

Submit a Copy To Appropriate District Office
 District I – (575) 393-6161
 1625 N. French Dr., Hobbs, NM 88240
 District II – (575) 748-1283
 811 S. First St., Artesia, NM 88210
 District III – (505) 334-6178
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV – (505) 476-3460
 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
 Energy, Minerals and Natural Resources

Form C-103
 Revised July 18, 2013

OIL CONSERVATION DIVISION
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

WELL API NO. 30-015-53279
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		7. Lease Name or Unit Agreement Name VANADIUM 32 STATE
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		8. Well Number #176
2. Name of Operator OXY USA INC. (16696)		9. OGRID Number 16696
3. Address of Operator 5 GREENWAY PLAZA, SUITE 110, HOUSTON, TX		10. Pool name or Wildcat COTTON DRAW; BONE SPRING
4. Well Location Unit Letter O : 472 feet from the SOUTH line and 1405 feet from the EAST line Section 29 Township 23S Range 31E NMPM EDDY County		
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3359' GL		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☒	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: ☐		OTHER: ☐	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

OXY USA INC. respectfully request approval to amend the subject well AAPD. See the below new BHL and pool and attached well plat. Also, see the attached updated drill plan and directional for reference.

Old BHL: 10' FNL 2560' FEL O-29-23S-31E
 New BHL: 10' FNL 1920' FEL O-29-23S-31E

Old Pool: WC-015-G-08 S233135D; WOLFCAMP
 New Pool: COTTON DRAW; BONE SPRING

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Leslie T. Reeves TITLE REGULATORY MANAGER DATE 2/17/23

Type or print name LESLIE REEVES E-mail address: LESLIE_REEVES@OXY.COM PHONE: 713-497-2492

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-		² Pool Code 13367		³ Pool Name COTTON DRAW; BONE SPRING	
⁴ Property Code		⁵ Property Name VANADIUM 32 STATE			⁶ Well Number 176H
⁷ OGRID No. 16696		⁸ Operator Name OXY USA INC.			⁹ Elevation 3359.7'

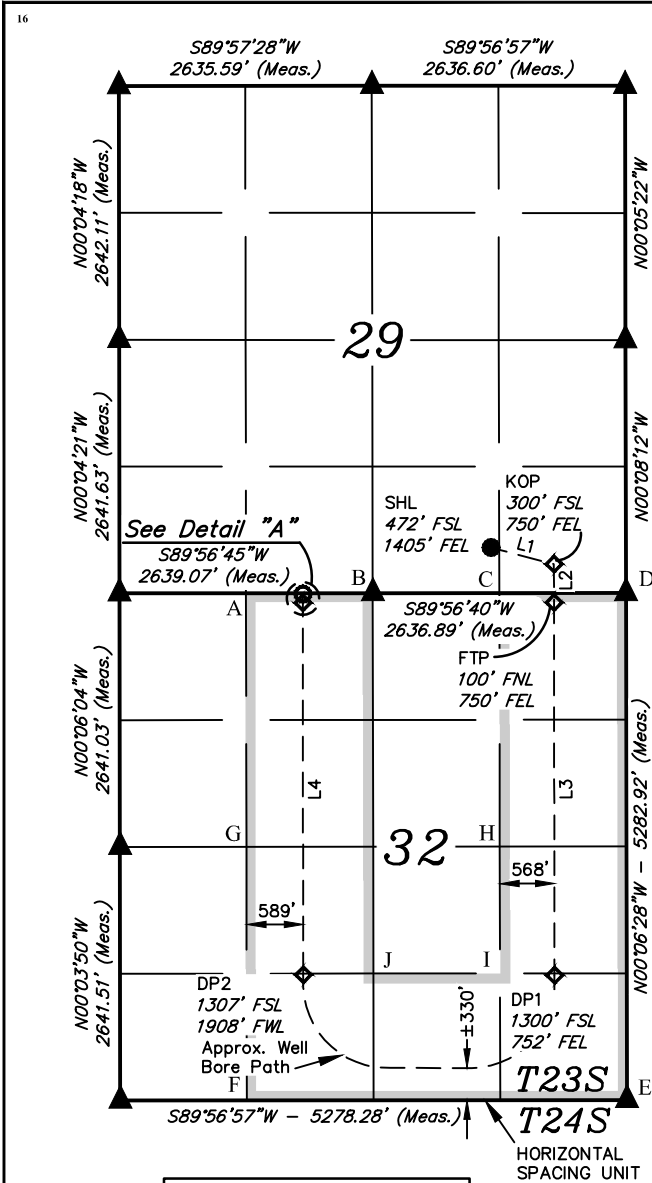
¹⁰ Surface Location

UL or lot no. O	Section 29	Township 23S	Range 31E	Lot Idn	Feet from the 472	North/South line SOUTH	Feet from the 1405	East/West line EAST	County EDDY
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. C	Section 32	Township 23S	Range 31E	Lot Idn	Feet from the 10	North/South line NORTH	Feet from the 1910	East/West line EAST	County EDDY
¹² Dedicated Acres 480		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

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.



LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S75°18'12"E	677.20'
L2	S00°07'46"E	400.00'
L3	S00°05'01"E	3883.26'
L4	N00°03'47"W	3875.41'
L5	N00°06'04"W	90.00'

NAD 83 (SURFACE HOLE LOCATION) LATITUDE = 32°16'10.12" (32.269477°) LONGITUDE = 103°47'45.01" (103.795836°)
NAD 27 (SURFACE HOLE LOCATION) LATITUDE = 32°16'09.67" (32.269354°) LONGITUDE = 103°47'43.26" (103.795350°)
STATE PLANE NAD 83 (N.M. EAST) N: 462184.62' E: 707467.08'
STATE PLANE NAD 27 (N.M. EAST) N: 462125.32' E: 666283.53'
NAD 83 (KICK OFF POINT) LATITUDE = 32°16'08.41" (32.269003°) LONGITUDE = 103°47'37.38" (103.793718°)
NAD 27 (KICK OFF POINT) LATITUDE = 32°16'07.97" (32.268880°) LONGITUDE = 103°47'35.63" (103.793232°)
STATE PLANE NAD 83 (N.M. EAST) N: 462015.66' E: 708122.78'
STATE PLANE NAD 27 (N.M. EAST) N: 461956.36' E: 666939.22'
NAD 83 (FIRST TAKE POINT) LATITUDE = 32°16'04.45" (32.267904°) LONGITUDE = 103°47'37.38" (103.793716°)
NAD 27 (FIRST TAKE POINT) LATITUDE = 32°16'04.01" (32.267781°) LONGITUDE = 103°47'35.63" (103.793230°)
STATE PLANE NAD 83 (N.M. EAST) N: 461615.75' E: 708125.36'
STATE PLANE NAD 27 (N.M. EAST) N: 461556.45' E: 666941.79'
NAD 83 (DEFLECTION POINT 1) LATITUDE = 32°15'26.03" (32.257231°) LONGITUDE = 103°47'37.35" (103.793708°)
NAD 27 (DEFLECTION POINT 1) LATITUDE = 32°15'25.59" (32.257108°) LONGITUDE = 103°47'35.60" (103.793223°)
STATE PLANE NAD 83 (N.M. EAST) N: 457733.29' E: 708147.31'
STATE PLANE NAD 27 (N.M. EAST) N: 457674.10' E: 666963.63'
NAD 83 (DEFLECTION POINT 2) LATITUDE = 32°15'26.11" (32.257252°) LONGITUDE = 103°48'07.82" (103.802173°)
NAD 27 (DEFLECTION POINT 2) LATITUDE = 32°15'25.66" (32.257129°) LONGITUDE = 103°48'06.08" (103.801688°)
STATE PLANE NAD 83 (N.M. EAST) N: 457727.66' E: 705530.44'
STATE PLANE NAD 27 (N.M. EAST) N: 457668.46' E: 664346.77'

NAD 83 (LAST TAKE POINT) LATITUDE = 32°16'04.45" (32.267903°) LONGITUDE = 103°48'07.84" (103.802178°)
NAD 27 (LAST TAKE POINT) LATITUDE = 32°16'04.01" (32.267780°) LONGITUDE = 103°48'06.09" (103.801692°)
STATE PLANE NAD 83 (N.M. EAST) N: 461602.26' E: 705509.92'
STATE PLANE NAD 27 (N.M. EAST) N: 461542.97' E: 664326.36'
NAD 83 (BOTTOM HOLE LOCATION) LATITUDE = 32°16'05.34" (32.268150°) LONGITUDE = 103°48'07.84" (103.802178°)
NAD 27 (BOTTOM HOLE LOCATION) LATITUDE = 32°16'04.90" (32.268027°) LONGITUDE = 103°48'06.09" (103.801692°)
STATE PLANE NAD 83 (N.M. EAST) N: 461692.25' E: 705509.39'
STATE PLANE NAD 27 (N.M. EAST) N: 461632.95' E: 664325.83'

¹⁷ OPERATOR
CERTIFICATION

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

Leslie T. Reeves 2/20/23

Signature Date

LESLIE REEVES

Printed Name

LESLIE_REEVES@OXY.COM

E-mail Address

¹⁸ 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.

November 09, 2022

Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number:

- = SURFACE HOLE LOCATION
- ◆ = KICK OFF/TAKE/DEFLECTION POINTS
- = BOTTOM HOLE LOCATION
- ▲ = SECTION CORNER LOCATED

HSU COORDINATES			
POINT	NAD 27 N.M. STATE PLANE, EAST ZONE	NAD 83 N.M. STATE PLANE, EAST ZONE	
A	461639.91'	663735.43'	461699.21' 704918.98'
B	461646.69'	665054.68'	461705.99' 706238.24'
C	461653.50'	666372.86'	461712.79' 707556.42'
D	461660.30'	667691.03'	461719.60' 708874.60'
E	456378.63'	667722.95'	456437.79' 708906.67'
F	456358.54'	663765.06'	456417.70' 704948.77'
G	458999.41'	663750.67'	459058.64' 704934.31'
H	459012.78'	666388.26'	459072.01' 707571.89'
I	457692.36'	666395.95'	457751.55' 707579.63'
J	457685.67'	665076.94'	457744.86' 706260.61'

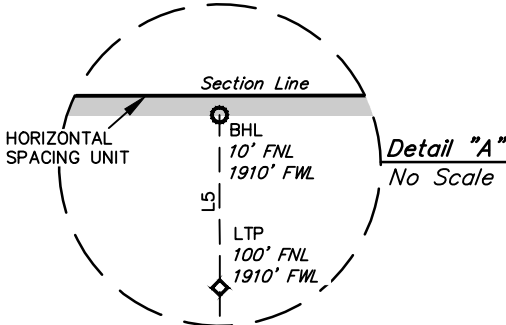


S C A L E

DRAWN BY: Z.T. 11-10-22

REV: 1 Z.L. 01-13-23 (BORE CHANGE)

- NOTE:
- Distances referenced on plat to section lines are perpendicular.
 - Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)



OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)

Vanadium 32

Vanadium 32 State 176H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

07 February, 2023

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Vanadium 32 State 176H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3384.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3384.70ft
Site:	Vanadium 32	North Reference:	Grid
Well:	Vanadium 32 State 176H	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	Vanadium 32		
Site Position:		Northing:	461,451.09 usft
From:	Map	Easting:	703,295.81 usft
Position Uncertainty:	2.00 ft	Slot Radius:	13.200 in
		Latitude:	32.267517
		Longitude:	-103.809343

