Well Name: HEADS CC 9-4 FEDERAL COM

Well Location: T24S / R29E / SEC 16 / NWNE / 32.222236 / -103.986351

County or Parish/State: EDDY / NM

Well Number: 38H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM099034, NMNM99034

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001547587

Well Status: Drilling Well

Operator: OXY USA INCORPORATED

Notice of Intent

Sundry ID: 2673527

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 05/25/2022

Time Sundry Submitted: 02:07

Date proposed operation will begin: 06/17/2022

Procedure Description: 6/8/22 Drill Plan Change- An 8-3/4" hole size will be drilled from the ICP to the landing point to resolve the 0.422" clearance concern. OXY USA Inc. respectfully requests approval to amend the subject well APD with the following changes: 1280 acre horizontal spacing unit, quarter-quarter BHL, casing, cement, mud, BOP, wellhead, and directional plan. The following documents are attached: Amended C-102, directional survey, directional plot, wellhead diagram, drill plan, and casing data sheets.

NOI Attachments

Procedure Description

HeadsCC9_4FederalCom38H_TNSWedge461_5.500in_20.00__P110CY_20220525135203.pdf

HeadsCC9_4FederalCom38H_TNSWedge461_7.000in_32.00__P110CY_20220525135203.pdf

HeadsCC9_4FederalCom38H_TNSWedge441_5.500in_20.00__P110CY_20220525135203.pdf

HeadsCC9_4FederalCom38H_TMKUPTORQDQW_5.500in_20.00__P110CY_20220525135202.pdf

HeadsCC9_4FederalCom38H_TNSWedge425_5.500in_20.00__P110CY_20220525135203.pdf

HeadsCC9_4FederalCom38H_TMKUPDQX_5.500in_20.00__P110_20220525135159.pdf

HeadsCC9_4FederalCom38H_DirectPlot_20220525135159.pdf

22_24_HEADS_CC_9_4_FED_COM_38H_C102_FLAT_20220525135159.pdf

Well Name: HEADS CC 9-4 FEDERAL COM	**Well Location:** T24S / R29E / SEC 16 / NWNE / 32.222236 / -103.986351	**County or Parish/State:** EDDY / NM
Well Number: 38H	**Type of Well:** OIL WELL	**Allottee or Tribe Name:**
Lease Number: NMNM099034, NMNM99034	**Unit or CA Name:**	**Unit or CA Number:**
US Well Number: 3001547587	**Well Status:** Drilling Well	**Operator:** OXY USA INCORPORATED

HeadsCC9_4FederalCom38H_10K_3_String_Adapt_20220525135159.pdf

HeadsCC9_4FederalCom38H_DrillPlan_20220525135159.pdf

HeadsCC9_4FederalCom38H_DirectPlan_20220525135159.pdf

Conditions of Approval

Additional

Heads_CC_9_4_Federal_Com_38H_DrillingCOA_Sundry_2673527_20220609113255.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: STEPHEN JANACEK **Signed on:** JUN 08, 2022 09:26 AM

Name: OXY USA INCORPORATED

Title: Regulatory Engineer

Street Address: 5 Greenway Plaza, Suite 110

City: Houston **State:** TX

Phone: (713) 497-2417

Email address: stephen_janacek@oxy.com

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: NDUNGU KAMAU **BLM POC Title:** Petroleum Engineering Technician

BLM POC Phone: 5752345938 **BLM POC Email Address:** nkamau@blm.gov

Disposition: Approved **Disposition Date:** 06/30/2022

Signature: Chris Walls

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

ALL PREVIOUS COAs STILL APPLY.

OPERATOR'S NAME:	OXY USA Inc.
LEASE NO.:	NMNM099034
LOCATION:	Section 9, T.24 S., R.29 E., NMP
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	HEADS CC 9-4 FEDERAL COM / 31H
SURFACE HOLE FOOTAGE:	250'/S & 880'/W
BOTTOM HOLE FOOTAGE	20'/N & 330'/W

WELL NAME & NO.:	HEADS CC 9-4 FEDERAL COM / 32H
SURFACE HOLE FOOTAGE:	250'/S & 880'/W
BOTTOM HOLE FOOTAGE	20'/N & 330'/W

WELL NAME & NO.:	HEADS CC 9-4 FEDERAL COM / 33H
SURFACE HOLE FOOTAGE:	250'/S & 880'/W
BOTTOM HOLE FOOTAGE	20'/N & 330'/W

WELL NAME & NO.:	HEADS CC 9-4 FEDERAL COM / 36H
SURFACE HOLE FOOTAGE:	250'/S & 880'/W
BOTTOM HOLE FOOTAGE	20'/N & 330'/W

WELL NAME & NO.:	HEADS CC 9-4 FEDERAL COM / 38H
SURFACE HOLE FOOTAGE:	250'/S & 880'/W
BOTTOM HOLE FOOTAGE	20'/N & 330'/W

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

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **595** 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 **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

    Intermediate casing must be kept 1/3 fluid filled to meet BLM minimum collapse requirement.

2. The **9-5/8** inch intermedate casing shall be set at approximately **9560** 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 **Medium Cave/Karst 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.

Operator has proposed to pump down 13-3/8" X 9-5/8" annulus. Operator must run a CBL or Echo-meter from TD of the 9-5/8" casing to surface. Submit results to BLM.

3. The minimum required fill of cement behind the **7 x 5-1/2** inch production casing and a **8-3/4 x 8-1/2** inch production hole is:

Option 1 (Single Stage):

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

Option 2:

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

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

b. Second stage above DV tool:

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

Operator has proposed to pump down 9-5/8" X 7 x 5-1/2" annulus. Operator must run a CBL or Echo-meter from TD of the 7 x 5-1/2" casing to surface. Submit results to BLM.

B. SPECIAL REQUIREMENT (S)

BOPE Break Testing Variance (Note: For 5M BOPE or less)

- BOPE Break Testing is ONLY permitted for 5M BOPE or less.
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.

- Any well control event while drilling require notification to the BLM Petroleum Engineer prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required.

