM_FILE



TenarisHydril

# 7.625" 29.70 lb/ft L80-IC TenarisHydril Wedge 425™

Special Data Sheet
TH DS-21.3633.00
18 October 2021

| | | | | | |
|---|---|---|---|---|---|
| **Nominal OD** | 7.625 in. | **Wall Thickness** | 0.375 in. | **Grade** | L80-IC |
| **Min Wall Thickness** | 90% | **Type** | CASING | **Connection OD Option** | REGULAR |

## Pipe Body Data

| Geometry | | | | Performance | |
|---|---|---|---|---|---|
| **Nominal OD** | 7.625 in. | **Nominal ID** | 6.875 in. | **Body Yield Strength** | 683 x 1000 lbs |
| **Nominal Weight** | 29.70 lbs/ft | **Wall Thickness** | 0.375 in. | **Internal Yield[1]** | 6890 psi |
| **Standard Drift Diameter** | 6.750 in. | **Plain End Weight** | 29.06 lbs/ft | **SMYS** | 80000 psi |
| **Special Drift Diameter** | NA | **OD Tolerance** | API | **Collapse Pressure** | 5900 psi |

## Connection Data

| Geometry | | Performance | | Make-up Torques | |
|---|---|---|---|---|---|
| **Connection OD** | 7.888 in. | **Tension Efficiency** | 90% | **Minimum** | 22500 ft-lbs |
| **Connection ID** | 6.831 in. | **Joint Yield Strength** | 615 x 1000 lbs | **Optimum** | 25000 ft-lbs |
| **Make-up Loss** | 5.646 in. | **Internal Yield[1]** | 7080 psi | **Maximum** | 27500 ft-lbs |
| **Threads per in.** | 3.51 | **Compression Efficiency** | 90% | Operational Limit Torques | |
| **Connection OD Option** | REGULAR | **Compression Strength** | 615 x 1000 lbs | **Operating Torque** | 49000 ft-lbs |
| **Critical Section Area** | 7.994 sq in. | **Bending** | 43 °/100 ft | **Yield Torque** | 61000 ft-lbs |
| | | **Collapse** | 5900 psi | | |

## Notes

*If you need to use torque values that are higher than the maximum indicated, please contact a local Tenaris technical sales representative

1. Internal Yield Rating is based on 90% RBW
2. Important Note: In October 2019, TenarisHydril Wedge 625® RF™ was renamed TenarisHydril Wedge 425™. Product dimensions and properties remain identical and both connections are fully interchangeable.

TenarisHydril

# 5.500" 20.00 lb/ft P110-CY TenarisHydril Wedge 461™ Matched Strength

Special Data Sheet
TH DS-20.0359
12 August 2020
Rev 00

| | | | | | |
|---|---|---|---|---|---|
| **Nominal OD** | 5.500 in. | **Wall Thickness** | 0.361 in. | **Grade** | P110-CY |
| **Min Wall Thickness** | 87.5% | **Type** | CASING | **Connection OD Option** | MATCHED STRENGTH |

## Pipe Body Data

| Geometry | | | | Performance | |
|---|---|---|---|---|---|
| **Nominal OD** | 5.500 in. | **Nominal ID** | 4.778 in. | **Body Yield Strength** | 641 x 1000 lbs |
| **Nominal Weight** | 20.00 lbs/ft | **Wall Thickness** | 0.361 in. | **Internal Yield** | 12640 psi |
| **Standard Drift Diameter** | 4.653 in. | **Plain End Weight** | 19.83 lbs/ft | **SMYS** | 110000 psi |
| **Special Drift Diameter** | N/A | **OD Tolerance** | API | **Collapse Pressure** | 11110 psi |

## Connection Data

| Geometry | | Performance | | Make-up Torques | |
|---|---|---|---|---|---|
| **Matched Strength OD** | 6.050 in. | **Tension Efficiency** | 100% | **Minimum** | 17000 ft-lbs |
| **Make-up Loss** | 3.775 in. | **Joint Yield Strength** | 641 x 1000 lbs | **Optimum** | 18000 ft-lbs |
| **Threads per in.** | 3.40 | **Internal Yield** | 12640 psi | **Maximum** | 21600 ft-lbs |
| **Connection OD Option** | MATCHED STRENGTH | **Compression Efficiency** | 100% | **Operational Limit Torques** | |
| **Coupling Length** | 7.714 in. | **Compression Strength** | 641 x 1000 lbs | **Operating Torque** | 32000 ft-lbs |
| | | **Bending** | 92 °/100 ft | **Yield Torque** | 38000 ft-lbs |
| | | **Collapse** | 11110 psi | **Buck-On Torques** | |
| | | | | **Minimum** | 21600 ft-lbs |
| | | | | **Maximum** | 23100 ft-lbs |

## Notes

*If you need to use torque values that are higher than the maximum indicated, please contact a local Tenaris technical sales representative

# PECOS DISTRICT
# DRILLING CONDITIONS OF APPROVAL

**ALL PREVIOUS COAs STILL APPLY**

| TOP SPOT 12 13 FED COM | 1H | 11H | 21H |
|---|---|---|---|
| USWN | 3001548594 | 3001548595 | 3001547771 |
| LEASE NUMBER | NMNM29233 | NMNM29233 | NMNM29233 |

COA

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

## A. CASING

**Alternate Casing Design:**

1. The **13-3/8** inch surface casing shall be set at approximately **893** 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.

2. The **9-5/8** inch intermediate casing shall be set at approximately **4,557** feet. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

**Option 1 (Single Stage):**

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

**Option 2:**

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

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

b. Second stage above DV tool:

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

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

3. The **7-5/8** inch intermediate casing shall be set at approximately **9,882** feet. **KEEP CASING FULL DURING RUN FOR COLLAPSE SF REQUIREMENT. BRADENHEAD VULUME MIGHT NEED TO BE ADJUSTED TO ACCOMPLISH CEMENT TO SURFACE.** 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.

c. 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.

d. 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 salt protection casing strings, the cement on the 3rd casing string must come to surface.

**Operator has proposed to pump down 7-5/8" X 9-5/8" annulus. Operator must top out cement after the bradenhead squeeze and verify cement to surface. Operator can also check TOC with Echo-meter. CBL must be run from TD of the 7-5/8" casing to surface if confidence is lacking on the quality of the bradenhead squeeze cement job. Submit results to BLM.**

4. The **5-1/2** inch production casing shall be set at approximately **21,233** feet. The minimum required fill of cement behind the **5-1/2** inch production casing is:

**Option 1 (Single Stage):**

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

**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.

# 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) 689-5981

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.

**KPI – 11/22/2022**

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

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

CONDITIONS

Action 164856

## CONDITIONS

| | |
|---|---|
| Operator:<br>OXY USA INC<br>P.O. Box 4294<br>Houston, TX 772104294 | OGRID:<br>16696 |
| | Action Number:<br>164856 |
| | Action Type:<br>[C-103] NOI Change of Plans (C-103A) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| kpickford | Adhere to previous NMOCD Conditions of Approval | 12/12/2022 |