Well	Vanadium 32 State 176H		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	2.00 ft	Wellhead Elevation:	0.00 ft
Grid Convergence:	0.29 °	Latitude:	32.269477
		Longitude:	-103.795837
		Ground Level:	3,359.70 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	7/29/2019	6.77	59.97	47,945.10000000

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 (°)
	0.00	0.00	0.00	179.68

Plan Survey Tool Program	Date	2/7/2023		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,127.30	Permitting Plan (Wellbore #1)	B001Mb_MWD+HRGM
				OWSG MWD + HRGM

OXY

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Site:	Vanadium 32	North Reference:	Grid
Well:	Vanadium 32 State 176H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,862.00	0.00	0.00	5,862.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,861.71	10.00	90.16	6,856.64	-0.25	86.99	1.00	1.00	0.00	90.16	
9,567.29	10.00	90.16	9,521.14	-1.60	556.68	0.00	0.00	0.00	0.00	
10,461.36	89.48	179.68	10,084.70	-568.90	658.32	10.00	8.89	10.01	89.61	FTP (Vanadium 32
14,431.36	89.48	179.68	10,120.49	-4,538.68	680.76	0.00	0.00	0.00	0.00	
15,816.77	91.98	269.71	10,097.95	-5,425.36	-195.98	6.50	0.18	6.50	88.02	
16,674.77	91.98	269.71	10,068.31	-5,429.70	-1,053.46	0.00	0.00	0.00	0.00	
18,056.85	94.48	359.70	9,969.29	-4,557.90	-1,936.45	6.50	0.18	6.51	85.52	
19,536.85	94.48	359.70	9,853.68	-3,082.44	-1,944.18	0.00	0.00	0.00	0.00	
19,806.84	90.43	359.70	9,842.12	-2,812.76	-1,945.60	1.50	-1.50	0.00	-179.98	
22,127.30	90.43	359.70	9,824.70	-492.40	-1,957.81	0.00	0.00	0.00	0.00	PBHL (Vanadium 32

OXY

Planning Report

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Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3384.70ft
Site:	Vanadium 32	North Reference:	Grid
Well:	Vanadium 32 State 176H	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 Vanadium 32 State 176H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3384.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3384.70ft
Site:	Vanadium 32	North Reference:	Grid
Well:	Vanadium 32 State 176H	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
5,862.00	0.00	0.00	5,862.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.38	90.16	5,900.00	0.00	0.13	0.00	1.00	1.00	0.00
6,000.00	1.38	90.16	5,999.99	0.00	1.66	0.01	1.00	1.00	0.00
6,100.00	2.38	90.16	6,099.93	-0.01	4.94	0.04	1.00	1.00	0.00
6,200.00	3.38	90.16	6,199.80	-0.03	9.97	0.08	1.00	1.00	0.00
6,300.00	4.38	90.16	6,299.57	-0.05	16.73	0.14	1.00	1.00	0.00
6,400.00	5.38	90.16	6,399.21	-0.07	25.24	0.21	1.00	1.00	0.00
6,500.00	6.38	90.16	6,498.68	-0.10	35.48	0.30	1.00	1.00	0.00
6,600.00	7.38	90.16	6,597.96	-0.14	47.46	0.40	1.00	1.00	0.00
6,700.00	8.38	90.16	6,697.02	-0.18	61.17	0.52	1.00	1.00	0.00
6,800.00	9.38	90.16	6,795.82	-0.22	76.61	0.65	1.00	1.00	0.00
6,861.71	10.00	90.16	6,856.64	-0.25	86.99	0.74	1.00	1.00	0.00
6,900.00	10.00	90.16	6,894.35	-0.27	93.64	0.79	0.00	0.00	0.00
7,000.00	10.00	90.16	6,992.84	-0.32	111.00	0.94	0.00	0.00	0.00
7,100.00	10.00	90.16	7,091.32	-0.37	128.36	1.09	0.00	0.00	0.00
7,200.00	10.00	90.16	7,189.80	-0.42	145.72	1.23	0.00	0.00	0.00
7,300.00	10.00	90.16	7,288.28	-0.47	163.08	1.38	0.00	0.00	0.00
7,400.00	10.00	90.16	7,386.76	-0.52	180.44	1.53	0.00	0.00	0.00
7,500.00	10.00	90.16	7,485.24	-0.57	197.80	1.67	0.00	0.00	0.00
7,600.00	10.00	90.16	7,583.73	-0.62	215.16	1.82	0.00	0.00	0.00
7,700.00	10.00	90.16	7,682.21	-0.67	232.52	1.97	0.00	0.00	0.00
7,800.00	10.00	90.16	7,780.69	-0.72	249.88	2.11	0.00	0.00	0.00
7,900.00	10.00	90.16	7,879.17	-0.77	267.24	2.26	0.00	0.00	0.00
8,000.00	10.00	90.16	7,977.65	-0.82	284.60	2.41	0.00	0.00	0.00
8,100.00	10.00	90.16	8,076.13	-0.87	301.96	2.55	0.00	0.00	0.00
8,200.00	10.00	90.16	8,174.62	-0.92	319.32	2.70	0.00	0.00	0.00
8,300.00	10.00	90.16	8,273.10	-0.97	336.68	2.85	0.00	0.00	0.00
8,400.00	10.00	90.16	8,371.58	-1.02	354.04	2.99	0.00	0.00	0.00
8,500.00	10.00	90.16	8,470.06	-1.07	371.40	3.14	0.00	0.00	0.00
8,600.00	10.00	90.16	8,568.54	-1.12	388.76	3.29	0.00	0.00	0.00
8,700.00	10.00	90.16	8,667.02	-1.17	406.12	3.44	0.00	0.00	0.00
8,800.00	10.00	90.16	8,765.51	-1.22	423.48	3.58	0.00	0.00	0.00
8,900.00	10.00	90.16	8,863.99	-1.27	440.84	3.73	0.00	0.00	0.00
9,000.00	10.00	90.16	8,962.47	-1.32	458.20	3.88	0.00	0.00	0.00
9,100.00	10.00	90.16	9,060.95	-1.37	475.56	4.02	0.00	0.00	0.00
9,200.00	10.00	90.16	9,159.43	-1.42	492.92	4.17	0.00	0.00	0.00
9,300.00	10.00	90.16	9,257.91	-1.47	510.27	4.32	0.00	0.00	0.00
9,400.00	10.00	90.16	9,356.40	-1.52	527.63	4.46	0.00	0.00	0.00
9,500.00	10.00	90.16	9,454.88	-1.57	544.99	4.61	0.00	0.00	0.00
9,567.29	10.00	90.16	9,521.14	-1.60	556.68	4.71	0.00	0.00	0.00
9,600.00	10.53	108.35	9,553.34	-2.55	562.35	5.69	10.00	1.64	55.59
9,700.00	16.62	143.56	9,650.66	-16.97	579.57	20.20	10.00	6.08	35.21
9,800.00	25.28	157.85	9,744.02	-48.33	596.15	51.65	10.00	8.66	14.29
9,900.00	34.64	164.99	9,830.59	-95.67	611.60	99.09	10.00	9.36	7.13
10,000.00	44.25	169.34	9,907.73	-157.57	625.45	161.06	10.00	9.61	4.36
10,100.00	53.98	172.41	9,973.11	-232.14	637.28	235.69	10.00	9.73	3.06
10,200.00	63.78	174.79	10,024.74	-317.11	646.73	320.72	10.00	9.79	2.38
10,300.00	73.60	176.79	10,061.04	-409.91	653.50	413.55	10.00	9.82	2.01
10,400.00	83.44	178.61	10,080.92	-507.70	657.40	511.37	10.00	9.84	1.81
10,461.36	89.48	179.68	10,084.70	-568.90	658.32	572.57	10.00	9.85	1.74
10,500.00	89.48	179.68	10,085.05	-607.55	658.54	611.22	0.00	0.00	0.00