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
30-015-47587	98220	PURPLE SAGE WOLFCAMP (GAS)

Property Code	Property Name	Well Number
328290	HEADS CC 9_4 FEDERAL COM	38H

OGRID No.	Operator Name	Elevation
16696	OXY USA INC.	2926.8'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	16	24-S	29-E		960	NORTH	1680	EAST	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
2	4	24-S	29-E		20	NORTH	1460	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
1280	Y		

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

PROPOSED BOTTOM HOLE LOCATION NAD 83
Y=456305.1 N
X=648802.8 E
LAT.=32.253980° N
LONG.=103.985697° W

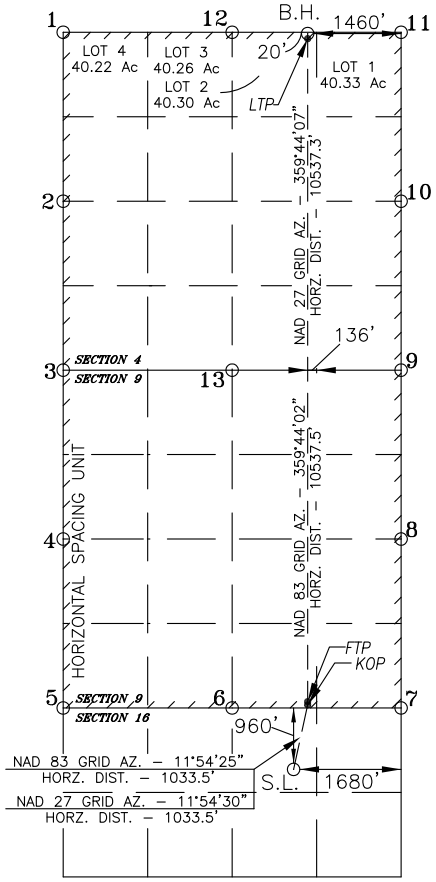
LTP NAD 83
100' FNL & 1460' FEL
Y=456225.1 N
X=648803.2 E
LAT.=32.253760° N
LONG.=103.985696° W

POINT LEGEND NAD 83	
1	Y=456311.0 N X=644969.9 E
2	Y=453660.3 N X=644983.6 E
3	Y=451006.8 N X=644997.4 E
4	Y=448351.8 N X=645008.9 E
5	Y=445695.4 N X=645021.1 E
6	Y=445710.8 N X=647666.6 E
7	Y=445726.2 N X=650312.0 E
8	Y=448382.0 N X=650298.1 E
9	Y=451034.0 N X=650284.7 E
10	Y=453688.3 N X=650273.5 E
11	Y=456330.3 N X=650262.8 E
12	Y=456320.9 N X=647615.9 E
13	Y=451020.7 N X=647641.0 E

FTP NAD 83
100' FSL & 1460' FEL
Y=445817.7 N
X=648851.5 E
LAT.=32.225151° N
LONG.=103.985649° W

KOP NAD 83
50' FSL & 1460' FEL
Y=445767.7 N
X=648851.8 E
LAT.=32.225013° N
LONG.=103.985649° W

SURFACE LOCATION NAD 83
Y=444756.4 N
X=648638.6 E
LAT.=32.222236° N
LONG.=103.986349° W



PROPOSED BOTTOM HOLE LOCATION NAD 27
Y=456245.9 N
X=607619.3 E
LAT.=32.253857° N
LONG.=103.985207° W

LTP NAD 27
100' FNL & 1460' FEL
Y=456165.9 N
X=607619.6 E
LAT.=32.253637° N
LONG.=103.985207° W

POINT LEGEND NAD 27	
1	Y=456251.8 N X=603786.3 E
2	Y=453601.2 N X=603800.0 E
3	Y=450947.8 N X=603813.7 E
4	Y=448292.8 N X=603825.1 E
5	Y=445636.4 N X=603837.3 E
6	Y=445651.8 N X=606482.7 E
7	Y=445667.2 N X=609128.2 E
8	Y=448323.0 N X=609114.4 E
9	Y=450974.9 N X=609101.0 E
10	Y=453629.2 N X=609089.8 E
11	Y=456271.1 N X=609079.2 E
12	Y=456261.7 N X=606432.3 E
13	Y=450961.7 N X=606457.3 E

FTP NAD 27
100' FSL & 1460' FEL
Y=445758.7 N
X=607667.7 E
LAT.=32.225028° N
LONG.=103.985160° W

KOP NAD 27
50' FSL & 1460' FEL
Y=445708.7 N
X=607667.9 E
LAT.=32.224891° N
LONG.=103.985160° W

SURFACE LOCATION NAD 27
Y=444697.5 N
X=607454.7 E
LAT.=32.222113° N
LONG.=103.985860° W

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.

Stephen Janacek 5/23/22
Signature Date

STEPHEN JANACEK
Printed Name

STEPHEN_JANACEK@OXY.COM
E-mail Address

SURVEYOR CERTIFICATION

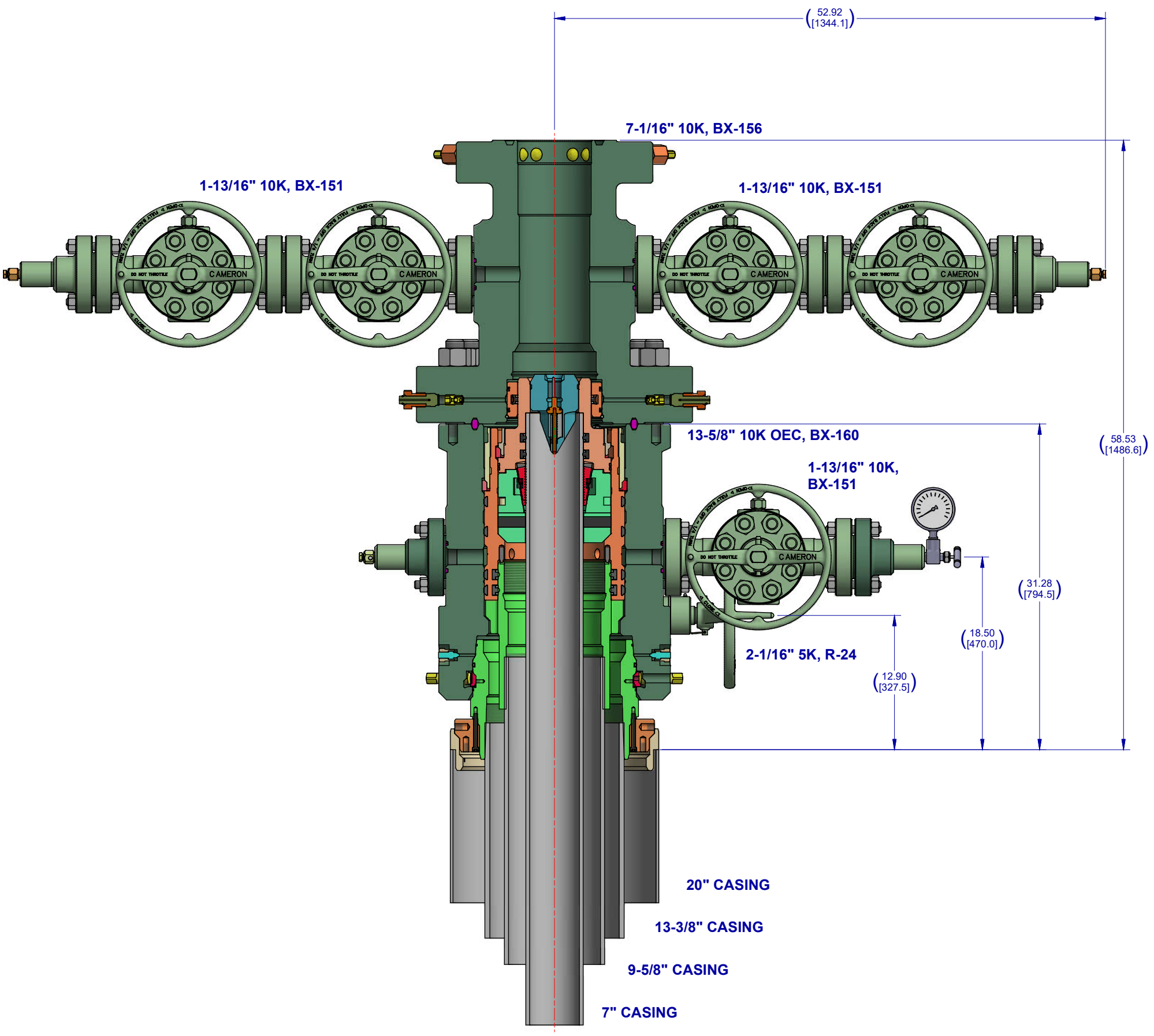
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JANUARY 2, 2020
Date of Survey

