

Form 3160-3  
(June 2015)FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No.  6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No.
2. Name of Operator		9. API Well No. <b>30 015 47958</b>
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
13. State		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

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

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



(Continued on page 2)

\*(Instructions on page 2)

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 <b>30-015-47958</b>	Pool Code <b>96473/11520</b>	320 acres PIERCE CROSSING BONE SPRING EAST/CEDAR CANYON BONE SPRING	Pool Name 960 acres
Property Code <b>329988</b>	Property Name <b>TAILS CC 10_3 FEDERAL COM</b>		Well Number 21H
OGRID No. <b>16696</b>	Operator Name <b>OXY USA INC.</b>		Elevation 2942.8'

**Surface Location**

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	10	24-S	29-E		220	SOUTH	1415	WEST	EDDY

**Bottom Hole Location If Different From Surface**

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	3	24-S	29-E		20	NORTH	700	WEST	EDDY
Dedicated Acres <b>1280</b>	Joint or Infill <b>y</b>	Consolidation Code	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

<p><b>HORIZONTAL SPACING UNIT</b></p> <p>LOT 3 8 LOT 2 LOT 1</p> <p>LOT 4 40.29 Ac 40.31 Ac 40.37 Ac 40.39 Ac</p> <p>GRID AZ. = 359°44'02" HORZ. DIST. = 10534.7'</p> <p>SECTION 3 SECTION 10</p> <p><b>CEDAR CANYON BONE SPRING</b></p> <p><b>PIERCE CROSSING BONE SPRING EAST</b></p> <p>GRID AZ. = 256°38'57" HORZ. DIST. = 733.9'</p> <p>1415' 220'</p> <p><b>FTP</b> 100' FSL &amp; 700' FWL Y=445825.6 N X=651011.5 E LAT.=32.225153° N LONG.=103.978664° W</p> <p><b>KOP</b> 50' FSL &amp; 700' FWL Y=445775.6 N X=651011.8 E LAT.=32.225016° N LONG.=103.978664° W</p> <p><b>LTP</b> 100' FNL &amp; 700' FWL Y=456230.2 N X=650963.2 E LAT.=32.253755° N LONG.=103.978709° W</p> <p>* ALL COORDINATES ARE NAD 83 VALUES</p>	<p><b>PROPOSED BOTTOM HOLE LOCATION</b> Y=456310.2 N X=650962.8 E LAT.=32.253974° N LONG.=103.978710° W</p> <p><b>POINT LEGEND</b></p> <table border="1"> <tr><td>1</td><td>Y=456330.3 N X=650262.8 E</td></tr> <tr><td>2</td><td>Y=453688.3 N X=650273.5 E</td></tr> <tr><td>3</td><td>Y=451034.0 N X=650284.7 E</td></tr> <tr><td>4</td><td>Y=448382.0 N X=650298.1 E</td></tr> <tr><td>5</td><td>Y=445728.2 N X=650312.0 E</td></tr> <tr><td>6</td><td>Y=445724.1 N X=652967.9 E</td></tr> <tr><td>7</td><td>Y=451032.4 N X=652940.0 E</td></tr> <tr><td>8</td><td>Y=456330.2 N X=652902.2 E</td></tr> </table> <p><b>SURFACE LOCATION</b> Y=445945.1 N X=651725.8 E LAT.=32.225475° N LONG.=103.976353° W</p>	1	Y=456330.3 N X=650262.8 E	2	Y=453688.3 N X=650273.5 E	3	Y=451034.0 N X=650284.7 E	4	Y=448382.0 N X=650298.1 E	5	Y=445728.2 N X=650312.0 E	6	Y=445724.1 N X=652967.9 E	7	Y=451032.4 N X=652940.0 E	8	Y=456330.2 N X=652902.2 E	<p><b>OPERATOR CERTIFICATION</b></p> <p>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.</p> <p><i>Stephen Janacek</i> 08/03/2020 Signature Date</p> <p><b>Stephen Janacek</b> Printed Name</p> <p><b>Stephen_Janacek@oxy.com</b> E-mail Address</p> <p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>MARCH 5, 2019 Date of Survey</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p><b>CHAD L. HARCROW</b> NEW MEXICO LICENSED PROFESSIONAL SURVEYOR 17777</p> <p><i>Chad Harcrow</i> 10/25/19 Certificate No. CHAD HARCROW 17777 W.O. #19-1958 DRAWN BY: WN</p>
1	Y=456330.3 N X=650262.8 E																	
2	Y=453688.3 N X=650273.5 E																	
3	Y=451034.0 N X=650284.7 E																	
4	Y=448382.0 N X=650298.1 E																	
5	Y=445728.2 N X=650312.0 E																	
6	Y=445724.1 N X=652967.9 E																	
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8	Y=456330.2 N X=652902.2 E																	