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Vanadium 32 State 176H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3384.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3384.70ft
Site:	Vanadium 32	North Reference:	Grid
Well:	Vanadium 32 State 176H	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	89.48	179.68	10,085.95	-707.54	659.10	711.21	0.00	0.00	0.00
10,700.00	89.48	179.68	10,086.85	-807.54	659.67	811.21	0.00	0.00	0.00
10,800.00	89.48	179.68	10,087.75	-907.53	660.23	911.20	0.00	0.00	0.00
10,900.00	89.48	179.68	10,088.65	-1,007.53	660.80	1,011.20	0.00	0.00	0.00
11,000.00	89.48	179.68	10,089.56	-1,107.52	661.37	1,111.20	0.00	0.00	0.00
11,100.00	89.48	179.68	10,090.46	-1,207.51	661.93	1,211.19	0.00	0.00	0.00
11,200.00	89.48	179.68	10,091.36	-1,307.51	662.50	1,311.19	0.00	0.00	0.00
11,300.00	89.48	179.68	10,092.26	-1,407.50	663.06	1,411.18	0.00	0.00	0.00
11,400.00	89.48	179.68	10,093.16	-1,507.50	663.63	1,511.18	0.00	0.00	0.00
11,500.00	89.48	179.68	10,094.06	-1,607.49	664.19	1,611.18	0.00	0.00	0.00
11,600.00	89.48	179.68	10,094.96	-1,707.49	664.76	1,711.17	0.00	0.00	0.00
11,700.00	89.48	179.68	10,095.87	-1,807.48	665.32	1,811.17	0.00	0.00	0.00
11,800.00	89.48	179.68	10,096.77	-1,907.47	665.89	1,911.16	0.00	0.00	0.00
11,900.00	89.48	179.68	10,097.67	-2,007.47	666.45	2,011.16	0.00	0.00	0.00
12,000.00	89.48	179.68	10,098.57	-2,107.46	667.02	2,111.16	0.00	0.00	0.00
12,100.00	89.48	179.68	10,099.47	-2,207.46	667.58	2,211.15	0.00	0.00	0.00
12,200.00	89.48	179.68	10,100.37	-2,307.45	668.15	2,311.15	0.00	0.00	0.00
12,300.00	89.48	179.68	10,101.27	-2,407.45	668.71	2,411.14	0.00	0.00	0.00
12,400.00	89.48	179.68	10,102.17	-2,507.44	669.28	2,511.14	0.00	0.00	0.00
12,500.00	89.48	179.68	10,103.08	-2,607.43	669.85	2,611.14	0.00	0.00	0.00
12,600.00	89.48	179.68	10,103.98	-2,707.43	670.41	2,711.13	0.00	0.00	0.00
12,700.00	89.48	179.68	10,104.88	-2,807.42	670.98	2,811.13	0.00	0.00	0.00
12,800.00	89.48	179.68	10,105.78	-2,907.42	671.54	2,911.12	0.00	0.00	0.00
12,900.00	89.48	179.68	10,106.68	-3,007.41	672.11	3,011.12	0.00	0.00	0.00
13,000.00	89.48	179.68	10,107.58	-3,107.41	672.67	3,111.11	0.00	0.00	0.00
13,100.00	89.48	179.68	10,108.48	-3,207.40	673.24	3,211.11	0.00	0.00	0.00
13,200.00	89.48	179.68	10,109.39	-3,307.40	673.80	3,311.11	0.00	0.00	0.00
13,300.00	89.48	179.68	10,110.29	-3,407.39	674.37	3,411.10	0.00	0.00	0.00
13,400.00	89.48	179.68	10,111.19	-3,507.38	674.93	3,511.10	0.00	0.00	0.00
13,500.00	89.48	179.68	10,112.09	-3,607.38	675.50	3,611.09	0.00	0.00	0.00
13,600.00	89.48	179.68	10,112.99	-3,707.37	676.06	3,711.09	0.00	0.00	0.00
13,700.00	89.48	179.68	10,113.89	-3,807.37	676.63	3,811.09	0.00	0.00	0.00
13,800.00	89.48	179.68	10,114.79	-3,907.36	677.19	3,911.08	0.00	0.00	0.00
13,900.00	89.48	179.68	10,115.70	-4,007.36	677.76	4,011.08	0.00	0.00	0.00
14,000.00	89.48	179.68	10,116.60	-4,107.35	678.33	4,111.07	0.00	0.00	0.00
14,100.00	89.48	179.68	10,117.50	-4,207.34	678.89	4,211.07	0.00	0.00	0.00
14,200.00	89.48	179.68	10,118.40	-4,307.34	679.46	4,311.07	0.00	0.00	0.00
14,300.00	89.48	179.68	10,119.30	-4,407.33	680.02	4,411.06	0.00	0.00	0.00
14,400.00	89.48	179.68	10,120.20	-4,507.33	680.59	4,511.06	0.00	0.00	0.00
14,431.36	89.48	179.68	10,120.49	-4,538.68	680.76	4,542.41	0.00	0.00	0.00
14,500.00	89.64	184.14	10,121.01	-4,607.27	678.48	4,610.99	6.50	0.23	6.50
14,600.00	89.87	190.63	10,121.44	-4,706.38	665.64	4,710.03	6.50	0.23	6.50
14,700.00	90.10	197.13	10,121.47	-4,803.41	641.66	4,806.92	6.50	0.23	6.50
14,800.00	90.33	203.62	10,121.09	-4,897.11	606.87	4,900.42	6.50	0.23	6.50
14,900.00	90.56	210.12	10,120.31	-4,986.26	561.69	4,989.32	6.50	0.23	6.50
15,000.00	90.78	216.62	10,119.14	-5,069.72	506.72	5,072.47	6.50	0.22	6.50
15,100.00	90.99	223.11	10,117.60	-5,146.43	442.67	5,148.82	6.50	0.21	6.50
15,200.00	91.18	229.61	10,115.71	-5,215.39	370.35	5,217.37	6.50	0.20	6.50
15,300.00	91.36	236.11	10,113.48	-5,275.72	290.69	5,277.26	6.50	0.18	6.50
15,400.00	91.53	242.61	10,110.96	-5,326.63	204.73	5,327.69	6.50	0.16	6.50
15,500.00	91.67	249.11	10,108.16	-5,367.49	113.56	5,368.04	6.50	0.14	6.50
15,600.00	91.80	255.61	10,105.13	-5,397.76	18.35	5,397.78	6.50	0.12	6.50
15,700.00	91.89	262.12	10,101.91	-5,417.05	-79.66	5,416.52	6.50	0.10	6.50
15,800.00	91.97	268.62	10,098.53	-5,425.12	-179.23	5,424.03	6.50	0.08	6.50
15,816.77	91.98	269.71	10,097.95	-5,425.36	-195.98	5,424.18	6.50	0.06	6.50