Signature & Seal of Professional Surveyor

Chad Harcrow 1/20/22
Certificate No. CHAD HARCROW 17777

W.O. #22-24 DRAWN BY: AH



Notes:

1. THIS IS A PROPOSAL DRAWING AND DIMENSIONS SHOWN ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PROCESS.

2. DIGITALLY ENABLED SOLUTIONS, CHOKES AND ESD'S AVAILABLE ON REQUEST

CONFIDENTIAL

SURFACE TREATMENT	DO NOT SCALE		CAMERON A Schlumberger Company	SURFACE SYSTEMS
	DRAWN BY: D. GOTTUNG	DATE 18 Feb 22		
MATERIAL & HEAT TREAT	CHECKED BY: D. GOTTUNG	DATE 18 Feb 22	OXY 13-5/8" 10K ADAPT 20" X 13-3/8" X 9-5/8" X 7"	
	APPROVED BY: D. GOTTUNG	DATE 18 Feb 22		
ESTIMATED WEIGHT: 6115.068 LBS 2773.748 KG	INITIAL USE B/M:		SHEET 1 OF 1	SD-053434-94-12 REV: 01

INVENTOR - D

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Heads CC 9_4
Heads CC 9_4 Federal Com 38H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

05 July, 2022

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Federal Com 38H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB @ 2953.30ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB @ 2953.30ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Federal Com 38H	**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 Heads CC 9_4

Site Position:		**Northing:**	446,198.60 usft	**Latitude:**	32.226200
From:	Map	**Easting:**	648,677.50 usft	**Longitude:**	-103.986208
Position Uncertainty:	2.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.19 °

Well Heads CC 9_4 Federal Com 38H

Well Position	**+N/-S**	-1,442.32 ft	**Northing:**	444,756.40 usft	**Latitude:**	32.222236
	+E/-W	-38.90 ft	**Easting:**	648,638.60 usft	**Longitude:**	-103.986349
Position Uncertainty		1.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	2,926.80 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/17/2019	6.95	59.93	47,890.50000000

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	0.81

Plan Survey Tool Program **Date** 6/13/2022

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,986.80	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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,155.00	0.00	0.00	6,155.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,155.32	10.00	20.58	7,150.24	81.54	30.62	1.00	1.00	0.00	20.58	
9,689.61	10.00	20.58	9,646.01	493.66	185.37	0.00	0.00	0.00	0.00	
10,498.42	90.22	359.73	10,125.00	1,061.38	212.92	10.00	9.92	-2.58	-21.13	FTP (Heads CC 9_4
20,986.85	90.22	359.73	10,084.00	11,549.62	164.21	0.00	0.00	0.00	0.00	PBHL (Heads CC

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Federal Com 38H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB @ 2953.30ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB @ 2953.30ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Federal Com 38H	**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
3,600.00	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
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