# **OXY**

**PRD NM DIRECTIONAL PLANS (NAD 1983)**

**Tails CC 10\_3**

**Tails CC 10\_3 Federal Com 21H**

**Wellbore #1**

**Plan: Permitting Plan**

## **Standard Planning Report**

**05 August, 2019**

# Oxy

## Planning Report

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well Tails CC 10_3 Federal Com 21H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Site:</b>	Tails CC 10_3	<b>North Reference:</b>	Grid
<b>Well:</b>	Tails CC 10_3 Federal Com 21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permitting Plan		

<b>Project</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		Using geodetic scale factor

<b>Site</b>	Tails CC 10_3		
<b>Site Position:</b>		<b>Northing:</b>	445,564.90 usft
<b>From:</b>	Map	<b>Easting:</b>	651,912.10 usft
<b>Position Uncertainty:</b>	2.00 ft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	32° 13' 27.942674 N
		<b>Longitude:</b>	103° 58' 32.716598 W
		<b>Grid Convergence:</b>	0.19 °

<b>Well</b>	Tails CC 10_3 Federal Com 21H		
<b>Well Position</b>	<b>+N/-S</b>	380.23 ft	<b>Northing:</b>
	<b>+E/-W</b>	-186.31 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		1.00 ft	<b>Wellhead Elevation:</b>
			0.00 ft
			<b>Latitude:</b>
			32° 13' 31.711214 N
			<b>Longitude:</b>
			103° 58' 34.870717 W
			<b>Ground Level:</b>
			2,942.80 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	8/5/2019	6.93	59.93	47,887

<b>Design</b>	Permitting Plan			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	354.36

<b>Plan Sections</b>										
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	
2,985.00	0.00	0.00	2,985.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,884.95	18.00	226.30	3,870.22	-96.86	-101.36	2.00	2.00	0.00	226.30	
6,927.99	18.00	226.30	6,764.34	-746.49	-781.17	0.00	0.00	0.00	0.00	
8,576.97	18.00	359.73	8,377.40	-665.48	-971.84	2.00	0.00	8.09	155.65	
9,298.22	90.13	359.73	8,773.30	-119.31	-974.38	10.00	10.00	0.00	0.00	FTP (Tails CC 10_3
19,783.69	90.13	359.73	8,750.30	10,366.02	-1,023.08	0.00	0.00	0.00	0.00	PBHL (Tails CC

# Oxy

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Tails CC 10_3 Federal Com 21H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Site:</b>	Tails CC 10_3	<b>North Reference:</b>	Grid
<b>Well:</b>	Tails CC 10_3 Federal Com 21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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
2,985.00	0.00	0.00	2,985.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.30	226.30	3,000.00	-0.03	-0.03	-0.02	2.00	2.00	0.00
3,100.00	2.30	226.30	3,099.97	-1.59	-1.67	-1.42	2.00	2.00	0.00
3,200.00	4.30	226.30	3,199.80	-5.57	-5.83	-4.97	2.00	2.00	0.00
3,300.00	6.30	226.30	3,299.37	-11.95	-12.51	-10.67	2.00	2.00	0.00
3,400.00	8.30	226.30	3,398.55	-20.73	-21.69	-18.50	2.00	2.00	0.00
3,500.00	10.30	226.30	3,497.23	-31.89	-33.38	-28.46	2.00	2.00	0.00
3,600.00	12.30	226.30	3,595.29	-45.43	-47.54	-40.54	2.00	2.00	0.00
3,700.00	14.30	226.30	3,692.60	-61.32	-64.17	-54.72	2.00	2.00	0.00
3,800.00	16.30	226.30	3,789.05	-79.55	-83.25	-70.99	2.00	2.00	0.00
3,884.95	18.00	226.30	3,870.22	-96.86	-101.36	-86.44	2.00	2.00	0.00
3,900.00	18.00	226.30	3,884.53	-100.07	-104.72	-89.30	0.00	0.00	0.00
4,000.00	18.00	226.30	3,979.64	-121.42	-127.06	-108.35	0.00	0.00	0.00
4,100.00	18.00	226.30	4,074.75	-142.77	-149.40	-127.40	0.00	0.00	0.00
4,200.00	18.00	226.30	4,169.85	-164.12	-171.74	-146.45	0.00	0.00	0.00
4,300.00	18.00	226.30	4,264.96	-185.46	-194.08	-165.51	0.00	0.00	0.00
4,400.00	18.00	226.30	4,360.07	-206.81	-216.42	-184.56	0.00	0.00	0.00
4,500.00	18.00	226.30	4,455.17	-228.16	-238.76	-203.61	0.00	0.00	0.00
4,600.00	18.00	226.30	4,550.28	-249.51	-261.10	-222.66	0.00	0.00	0.00
4,700.00	18.00	226.30	4,645.38	-270.86	-283.44	-241.71	0.00	0.00	0.00
4,800.00	18.00	226.30	4,740.49	-292.20	-305.78	-260.76	0.00	0.00	0.00
4,900.00	18.00	226.30	4,835.60	-313.55	-328.12	-279.81	0.00	0.00	0.00
5,000.00	18.00	226.30	4,930.70	-334.90	-350.46	-298.86	0.00	0.00	0.00
5,100.00	18.00	226.30	5,025.81	-356.25	-372.80	-317.91	0.00	0.00	0.00