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Vanadium 32 State 176H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3384.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3384.70ft
Site:	Vanadium 32	North Reference:	Grid
Well:	Vanadium 32 State 176H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,900.00	91.98	269.71	10,095.08	-5,425.78	-279.16	5,424.14	0.00	0.00	0.00
16,000.00	91.98	269.71	10,091.62	-5,426.29	-379.10	5,424.09	0.00	0.00	0.00
16,100.00	91.98	269.71	10,088.17	-5,426.80	-479.04	5,424.04	0.00	0.00	0.00
16,200.00	91.98	269.71	10,084.71	-5,427.30	-578.98	5,423.98	0.00	0.00	0.00
16,300.00	91.98	269.71	10,081.26	-5,427.81	-678.92	5,423.93	0.00	0.00	0.00
16,400.00	91.98	269.71	10,077.80	-5,428.31	-778.86	5,423.88	0.00	0.00	0.00
16,500.00	91.98	269.71	10,074.35	-5,428.82	-878.80	5,423.83	0.00	0.00	0.00
16,600.00	91.98	269.71	10,070.89	-5,429.33	-978.74	5,423.77	0.00	0.00	0.00
16,674.77	91.98	269.71	10,068.31	-5,429.70	-1,053.46	5,423.74	0.00	0.00	0.00
16,700.00	92.11	271.35	10,067.41	-5,429.47	-1,078.67	5,423.36	6.50	0.50	6.48
16,800.00	92.59	277.83	10,063.31	-5,421.48	-1,178.21	5,414.82	6.50	0.49	6.49
16,900.00	93.05	284.33	10,058.38	-5,402.30	-1,276.18	5,395.09	6.50	0.45	6.49
17,000.00	93.46	290.82	10,052.70	-5,372.17	-1,371.31	5,364.43	6.50	0.41	6.50
17,100.00	93.83	297.33	10,046.33	-5,331.48	-1,462.37	5,323.23	6.50	0.37	6.50
17,200.00	94.15	303.83	10,039.37	-5,280.76	-1,548.21	5,272.03	6.50	0.32	6.51
17,300.00	94.42	310.35	10,031.89	-5,220.66	-1,627.72	5,211.49	6.50	0.27	6.51
17,400.00	94.63	316.86	10,024.00	-5,151.94	-1,699.86	5,142.37	6.50	0.21	6.52
17,500.00	94.78	323.38	10,015.79	-5,075.50	-1,763.73	5,065.57	6.50	0.15	6.52
17,600.00	94.87	329.91	10,007.37	-4,992.31	-1,818.49	4,982.08	6.50	0.09	6.52
17,700.00	94.89	336.43	9,998.85	-4,903.45	-1,863.43	4,892.97	6.50	0.03	6.52
17,800.00	94.86	342.95	9,990.34	-4,810.06	-1,898.00	4,799.39	6.50	-0.04	6.52
17,900.00	94.76	349.48	9,981.95	-4,713.34	-1,921.73	4,702.53	6.50	-0.10	6.52
18,000.00	94.60	356.00	9,973.79	-4,614.52	-1,934.33	4,603.65	6.50	-0.16	6.52
18,056.85	94.48	359.70	9,969.29	-4,557.90	-1,936.45	4,547.02	6.50	-0.21	6.52
18,100.00	94.48	359.70	9,965.92	-4,514.88	-1,936.68	4,504.00	0.00	0.00	0.00
18,200.00	94.48	359.70	9,958.11	-4,415.19	-1,937.20	4,404.30	0.00	0.00	0.00
18,300.00	94.48	359.70	9,950.29	-4,315.50	-1,937.72	4,304.61	0.00	0.00	0.00
18,400.00	94.48	359.70	9,942.48	-4,215.80	-1,938.25	4,204.91	0.00	0.00	0.00
18,500.00	94.48	359.70	9,934.67	-4,116.11	-1,938.77	4,105.22	0.00	0.00	0.00
18,600.00	94.48	359.70	9,926.86	-4,016.42	-1,939.29	4,005.52	0.00	0.00	0.00
18,700.00	94.48	359.70	9,919.05	-3,916.73	-1,939.81	3,905.83	0.00	0.00	0.00
18,800.00	94.48	359.70	9,911.24	-3,817.03	-1,940.33	3,806.14	0.00	0.00	0.00
18,900.00	94.48	359.70	9,903.43	-3,717.34	-1,940.86	3,706.44	0.00	0.00	0.00
19,000.00	94.48	359.70	9,895.62	-3,617.65	-1,941.38	3,606.75	0.00	0.00	0.00
19,100.00	94.48	359.70	9,887.81	-3,517.95	-1,941.90	3,507.05	0.00	0.00	0.00
19,200.00	94.48	359.70	9,879.99	-3,418.26	-1,942.42	3,407.36	0.00	0.00	0.00
19,300.00	94.48	359.70	9,872.18	-3,318.57	-1,942.94	3,307.66	0.00	0.00	0.00
19,400.00	94.48	359.70	9,864.37	-3,218.87	-1,943.47	3,207.97	0.00	0.00	0.00
19,500.00	94.48	359.70	9,856.56	-3,119.18	-1,943.99	3,108.27	0.00	0.00	0.00
19,536.85	94.48	359.70	9,853.68	-3,082.44	-1,944.18	3,071.54	0.00	0.00	0.00
19,600.00	93.53	359.70	9,849.27	-3,019.45	-1,944.51	3,008.54	1.50	-1.50	0.00
19,700.00	92.03	359.70	9,844.42	-2,919.57	-1,945.03	2,908.66	1.50	-1.50	0.00
19,800.00	90.53	359.70	9,842.18	-2,819.60	-1,945.56	2,808.69	1.50	-1.50	0.00
19,806.84	90.43	359.70	9,842.12	-2,812.76	-1,945.60	2,801.85	1.50	-1.50	0.00
19,900.00	90.43	359.70	9,841.42	-2,719.61	-1,946.09	2,708.69	0.00	0.00	0.00
20,000.00	90.43	359.70	9,840.67	-2,619.61	-1,946.61	2,608.70	0.00	0.00	0.00
20,100.00	90.43	359.70	9,839.92	-2,519.61	-1,947.14	2,508.70	0.00	0.00	0.00
20,200.00	90.43	359.70	9,839.17	-2,419.62	-1,947.66	2,408.70	0.00	0.00	0.00
20,300.00	90.43	359.70	9,838.42	-2,319.62	-1,948.19	2,308.71	0.00	0.00	0.00
20,400.00	90.43	359.70	9,837.67	-2,219.63	-1,948.72	2,208.71	0.00	0.00	0.00
20,500.00	90.43	359.70	9,836.92	-2,119.63	-1,949.24	2,108.71	0.00	0.00	0.00
20,600.00	90.43	359.70	9,836.17	-2,019.63	-1,949.77	2,008.71	0.00	0.00	0.00
20,700.00	90.43	359.70	9,835.41	-1,919.64	-1,950.30	1,908.72	0.00	0.00	0.00
20,800.00	90.43	359.70	9,834.66	-1,819.64	-1,950.82	1,808.72	0.00	0.00	0.00
20,900.00	90.43	359.70	9,833.91	-1,719.65	-1,951.35	1,708.72	0.00	0.00	0.00