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Federal Com 38H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB @ 2953.30ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB @ 2953.30ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Federal Com 38H	**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)
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,155.00	0.00	0.00	6,155.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.45	20.58	6,200.00	0.17	0.06	0.17	1.00	1.00	0.00
6,300.00	1.45	20.58	6,299.98	1.72	0.64	1.73	1.00	1.00	0.00
6,400.00	2.45	20.58	6,399.93	4.90	1.84	4.93	1.00	1.00	0.00
6,500.00	3.45	20.58	6,499.79	9.72	3.65	9.77	1.00	1.00	0.00
6,600.00	4.45	20.58	6,599.55	16.17	6.07	16.25	1.00	1.00	0.00
6,700.00	5.45	20.58	6,699.18	24.25	9.10	24.37	1.00	1.00	0.00
6,800.00	6.45	20.58	6,798.64	33.95	12.75	34.13	1.00	1.00	0.00
6,900.00	7.45	20.58	6,897.90	45.28	17.00	45.52	1.00	1.00	0.00
7,000.00	8.45	20.58	6,996.94	58.23	21.86	58.53	1.00	1.00	0.00
7,100.00	9.45	20.58	7,095.72	72.79	27.33	73.17	1.00	1.00	0.00
7,155.32	10.00	20.58	7,150.24	81.54	30.62	81.97	1.00	1.00	0.00
7,200.00	10.00	20.58	7,194.25	88.81	33.35	89.27	0.00	0.00	0.00
7,300.00	10.00	20.58	7,292.73	105.07	39.45	105.62	0.00	0.00	0.00
7,400.00	10.00	20.58	7,391.21	121.33	45.56	121.97	0.00	0.00	0.00
7,500.00	10.00	20.58	7,489.69	137.59	51.67	138.31	0.00	0.00	0.00
7,600.00	10.00	20.58	7,588.17	153.85	57.77	154.66	0.00	0.00	0.00
7,700.00	10.00	20.58	7,686.65	170.12	63.88	171.01	0.00	0.00	0.00
7,800.00	10.00	20.58	7,785.13	186.38	69.98	187.35	0.00	0.00	0.00
7,900.00	10.00	20.58	7,883.61	202.64	76.09	203.70	0.00	0.00	0.00
8,000.00	10.00	20.58	7,982.09	218.90	82.20	220.05	0.00	0.00	0.00
8,100.00	10.00	20.58	8,080.57	235.16	88.30	236.39	0.00	0.00	0.00
8,200.00	10.00	20.58	8,179.05	251.42	94.41	252.74	0.00	0.00	0.00
8,300.00	10.00	20.58	8,277.52	267.68	100.51	269.09	0.00	0.00	0.00
8,400.00	10.00	20.58	8,376.00	283.95	106.62	285.43	0.00	0.00	0.00
8,500.00	10.00	20.58	8,474.48	300.21	112.73	301.78	0.00	0.00	0.00
8,600.00	10.00	20.58	8,572.96	316.47	118.83	318.13	0.00	0.00	0.00
8,700.00	10.00	20.58	8,671.44	332.73	124.94	334.47	0.00	0.00	0.00
8,800.00	10.00	20.58	8,769.92	348.99	131.05	350.82	0.00	0.00	0.00
8,900.00	10.00	20.58	8,868.40	365.25	137.15	367.17	0.00	0.00	0.00
9,000.00	10.00	20.58	8,966.88	381.52	143.26	383.51	0.00	0.00	0.00
9,100.00	10.00	20.58	9,065.36	397.78	149.36	399.86	0.00	0.00	0.00
9,200.00	10.00	20.58	9,163.84	414.04	155.47	416.21	0.00	0.00	0.00
9,300.00	10.00	20.58	9,262.32	430.30	161.58	432.55	0.00	0.00	0.00
9,400.00	10.00	20.58	9,360.80	446.56	167.68	448.90	0.00	0.00	0.00
9,500.00	10.00	20.58	9,459.28	462.82	173.79	465.25	0.00	0.00	0.00
9,600.00	10.00	20.58	9,557.76	479.09	179.90	481.59	0.00	0.00	0.00
9,689.61	10.00	20.58	9,646.01	493.66	185.37	496.24	0.00	0.00	0.00
9,700.00	10.98	18.61	9,656.23	495.44	186.00	498.03	10.00	9.39	-18.93
9,800.00	20.68	9.31	9,752.33	521.96	191.91	524.63	10.00	9.70	-9.30
9,900.00	30.57	5.84	9,842.39	564.80	197.37	567.54	10.00	9.89	-3.47
10,000.00	40.51	3.96	9,923.66	622.65	202.22	625.46	10.00	9.94	-1.89
10,100.00	50.48	2.71	9,993.67	693.76	206.30	696.62	10.00	9.96	-1.24
10,200.00	60.45	1.79	10,050.29	775.96	209.49	778.86	10.00	9.97	-0.93
10,300.00	70.42	1.03	10,091.81	866.77	211.69	869.69	10.00	9.98	-0.76
10,400.00	80.40	0.36	10,116.97	963.42	212.84	966.34	10.00	9.98	-0.67
10,498.42	90.22	359.73	10,125.00	1,061.38	212.92	1,064.30	10.00	9.98	-0.63
10,500.00	90.22	359.73	10,124.99	1,062.97	212.91	1,065.89	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Federal Com 38H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB @ 2953.30ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB @ 2953.30ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Federal Com 38H	**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)
10,600.00	90.22	359.73	10,124.60	1,162.96	212.45	1,165.87	0.00	0.00	0.00
10,700.00	90.22	359.73	10,124.21	1,262.96	211.98	1,265.85	0.00	0.00	0.00
10,800.00	90.22	359.73	10,123.82	1,362.96	211.52	1,365.83	0.00	0.00	0.00
10,900.00	90.22	359.73	10,123.43	1,462.96	211.05	1,465.81	0.00	0.00	0.00
11,000.00	90.22	359.73	10,123.04	1,562.96	210.59	1,565.79	0.00	0.00	0.00
11,100.00	90.22	359.73	10,122.65	1,662.96	210.12	1,665.77	0.00	0.00	0.00
11,200.00	90.22	359.73	10,122.26	1,762.95	209.66	1,765.76	0.00	0.00	0.00
11,300.00	90.22	359.73	10,121.87	1,862.95	209.19	1,865.74	0.00	0.00	0.00
11,400.00	90.22	359.73	10,121.48	1,962.95	208.73	1,965.72	0.00	0.00	0.00
11,500.00	90.22	359.73	10,121.08	2,062.95	208.27	2,065.70	0.00	0.00	0.00
11,600.00	90.22	359.73	10,120.69	2,162.95	207.80	2,165.68	0.00	0.00	0.00
11,700.00	90.22	359.73	10,120.30	2,262.94	207.34	2,265.66	0.00	0.00	0.00
11,800.00	90.22	359.73	10,119.91	2,362.94	206.87	2,365.64	0.00	0.00	0.00
11,900.00	90.22	359.73	10,119.52	2,462.94	206.41	2,465.63	0.00	0.00	0.00
12,000.00	90.22	359.73	10,119.13	2,562.94	205.94	2,565.61	0.00	0.00	0.00
12,100.00	90.22	359.73	10,118.74	2,662.94	205.48	2,665.59	0.00	0.00	0.00
12,200.00	90.22	359.73	10,118.35	2,762.93	205.02	2,765.57	0.00	0.00	0.00
12,300.00	90.22	359.73	10,117.96	2,862.93	204.55	2,865.55	0.00	0.00	0.00
12,400.00	90.22	359.73	10,117.57	2,962.93	204.09	2,965.53	0.00	0.00	0.00
12,500.00	90.22	359.73	10,117.18	3,062.93	203.62	3,065.51	0.00	0.00	0.00
12,600.00	90.22	359.73	10,116.78	3,162.93	203.16	3,165.50	0.00	0.00	0.00
12,700.00	90.22	359.73	10,116.39	3,262.93	202.69	3,265.48	0.00	0.00	0.00
12,800.00	90.22	359.73	10,116.00	3,362.92	202.23	3,365.46	0.00	0.00	0.00
12,900.00	90.22	359.73	10,115.61	3,462.92	201.77	3,465.44	0.00	0.00	0.00
13,000.00	90.22	359.73	10,115.22	3,562.92	201.30	3,565.42	0.00	0.00	0.00
13,100.00	90.22	359.73	10,114.83	3,662.92	200.84	3,665.40	0.00	0.00	0.00
13,200.00	90.22	359.73	10,114.44	3,762.92	200.37	3,765.38	0.00	0.00	0.00
13,300.00	90.22	359.73	10,114.05	3,862.91	199.91	3,865.37	0.00	0.00	0.00
13,400.00	90.22	359.73	10,113.66	3,962.91	199.44	3,965.35	0.00	0.00	0.00