# Oxy Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Tails CC 10_3 Federal Com 21H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Site:</b>	Tails CC 10_3	<b>North Reference:</b>	Grid
<b>Well:</b>	Tails CC 10_3 Federal Com 21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permitting Plan		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,200.00	18.00	226.30	5,120.91	-377.60	-395.14	-336.96	0.00	0.00	0.00	
5,300.00	18.00	226.30	5,216.02	-398.95	-417.48	-356.01	0.00	0.00	0.00	
5,400.00	18.00	226.30	5,311.13	-420.29	-439.82	-375.06	0.00	0.00	0.00	
5,500.00	18.00	226.30	5,406.23	-441.64	-462.16	-394.11	0.00	0.00	0.00	
5,600.00	18.00	226.30	5,501.34	-462.99	-484.50	-413.16	0.00	0.00	0.00	
5,700.00	18.00	226.30	5,596.45	-484.34	-506.84	-432.21	0.00	0.00	0.00	
5,800.00	18.00	226.30	5,691.55	-505.69	-529.18	-451.27	0.00	0.00	0.00	
5,900.00	18.00	226.30	5,786.66	-527.03	-551.52	-470.32	0.00	0.00	0.00	
6,000.00	18.00	226.30	5,881.76	-548.38	-573.86	-489.37	0.00	0.00	0.00	
6,100.00	18.00	226.30	5,976.87	-569.73	-596.20	-508.42	0.00	0.00	0.00	
6,200.00	18.00	226.30	6,071.98	-591.08	-618.54	-527.47	0.00	0.00	0.00	
6,300.00	18.00	226.30	6,167.08	-612.43	-640.88	-546.52	0.00	0.00	0.00	
6,400.00	18.00	226.30	6,262.19	-633.77	-663.22	-565.57	0.00	0.00	0.00	
6,500.00	18.00	226.30	6,357.30	-655.12	-685.56	-584.62	0.00	0.00	0.00	
6,600.00	18.00	226.30	6,452.40	-676.47	-707.90	-603.67	0.00	0.00	0.00	
6,700.00	18.00	226.30	6,547.51	-697.82	-730.24	-622.72	0.00	0.00	0.00	
6,800.00	18.00	226.30	6,642.61	-719.17	-752.58	-641.77	0.00	0.00	0.00	
6,900.00	18.00	226.30	6,737.72	-740.51	-774.92	-660.82	0.00	0.00	0.00	
6,927.99	18.00	226.30	6,764.34	-746.49	-781.17	-666.16	0.00	0.00	0.00	
7,000.00	16.70	228.37	6,833.07	-761.05	-796.95	-679.09	2.00	-1.81	2.87	
7,100.00	14.93	231.81	6,929.29	-778.56	-817.81	-694.47	2.00	-1.77	3.44	
7,200.00	13.23	236.13	7,026.28	-792.90	-837.44	-706.82	2.00	-1.70	4.32	
7,300.00	11.62	241.67	7,123.94	-804.06	-855.81	-716.11	2.00	-1.61	5.54	
7,400.00	10.15	248.87	7,222.14	-812.01	-872.89	-722.35	2.00	-1.47	7.20	