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Vanadium 32 State 176H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3384.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3384.70ft
Site:	Vanadium 32	North Reference:	Grid
Well:	Vanadium 32 State 176H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
21,000.00	90.43	359.70	9,833.16	-1,619.65	-1,951.88	1,608.72	0.00	0.00	0.00	
21,100.00	90.43	359.70	9,832.41	-1,519.66	-1,952.40	1,508.73	0.00	0.00	0.00	
21,200.00	90.43	359.70	9,831.66	-1,419.66	-1,952.93	1,408.73	0.00	0.00	0.00	
21,300.00	90.43	359.70	9,830.91	-1,319.66	-1,953.46	1,308.73	0.00	0.00	0.00	
21,400.00	90.43	359.70	9,830.16	-1,219.67	-1,953.98	1,208.74	0.00	0.00	0.00	
21,500.00	90.43	359.70	9,829.41	-1,119.67	-1,954.51	1,108.74	0.00	0.00	0.00	
21,600.00	90.43	359.70	9,828.66	-1,019.68	-1,955.03	1,008.74	0.00	0.00	0.00	
21,700.00	90.43	359.70	9,827.91	-919.68	-1,955.56	908.74	0.00	0.00	0.00	
21,800.00	90.43	359.70	9,827.16	-819.68	-1,956.09	808.75	0.00	0.00	0.00	
21,900.00	90.43	359.70	9,826.41	-719.69	-1,956.61	708.75	0.00	0.00	0.00	
22,000.00	90.43	359.70	9,825.66	-619.69	-1,957.14	608.75	0.00	0.00	0.00	
22,100.00	90.43	359.70	9,824.91	-519.70	-1,957.67	508.76	0.00	0.00	0.00	
22,127.30	90.43	359.70	9,824.70	-492.40	-1,957.81	481.46	0.00	0.00	0.00	