13,500.00	90.22	359.73	10,113.27	4,062.91	198.98	4,065.33	0.00	0.00	0.00
13,600.00	90.22	359.73	10,112.88	4,162.91	198.51	4,165.31	0.00	0.00	0.00
13,700.00	90.22	359.73	10,112.49	4,262.91	198.05	4,265.29	0.00	0.00	0.00
13,800.00	90.22	359.73	10,112.09	4,362.91	197.59	4,365.27	0.00	0.00	0.00
13,900.00	90.22	359.73	10,111.70	4,462.90	197.12	4,465.25	0.00	0.00	0.00
14,000.00	90.22	359.73	10,111.31	4,562.90	196.66	4,565.24	0.00	0.00	0.00
14,100.00	90.22	359.73	10,110.92	4,662.90	196.19	4,665.22	0.00	0.00	0.00
14,200.00	90.22	359.73	10,110.53	4,762.90	195.73	4,765.20	0.00	0.00	0.00
14,300.00	90.22	359.73	10,110.14	4,862.90	195.26	4,865.18	0.00	0.00	0.00
14,400.00	90.22	359.73	10,109.75	4,962.89	194.80	4,965.16	0.00	0.00	0.00
14,500.00	90.22	359.73	10,109.36	5,062.89	194.34	5,065.14	0.00	0.00	0.00
14,600.00	90.22	359.73	10,108.97	5,162.89	193.87	5,165.12	0.00	0.00	0.00
14,700.00	90.22	359.73	10,108.58	5,262.89	193.41	5,265.11	0.00	0.00	0.00
14,800.00	90.22	359.73	10,108.19	5,362.89	192.94	5,365.09	0.00	0.00	0.00
14,900.00	90.22	359.73	10,107.79	5,462.89	192.48	5,465.07	0.00	0.00	0.00
15,000.00	90.22	359.73	10,107.40	5,562.88	192.01	5,565.05	0.00	0.00	0.00
15,100.00	90.22	359.73	10,107.01	5,662.88	191.55	5,665.03	0.00	0.00	0.00
15,200.00	90.22	359.73	10,106.62	5,762.88	191.08	5,765.01	0.00	0.00	0.00
15,300.00	90.22	359.73	10,106.23	5,862.88	190.62	5,865.00	0.00	0.00	0.00
15,400.00	90.22	359.73	10,105.84	5,962.88	190.16	5,964.98	0.00	0.00	0.00
15,500.00	90.22	359.73	10,105.45	6,062.87	189.69	6,064.96	0.00	0.00	0.00
15,600.00	90.22	359.73	10,105.06	6,162.87	189.23	6,164.94	0.00	0.00	0.00
15,700.00	90.22	359.73	10,104.67	6,262.87	188.76	6,264.92	0.00	0.00	0.00
15,800.00	90.22	359.73	10,104.28	6,362.87	188.30	6,364.90	0.00	0.00	0.00
15,900.00	90.22	359.73	10,103.89	6,462.87	187.83	6,464.88	0.00	0.00	0.00
16,000.00	90.22	359.73	10,103.49	6,562.86	187.37	6,564.87	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Federal Com 38H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB @ 2953.30ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB @ 2953.30ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Federal Com 38H	**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	90.22	359.73	10,103.10	6,662.86	186.91	6,664.85	0.00	0.00	0.00
16,200.00	90.22	359.73	10,102.71	6,762.86	186.44	6,764.83	0.00	0.00	0.00
16,300.00	90.22	359.73	10,102.32	6,862.86	185.98	6,864.81	0.00	0.00	0.00
16,400.00	90.22	359.73	10,101.93	6,962.86	185.51	6,964.79	0.00	0.00	0.00
16,500.00	90.22	359.73	10,101.54	7,062.86	185.05	7,064.77	0.00	0.00	0.00
16,600.00	90.22	359.73	10,101.15	7,162.85	184.58	7,164.75	0.00	0.00	0.00
16,700.00	90.22	359.73	10,100.76	7,262.85	184.12	7,264.74	0.00	0.00	0.00
16,800.00	90.22	359.73	10,100.37	7,362.85	183.66	7,364.72	0.00	0.00	0.00
16,900.00	90.22	359.73	10,099.98	7,462.85	183.19	7,464.70	0.00	0.00	0.00
17,000.00	90.22	359.73	10,099.59	7,562.85	182.73	7,564.68	0.00	0.00	0.00
17,100.00	90.22	359.73	10,099.19	7,662.84	182.26	7,664.66	0.00	0.00	0.00
17,200.00	90.22	359.73	10,098.80	7,762.84	181.80	7,764.64	0.00	0.00	0.00
17,300.00	90.22	359.73	10,098.41	7,862.84	181.33	7,864.62	0.00	0.00	0.00
17,400.00	90.22	359.73	10,098.02	7,962.84	180.87	7,964.61	0.00	0.00	0.00
17,500.00	90.22	359.73	10,097.63	8,062.84	180.40	8,064.59	0.00	0.00	0.00
17,600.00	90.22	359.73	10,097.24	8,162.84	179.94	8,164.57	0.00	0.00	0.00
17,700.00	90.22	359.73	10,096.85	8,262.83	179.48	8,264.55	0.00	0.00	0.00
17,800.00	90.22	359.73	10,096.46	8,362.83	179.01	8,364.53	0.00	0.00	0.00
17,900.00	90.22	359.73	10,096.07	8,462.83	178.55	8,464.51	0.00	0.00	0.00
18,000.00	90.22	359.73	10,095.68	8,562.83	178.08	8,564.49	0.00	0.00	0.00
18,100.00	90.22	359.73	10,095.29	8,662.83	177.62	8,664.48	0.00	0.00	0.00
18,200.00	90.22	359.73	10,094.89	8,762.82	177.15	8,764.46	0.00	0.00	0.00
18,300.00	90.22	359.73	10,094.50	8,862.82	176.69	8,864.44	0.00	0.00	0.00
18,400.00	90.22	359.73	10,094.11	8,962.82	176.23	8,964.42	0.00	0.00	0.00
18,500.00	90.22	359.73	10,093.72	9,062.82	175.76	9,064.40	0.00	0.00	0.00
18,600.00	90.22	359.73	10,093.33	9,162.82	175.30	9,164.38	0.00	0.00	0.00
18,700.00	90.22	359.73	10,092.94	9,262.82	174.83	9,264.36	0.00	0.00	0.00
18,800.00	90.22	359.73	10,092.55	9,362.81	174.37	9,364.35	0.00	0.00	0.00
18,900.00	90.22	359.73	10,092.16	9,462.81	173.90	9,464.33	0.00	0.00	0.00
19,000.00	90.22	359.73	10,091.77	9,562.81	173.44	9,564.31	0.00	0.00	0.00
19,100.00	90.22	359.73	10,091.38	9,662.81	172.97	9,664.29	0.00	0.00	0.00
19,200.00	90.22	359.73	10,090.99	9,762.81	172.51	9,764.27	0.00	0.00	0.00
19,300.00	90.22	359.73	10,090.59	9,862.80	172.05	9,864.25	0.00	0.00	0.00
19,400.00	90.22	359.73	10,090.20	9,962.80	171.58	9,964.23	0.00	0.00	0.00
19,500.00	90.22	359.73	10,089.81	10,062.80	171.12	10,064.22	0.00	0.00	0.00
19,600.00	90.22	359.73	10,089.42	10,162.80	170.65	10,164.20	0.00	0.00	0.00
19,700.00	90.22	359.73	10,089.03	10,262.80	170.19	10,264.18	0.00	0.00	0.00
19,800.00	90.22	359.73	10,088.64	10,362.80	169.72	10,364.16	0.00	0.00	0.00
19,900.00	90.22	359.73	10,088.25	10,462.79	169.26	10,464.14	0.00	0.00	0.00
20,000.00	90.22	359.73	10,087.86	10,562.79	168.80	10,564.12	0.00	0.00	0.00
20,100.00	90.22	359.73	10,087.47	10,662.79	168.33	10,664.10	0.00	0.00	0.00
20,200.00	90.22	359.73	10,087.08	10,762.79	167.87	10,764.09	0.00	0.00	0.00
20,300.00	90.22	359.73	10,086.69	10,862.79	167.40	10,864.07	0.00	0.00	0.00
20,400.00	90.22	359.73	10,086.29	10,962.78	166.94	10,964.05	0.00	0.00	0.00
20,500.00	90.22	359.73	10,085.90	11,062.78	166.47	11,064.03	0.00	0.00	0.00
20,600.00	90.22	359.73	10,085.51	11,162.78	166.01	11,164.01	0.00	0.00	0.00
20,700.00	90.22	359.73	10,085.12	11,262.78	165.55	11,263.99	0.00	0.00	0.00
20,800.00	90.22	359.73	10,084.73	11,362.78	165.08	11,363.98	0.00	0.00	0.00
20,900.00	90.22	359.73	10,084.34	11,462.77	164.62	11,463.96	0.00	0.00	0.00
20,986.85	90.22	359.73	10,084.00	11,549.62	164.21	11,550.79	0.00	0.00	0.00