7,500.00	8.88	258.27	7,320.77	-816.76	-888.67	-725.53	2.00	-1.26	9.40	
7,600.00	7.92	270.32	7,419.71	-818.29	-903.12	-725.63	2.00	-0.96	12.05	
7,700.00	7.39	284.84	7,518.82	-816.60	-916.24	-722.66	2.00	-0.53	14.51	
7,800.00	7.38	300.44	7,618.00	-811.70	-927.99	-716.63	2.00	-0.01	15.60	
7,900.00	7.89	315.05	7,717.13	-803.59	-938.38	-707.54	2.00	0.51	14.61	
8,000.00	8.83	327.23	7,816.07	-792.28	-947.38	-695.40	2.00	0.94	12.19	
8,100.00	10.08	336.76	7,914.72	-777.78	-954.99	-680.23	2.00	1.25	9.53	
8,200.00	11.54	344.05	8,012.94	-760.12	-961.19	-662.04	2.00	1.46	7.29	
8,300.00	13.15	349.66	8,110.63	-739.31	-965.98	-640.86	2.00	1.60	5.61	
8,400.00	14.84	354.03	8,207.66	-715.38	-969.36	-616.71	2.00	1.70	4.38	
8,500.00	16.61	357.51	8,303.92	-688.36	-971.31	-589.63	2.00	1.76	3.48	
8,576.97	18.00	359.73	8,377.40	-665.48	-971.84	-566.81	2.00	1.81	2.88	
8,600.00	20.30	359.73	8,399.16	-657.92	-971.88	-559.28	10.00	10.00	0.00	
8,700.00	30.30	359.73	8,489.45	-615.23	-972.07	-516.78	10.00	10.00	0.00	
8,800.00	40.30	359.73	8,570.95	-557.52	-972.34	-459.32	10.00	10.00	0.00	
8,900.00	50.30	359.73	8,641.20	-486.52	-972.67	-388.64	10.00	10.00	0.00	
9,000.00	60.30	359.73	8,698.05	-404.41	-973.05	-306.88	10.00	10.00	0.00	
9,100.00	70.30	359.73	8,739.78	-313.67	-973.47	-216.54	10.00	10.00	0.00	
9,200.00	80.30	359.73	8,765.12	-217.07	-973.92	-120.36	10.00	10.00	0.00	
9,298.22	90.13	359.73	8,773.30	-119.31	-974.38	-23.03	10.00	10.00	0.00	
9,300.00	90.13	359.73	8,773.30	-117.53	-974.39	-21.26	0.00	0.00	0.00	
9,400.00	90.13	359.73	8,773.08	-17.53	-974.85	78.30	0.00	0.00	0.00	
9,500.00	90.13	359.73	8,772.86	82.47	-975.31	177.86	0.00	0.00	0.00	
9,600.00	90.13	359.73	8,772.64	182.46	-975.78	277.42	0.00	0.00	0.00	
9,700.00	90.13	359.73	8,772.42	282.46	-976.24	376.98	0.00	0.00	0.00	
9,800.00	90.13	359.73	8,772.20	382.46	-976.71	476.54	0.00	0.00	0.00	
9,900.00	90.13	359.73	8,771.98	482.46	-977.17	576.10	0.00	0.00	0.00	
10,000.00	90.13	359.73	8,771.76	582.46	-977.64	675.66	0.00	0.00	0.00	
10,100.00	90.13	359.73	8,771.54	682.46	-978.10	775.23	0.00	0.00	0.00	
10,200.00	90.13	359.73	8,771.32	782.46	-978.57	874.79	0.00	0.00	0.00	