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude		Longitude
PBHL (Vanadium 32 - plan hits target center - Point	0.00	0.00	9,824.70	-492.40	-1,957.81	461,692.25	705,509.39	32.268150		-103.802178
DP2 (Vanadium 32 - plan misses target center by 106.37ft at 18166.16ft MD (9960.75 TVD, -4448.93 N, -1937.02 E) - Point	0.00	0.01	9,854.70	-4,457.23	-1,936.76	457,727.66	705,530.44	32.257252		-103.802173
FTP (Vanadium 32 - plan hits target center - Point	0.00	0.00	10,084.70	-568.90	658.32	461,615.75	708,125.36	32.267904		-103.793716
DP1 (Vanadium 32 - plan hits target center - Point	0.00	0.00	10,119.70	-4,451.60	680.27	457,733.29	708,147.31	32.257232		-103.793708

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
398.70	398.70	RUSTLER				
744.70	744.70	SALADO				
2,696.70	2,696.70	CASTILE				
4,152.70	4,152.70	DELAWARE				
4,179.70	4,179.70	BELL CANYON				
5,064.70	5,064.70	CHERRY CANYON				
6,375.39	6,374.70	BRUSHY CANYON				
7,997.00	7,974.70	BONE SPRING				
9,056.08	9,017.70	BONE SPRING 1ST				

OXY
Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Vanadium 32 State 176H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 3384.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 3384.70ft
Site:	Vanadium 32	North Reference:	Grid
Well:	Vanadium 32 State 176H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
5,862.00	5,862.00	0.00	0.00	Build 1°/100'	
6,861.71	6,856.64	-0.25	86.99	Hold 10° Tangent	
9,567.29	9,521.14	-1.60	556.68	KOP, Build & Turn 10°/100'	
10,461.36	10,084.70	-568.90	658.32	Landing Point	
14,431.36	10,120.49	-4,538.68	680.76	Build & Turn 6.5°/100'	
15,816.77	10,097.95	-5,425.36	-195.98	Hold	
16,674.77	10,068.31	-5,429.70	-1,053.46	Build & Turn 6.5°/100'	
18,056.85	9,969.29	-4,557.90	-1,936.45	Hold	
19,536.85	9,853.68	-3,082.44	-1,944.18	Drop 1.5°/100'	
19,806.84	9,842.12	-2,812.76	-1,945.60	Hold	
22,127.30	9,824.70	-492.40	-1,957.81	TD at 22127.30' MD	

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)