OXY
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Heads CC 9_4 Federal Com 38H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB @ 2953.30ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB @ 2953.30ft
Site:	Heads CC 9_4	**North Reference:**	Grid
Well:	Heads CC 9_4 Federal Com 38H	**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 (Heads CC 9_4 - plan hits target center - Point	0.00	0.00	10,084.00	11,549.62	164.21	456,305.10	648,802.80	32.253980	-103.985697
FTP (Heads CC 9_4 - plan hits target center - Point	0.00	0.00	10,125.00	1,061.38	212.92	445,817.70	648,851.50	32.225151	-103.985650

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
148.00	148.00	RUSTLER			
665.00	665.00	SALADO			
1,357.00	1,357.00	CASTILE			
2,915.00	2,915.00	DELAWARE			
2,960.00	2,960.00	BELL CANYON			
3,801.00	3,801.00	CHERRY CANYON			
5,049.00	5,049.00	BRUSHY CANYON			
6,655.64	6,655.00	BONE SPRING			
7,660.76	7,648.00	BONE SPRING 1ST			
8,484.28	8,459.00	BONE SPRING 2ND			
9,594.15	9,552.00	BONE SPRING 3RD			
10,032.84	9,948.00	WOLFCAMP			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
6,155.00	6,155.00	0.00	0.00	Build 1°/100'
7,155.32	7,150.24	81.54	30.62	Hold 10° Tangent
9,689.61	9,646.01	493.66	185.37	KOP, Build & Turn 10°/100'
10,498.42	10,125.00	1,061.38	212.92	Landing Point
20,986.85	10,084.00	11,549.62	164.21	TD at 20986.85' MD

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: Heads CC 9_4
Well: Heads CC 9_4 Federal Com 38H
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: Heads CC 9_4 Federal Com 38H

Ground Level: 2926.80

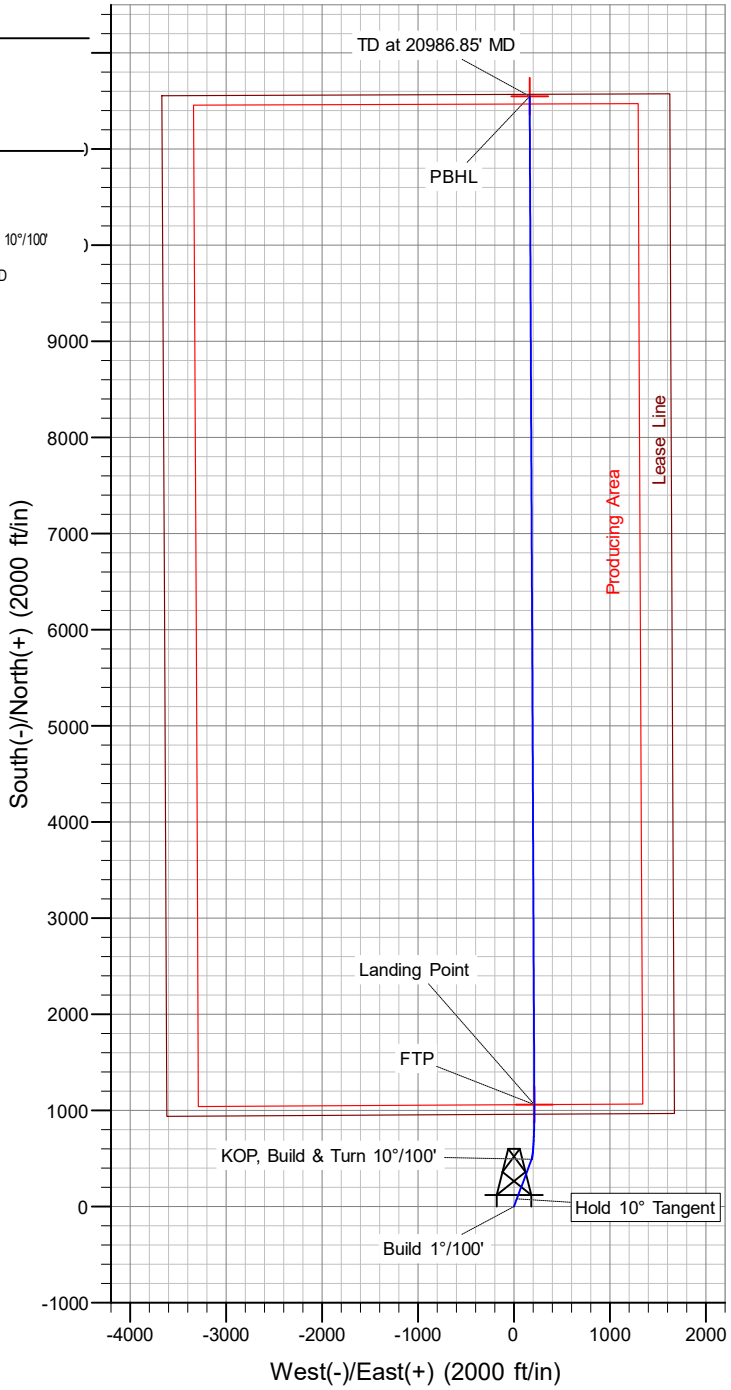
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	444756.40	648638.60	32.222236	-103.986349

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	
6155.00	0.00	0.00	6155.00	0.00	0.00	0.00	0.00	0.00	Build 1°/100'
7155.31	10.00	20.58	7150.24	81.54	30.62	1.00	20.58	81.97	Hold 10° Tangent
9689.61	10.00	20.58	9646.01	493.66	185.37	0.00	0.00	496.24	KOP, Build & Turn 10°/100'
10498.42	90.22	359.73	10125.00	1061.38	212.92	10.00	-21.13	1064.30	Landing Point
20986.85	90.22	359.73	10084.00	11549.62	164.21	0.00	0.00	11550.79	TD at 20986.85' MD

Azimuths to Grid North
True North: -0.19°
Magnetic North: 6.76°

Magnetic Field
Strength: 47890.5nT
Dip Angle: 59.93°
Date: 7/17/2019
Model: HDGM



Oxy USA Inc. - Heads CC 9_4 Federal Com 38H

Drill Plan

1. Geologic Formations

TVD of Target (ft):	10126	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	20731	Deepest Expected Fresh Water (ft):	150

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	150	150	
Salado	664	664	Salt
Castile	1360	1360	Salt
Delaware	2917	2917	Oil/Gas/Brine
Bell Canyon	2961	2961	Oil/Gas/Brine
Cherry Canyon	3801	3801	Oil/Gas/Brine
Brushy Canyon	5051	5050	Losses
Bone Spring	6680	6656	Oil/Gas
Bone Spring 1st	7688	7649	Oil/Gas
Bone Spring 2nd	8512	8460	Oil/Gas
Bone Spring 3rd	9621	9552	Oil/Gas
Wolfcamp	10060	9949	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	210	0	210	13.375	54.5	J-55	BTC
Intermediate	12.25	0	9618	0	9548	9.625	40	L-80 HC	BTC
Production	8.5	0	10168	0	9887	7	32	P-110	DQX
Production	8.5	10168	20731	9887	10126	5.5	20	P-110	DQX

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?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Section	Stage	Slurry:	Capacities	ft^3/ft	Excess:	From	To	Sacks	Volume (ft^3)	Placement
Surface	1	Surface - Tail	OH x Csg	0.6946	100%	210	-	219	292	Circulate
Int.	1	Intermediate 1S - Tail	OH x Csg	0.3132	5%	9,618	5,301	860	1420	Circulate
Int.	2	Intermediate 2S - Tail BH	OH x Csg	0.3132	25%	5,301	210	1038	1993	Bradenhead
Int.	2	Intermediate 2S - Tail BH	Csg x Csg	0.3627	0%	210	-	40	76	Bradenhead
Prod.	1	Production - Tail	OH x Csg2	0.2291	20%	20,731	10,168	2104	2904	Circulate
Prod.	1	Production - Tail	OH x Csg1	0.1268	20%	10,168	9,618	61	84	Circulate
Prod.	1	Production - Tail	Csg x Csg	0.1585	0%	9,618	9,118	57	79	Circulate

Description	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)	500psi Time (hh:mm)	Cmt. Class	Accelerator	Retarder	Dispersant	Salt
Surface - Tail	14.8	1.33	6.365	5:26	C	x			
Intermediate 1S - Tail	13.2	1.65	8.64	11:54	H	x	x	x	x
Intermediate 2S - Tail BH	12.9	1.92	10.41	23:10	C	x			
Production - Tail	13.2	1.38	6.686	3:39	H		x	x	x

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

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:

- CBL will be required on one well per pad
- 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

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✔	Tested to:	Deepest TVD Depth (ft) per Section:
12.25" Hole	13-5/8"	3M	Annular	✔	70% of working pressure	9548
		3M	Blind Ram	✔	250 psi / 3000 psi	
			Pipe Ram			
			Double Ram	✔		
			Other*			
8.5" Hole	13-5/8"	5M	Annular	✔	70% of working pressure	10126
		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

	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.

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 - MD		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	210	0	210	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	210	9618	210	9548	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	9618	20731	9548	10126	Water-Based or Oil-Based Mud	9.5 - 12.5	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

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

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

Condition	Specify what type and where?
BH Pressure at deepest TVD	6582 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	162°F

Total Estimated Cuttings Volume:	1446 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

Tenaris

TenarisHydril Wedge 461®

Coupling	Pipe Body
Grade: **P110-CY**	Grade: **P110-CY**
Body: **White**	1st Band: **White**
1st Band: **Grey**	2nd Band: **Grey**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**
	5th Band: **-**
	6th Band: **-**

Outside Diameter	7.000 in.	**Wall Thickness**	0.453 in.	**Grade**	P110-CY
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	7.000 in.	**Wall Thickness**	0.453 in.	**Body Yield Strength**	1025 x1000 lb
Nominal Weight	32 lb/ft	**Plain End Weight**	31.70 lb/ft	**Min. Internal Yield Pressure**	12,460 psi
Drift	5.969 in.	**OD Tolerance**	API	**SMYS**	110,000 psi
Nominal ID	6.094 in.			**Collapse Pressure**	10,780 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	7.750 in.	**Tension Efficiency**	100 %	**Minimum**	20,000 ft-lb
Coupling Length	8.914 in.	**Joint Yield Strength**	1025 x1000 lb	**Optimum**	21,000 ft-lb
Connection ID	6.094 in.	**Internal Pressure Capacity**	12,460 psi	**Maximum**	25,200 ft-lb
Make-up Loss	4.375 in.	**Compression Efficiency**	100 %		
Threads per inch	3.40	**Compression Strength**	1025 x1000 lb	**Operation Limit Torques**	
Connection OD Option	Regular	**Max. Allowable Bending**	72 °/100 ft	**Operating Torque**	61,000 ft-lb
		External Pressure Capacity	10,780 psi	**Yield Torque**	72,000 ft-lb
		Coupling Face Load	269,000 lb	**Buck-On**	
				Minimum	25,200 ft-lb
				Maximum	26,700 ft-lb

Notes

This connection is fully interchangeable with:
Wedge 461® - 7 in. - 0.317 / 0.362 / 0.408 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version
In October 2019, TenarisHydril Wedge XP® 2.0 was renamed TenarisHydril Wedge 461™. Product dimensions and properties remain identical and both connections are fully interchangeable

For the lastest performance data, always visit our website: www.tenaris.com

Tenaris

TenarisHydril Wedge 425®

Coupling	Pipe Body
Grade: **P110-CY**	Grade: **P110-CY**
Body: **White**	1st Band: **White**
1st Band: **Grey**	2nd Band: **Grey**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**
	5th Band: **-**
	6th Band: **-**

Outside Diameter	5.500 in.	**Wall Thickness**	0.361 in.	**Grade**	P110-CY
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	**Wall Thickness**	0.361 in.	**Body Yield Strength**	641 x1000 lb
Nominal Weight	20 lb/ft	**Plain End Weight**	19.83 lb/ft	**Min. Internal Yield Pressure**	12,640 psi
Drift	4.653 in.	**OD Tolerance**	API	**SMYS**	110,000 psi
Nominal ID	4.778 in.			**Collapse Pressure**	11,100 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	5.777 in.	**Tension Efficiency**	90 %	**Minimum**	15,700 ft-lb
Connection ID	4.734 in.	**Joint Yield Strength**	577 x1000 lb	**Optimum**	19,600 ft-lb
Make-up Loss	5.823 in.	**Internal Pressure Capacity**	12,640 psi	**Maximum**	21,600 ft-lb
Threads per inch	3.77	**Compression Efficiency**	90 %		
Connection OD Option	Regular	**Compression Strength**	577 x1000 lb	**Operation Limit Torques**	
		Max. Allowable Bending	82 °/100 ft	**Operating Torque**	29,000 ft-lb
		External Pressure Capacity	11,100 psi	**Yield Torque**	36,000 ft-lb

Notes

This connection is fully interchangeable with:
TORQ® SFW™ - 5.5 in. - 0.361 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version