Site: Vanadium 32

Well: Vanadium 32 State 176H

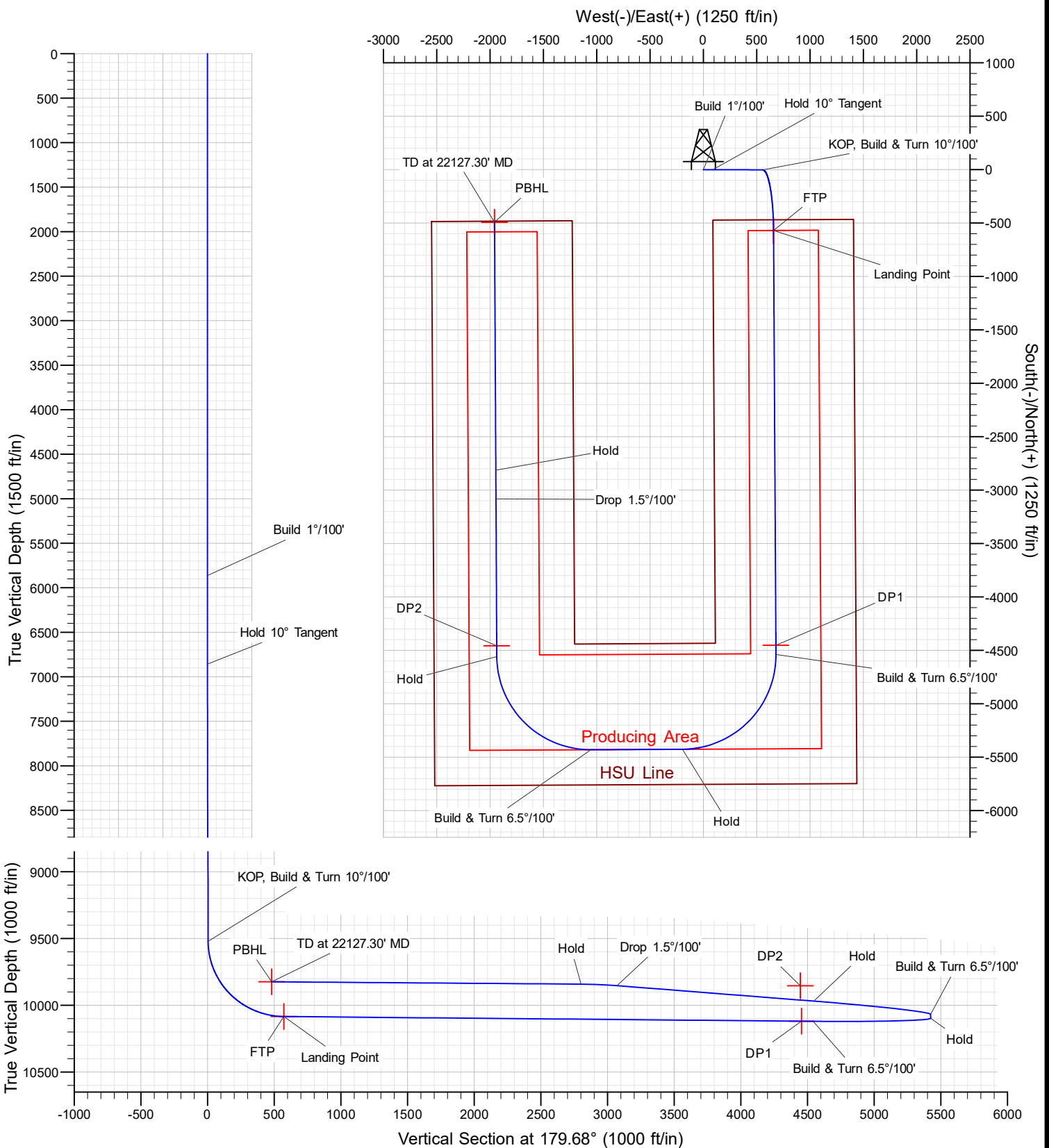
Wellbore: Wellbore #1

Design: Permitting Plan



WELL DETAILS: Vanadium 32 State 176H

Ground Level: 3359.70									
+N/-S 0.00	+E/-W 0.00	Northing 462184.62	Easting 707467.08	Latitude 32.269477	Longitude -103.795836				
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	
5862.00	0.00	0.00	5862.00	0.00	0.00	0.00	0.00	0.00	Build 1°/100'
6861.71	10.00	90.16	6856.64	-0.25	86.99	1.00	90.16	0.74	Hold 10° Tangent
9567.29	10.00	90.16	9521.14	-1.60	556.68	0.00	0.00	4.71	KOP, Build & Turn 10°/100'
10461.35	89.48	179.68	10084.70	-568.90	658.32	10.00	89.61	572.57	Landing Point
14431.35	89.48	179.68	10120.48	-4538.68	680.76	0.00	0.00	4542.41	Build & Turn 6.5°/100'
15816.77	91.98	269.71	10097.95	-5425.36	-195.98	6.50	88.02	5424.18	Hold
16674.77	91.98	269.71	10068.31	-5429.70	-1053.46	0.00	0.00	5423.73	Build & Turn 6.5°/100'
18056.85	94.48	359.70	9969.29	-4557.90	-1936.45	6.50	85.52	4547.02	Hold
19536.85	94.48	359.70	9853.68	-3082.44	-1944.18	0.00	0.00	3071.54	Drop 1.5°/100'



Oxy USA Inc. - Vanadium 32 State 176H

Drill Plan

1. Geologic Formations

TVD of Target (ft):	10085	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	22127	Deepest Expected Fresh Water (ft):	399

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	399	399	
Salado	745	745	Salt
Castile	2697	2697	Salt
Delaware	4153	4153	Oil/Gas/Brine
Bell Canyon	4180	4180	Oil/Gas/Brine
Cherry Canyon	5065	5065	Oil/Gas/Brine
Brushy Canyon	6375	6375	Losses
Bone Spring	7997	7975	Oil/Gas
Bone Spring 1st	9056	9018	Oil/Gas
Bone Spring 2nd	9683	9635	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

Section	Hole Size (in)	MD		TVD		Csg. OD (in)	Csg Wt. (ppf)	Grade	Conn.
		From (ft)	To (ft)	From (ft)	To (ft)				
Surface	17.5	0	459	0	459	13.375	54.5	J-55	BTC
Salt	12.25	0	4253	0	4253	9.625	40	L-80 HC	BTC
Intermediate	8.75	0	9467	0	9421	7.625	26.4	L-80 HC	Wedge 425
Production	6.75	0	22127	0	10085	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 3 rd 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 2 nd 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	479	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.1	1	Intermediate - Tail	141	1.33	14.8	20%	3,753	Circulate	Class C+Accel.
Int.1	1	Intermediate - Lead	991	1.73	12.9	50%	-	Circulate	Class Pozz+Ret.
Int. 2	1	Intermediate 1S - Tail	182	1.65	13.2	5%	6,625	Circulate	Class H+Accel., Disper., Salt
Int. 2	2	Intermediate 2S - Tail BH	444	1.71	13.3	25%	-	Bradenhead Post-Frac	Class C+Accel.
Prod.	1	Production - Tail	994	1.38	13.2	25%	8,967	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 nipped 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 nipping 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	4253
		3M	Blind Ram		✓	250 psi / 3000 psi	
			Pipe Ram				
			Double Ram		✓		
			Other*				
8.75" Hole	13-5/8"	3M	Annular		✓	70% of working pressure	9421
		3M	Blind Ram		✓	250 psi / 3000 psi	
			Pipe Ram				
			Double Ram		✓		
			Other*				
6.75" Hole	13-5/8"	5M	Annular		✓	70% of working pressure	10085
		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. 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

Oxy will use Cameron ADAPT wellhead system that uses an OEC top flange connection. This connection has been fully vetted and verified by API to Spec 6A and carries an API monogram.

5. Mud Program

Section	Depth		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	459	0	459	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate 1	459	4253	459	4253	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Intermediate 2	4253	9467	4253	9421	Water-Based or Oil-Based Mud	8.0 - 10.0	38-50	N/C
Production	9467	22127	9421	10085	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
Yes	CBL
Yes	Mud log
No	PEX

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5035 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	161°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. We plan to drill the 2 well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Oxy would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

Total Estimated Cuttings Volume: 1638 bbls

Attachments

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

9. Company Personnel

Name	Title	Office Phone	Mobile Phone
Garrett Granier	Drilling Engineer	713-513-6633	832-265-0581
Derek Adam	Drilling Engineer Supervisor	713-366-5170	916-802-8873
Casey Martin	Drilling Superintendent	713-497-2530	337-764-4278
Kevin Threadgill	Drilling Manager	713-366-5958	361-815-0788

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 187673

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 187673
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	2/27/2023