For the lastest performance data, always visit our website: www.tenaris.com

Tenaris

TenarisHydril Wedge 441®

Coupling	Pipe Body
Grade: **P110-CY**	Grade: **P110-CY**
Body: **White**	1st Band: **White**
1st Band: **Grey**	2nd Band: **Grey**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**
	5th Band: **-**
	6th Band: **-**

Outside Diameter	5.500 in.	**Wall Thickness**	0.361 in.	**Grade**	P110-CY
Min. Wall Thickness	87.50 %	**Drift**	API Standard	**Type**	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	**Wall Thickness**	0.361 in.	**Body Yield Strength**	641 x1000 lb
Nominal Weight	20 lb/ft	**Plain End Weight**	19.83 lb/ft	**Min. Internal Yield Pressure**	12,640 psi
Drift	4.653 in.	**OD Tolerance**	API	**SMYS**	110,000 psi
Nominal ID	4.778 in.			**Collapse Pressure**	11,100 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	5.852 in.	**Tension Efficiency**	81.50 %	**Minimum**	15,000 ft-lb
Coupling Length	8.714 in.	**Joint Yield Strength**	522 x1000 lb	**Optimum**	16,000 ft-lb
Connection ID	4.778 in.	**Internal Pressure Capacity**	12,640 psi	**Maximum**	19,200 ft-lb
Make-up Loss	3.780 in.	**Compression Efficiency**	81.50 %		
Threads per inch	3.40	**Compression Strength**	522 x1000 lb	**Operation Limit Torques**	
Connection OD Option	Regular	**Max. Allowable Bending**	71 °/100 ft	**Operating Torque**	32,000 ft-lb
		External Pressure Capacity	11,100 psi	**Yield Torque**	38,000 ft-lb
				Buck-On	
				Minimum	19,200 ft-lb
				Maximum	20,700 ft-lb

Notes

This connection is fully interchangeable with:
Wedge 441® - 5.5 in. - 0.304 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version

For the lastest performance data, always visit our website: www.tenaris.com

Tenaris

TenarisHydril Wedge 461®

Coupling	Pipe Body
Grade: **P110-CY**	Grade: **P110-CY**
Body: **White**	1st Band: **White**
1st Band: **Grey**	2nd Band: **Grey**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**
	5th Band: **-**
	6th Band: **-**

Outside Diameter	5.500 in.	**Wall Thickness**	0.361 in.	**Grade**	P110-CY
Min. Wall Thickness	87.50 %	**Drift**	API Standard	**Type**	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5.500 in.	**Wall Thickness**	0.361 in.	**Body Yield Strength**	641 x1000 lb
Nominal Weight	20 lb/ft	**Plain End Weight**	19.83 lb/ft	**Min. Internal Yield Pressure**	12,640 psi
Drift	4.653 in.	**OD Tolerance**	API	**SMYS**	110,000 psi
Nominal ID	4.778 in.			**Collapse Pressure**	11,100 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	6.300 in.	**Tension Efficiency**	100 %	**Minimum**	17,000 ft-lb
Coupling Length	7.714 in.	**Joint Yield Strength**	641 x1000 lb	**Optimum**	18,000 ft-lb
Connection ID	4.778 in.	**Internal Pressure Capacity**	12,640 psi	**Maximum**	21,600 ft-lb
Make-up Loss	3.775 in.	**Compression Efficiency**	100 %		
Threads per inch	3.40	**Compression Strength**	641 x1000 lb	**Operation Limit Torques**	
Connection OD Option	Regular	**Max. Allowable Bending**	92 °/100 ft	**Operating Torque**	39,000 ft-lb
		External Pressure Capacity	11,100 psi	**Yield Torque**	46,000 ft-lb
		Coupling Face Load	290,000 lb	**Buck-On**	
				Minimum	21,600 ft-lb
				Maximum	23,100 ft-lb

Notes

This connection is fully interchangeable with:
Wedge 461® - 5.5 in. - 0.304 / 0.415 / 0.476 in.
Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version
In October 2019, TenarisHydril Wedge XP® 2.0 was renamed TenarisHydril Wedge 461™. Product dimensions and properties remain identical and both connections are fully interchangeable

For the lastest performance data, always visit our website: www.tenaris.com

PERFORMANCE DATA

TMK UP TORQ™ DQW **5.500 in** **20.00 lbs/ft** **P110 CY**

Technical Data Sheet

Tubular Parameters

Size	5.500	in	Minimum Yield	110,000	psi
Nominal Weight	20.00	lbs/ft	Minimum Tensile	125,000	psi
Grade	P110 CY		Yield Load	641,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	729,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	12,640	psi
Nominal ID	4.778	in	Collapse Pressure	11,110	psi
Drift Diameter	4.653	in			
Nom. Pipe Body Area	5.828	in²			

Connection Parameters

Connection OD	6.050	in
Connection ID	4.778	in
Make-Up Loss	4.324	in
Critical Section Area	5.828	in²
Tension Efficiency	100.0	%
Compression Efficiency	100.0	%
Yield Load In Tension	641,000	lbs
Min. Internal Yield Pressure	12,640	psi
Collapse Pressure	11,110	psi
Uniaxial Bending	92	°/ 100 ft

Make-Up Torques

Min. Make-Up Torque	14,000	ft-lbs
Opt. Make-Up Torque	16,000	ft-lbs
Max. Make-Up Torque	18,000	ft-lbs
Operating Torque	36,800	ft-lbs
Yield Torque	46,000	ft-lbs

Printed on: March-05-2019

NOTE:
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TMK IPSCO

PERFORMANCE DATA

TMK UP DQX **5.500 in** **20.00 lbs/ft** **P-110**
Technical Data Sheet

Tubular Parameters

Size	5.500	in	Minimum Yield	110,000	psi
Nominal Weight	20.00	lbs/ft	Minimum Tensile	125,000	psi
Grade	P-110		Yield Load	641,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	729,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	12,600	psi
Nominal ID	4.778	in	Collapse Pressure	11,100	psi
Drift Diameter	4.653	in			
Nom. Pipe Body Area	5.828	in²			

Connection Parameters

Connection OD	6.050	in
Connection ID	4.778	in
Make-Up Loss	4.122	in
Critical Section Area	5.828	in²
Tension Efficiency	100.0	%
Compression Efficiency	100.0	%
Yield Load In Tension	641,000	lbs
Min. Internal Yield Pressure	12,600	psi
Collapse Pressure	11,100	psi

Make-Up Torques

Min. Make-Up Torque	11,600	ft-lbs
Opt. Make-Up Torque	12,900	ft-lbs
Max. Make-Up Torque	14,100	ft-lbs
Yield Torque	20,600	ft-lbs

Printed on: July-29-2014

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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

COMMENTS

Action 122538

COMMENTS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 122538
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
kpickford	Defining well 30-015-47340 HEADS CC 9 4 FEDERAL COM #312H	7/8/2022

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CONDITIONS

Action 122538

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 122538
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	7/8/2022