# Oxy

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Tails CC 10_3 Federal Com 21H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Site:</b>	Tails CC 10_3	<b>North Reference:</b>	Grid
<b>Well:</b>	Tails CC 10_3 Federal Com 21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,300.00	90.13	359.73	8,771.10	882.45	-979.03	974.35	0.00	0.00	0.00
10,400.00	90.13	359.73	8,770.88	982.45	-979.49	1,073.91	0.00	0.00	0.00
10,500.00	90.13	359.73	8,770.66	1,082.45	-979.96	1,173.47	0.00	0.00	0.00
10,600.00	90.13	359.73	8,770.44	1,182.45	-980.42	1,273.03	0.00	0.00	0.00
10,700.00	90.13	359.73	8,770.23	1,282.45	-980.89	1,372.59	0.00	0.00	0.00
10,800.00	90.13	359.73	8,770.01	1,382.45	-981.35	1,472.15	0.00	0.00	0.00
10,900.00	90.13	359.73	8,769.79	1,482.45	-981.82	1,571.71	0.00	0.00	0.00
11,000.00	90.13	359.73	8,769.57	1,582.45	-982.28	1,671.27	0.00	0.00	0.00
11,100.00	90.13	359.73	8,769.35	1,682.44	-982.75	1,770.83	0.00	0.00	0.00
11,200.00	90.13	359.73	8,769.13	1,782.44	-983.21	1,870.39	0.00	0.00	0.00
11,300.00	90.13	359.73	8,768.91	1,882.44	-983.67	1,969.95	0.00	0.00	0.00
11,400.00	90.13	359.73	8,768.69	1,982.44	-984.14	2,069.52	0.00	0.00	0.00
11,500.00	90.13	359.73	8,768.47	2,082.44	-984.60	2,169.08	0.00	0.00	0.00
11,600.00	90.13	359.73	8,768.25	2,182.44	-985.07	2,268.64	0.00	0.00	0.00
11,700.00	90.13	359.73	8,768.03	2,282.44	-985.53	2,368.20	0.00	0.00	0.00
11,800.00	90.13	359.73	8,767.81	2,382.44	-986.00	2,467.76	0.00	0.00	0.00
11,900.00	90.13	359.73	8,767.59	2,482.43	-986.46	2,567.32	0.00	0.00	0.00
12,000.00	90.13	359.73	8,767.37	2,582.43	-986.93	2,666.88	0.00	0.00	0.00
12,100.00	90.13	359.73	8,767.15	2,682.43	-987.39	2,766.44	0.00	0.00	0.00
12,200.00	90.13	359.73	8,766.94	2,782.43	-987.86	2,866.00	0.00	0.00	0.00
12,300.00	90.13	359.73	8,766.72	2,882.43	-988.32	2,965.56	0.00	0.00	0.00
12,400.00	90.13	359.73	8,766.50	2,982.43	-988.78	3,065.12	0.00	0.00	0.00
12,500.00	90.13	359.73	8,766.28	3,082.43	-989.25	3,164.68	0.00	0.00	0.00
12,600.00	90.13	359.73	8,766.06	3,182.42	-989.71	3,264.25	0.00	0.00	0.00
12,700.00	90.13	359.73	8,765.84	3,282.42	-990.18	3,363.81	0.00	0.00	0.00
12,800.00	90.13	359.73	8,765.62	3,382.42	-990.64	3,463.37	0.00	0.00	0.00
12,900.00	90.13	359.73	8,765.40	3,482.42	-991.11	3,562.93	0.00	0.00	0.00
13,000.00	90.13	359.73	8,765.18	3,582.42	-991.57	3,662.49	0.00	0.00	0.00
13,100.00	90.13	359.73	8,764.96	3,682.42	-992.04	3,762.05	0.00	0.00	0.00
13,200.00	90.13	359.73	8,764.74	3,782.42	-992.50	3,861.61	0.00	0.00	0.00
13,300.00	90.13	359.73	8,764.52	3,882.42	-992.96	3,961.17	0.00	0.00	0.00
13,400.00	90.13	359.73	8,764.30	3,982.41	-993.43	4,060.73	0.00	0.00	0.00
13,500.00	90.13	359.73	8,764.08	4,082.41	-993.89	4,160.29	0.00	0.00	0.00
13,600.00	90.13	359.73	8,763.86	4,182.41	-994.36	4,259.85	0.00	0.00	0.00
13,700.00	90.13	359.73	8,763.64	4,282.41	-994.82	4,359.41	0.00	0.00	0.00
13,800.00	90.13	359.73	8,763.43	4,382.41	-995.29	4,458.97	0.00	0.00	0.00
13,900.00	90.13	359.73	8,763.21	4,482.41	-995.75	4,558.54	0.00	0.00	0.00
14,000.00	90.13	359.73	8,762.99	4,582.41	-996.22	4,658.10	0.00	0.00	0.00
14,100.00	90.13	359.73	8,762.77	4,682.40	-996.68	4,757.66	0.00	0.00	0.00
14,200.00	90.13	359.73	8,762.55	4,782.40	-997.15	4,857.22	0.00	0.00	0.00
14,300.00	90.13	359.73	8,762.33	4,882.40	-997.61	4,956.78	0.00	0.00	0.00
14,400.00	90.13	359.73	8,762.11	4,982.40	-998.07	5,056.34	0.00	0.00	0.00
14,500.00	90.13	359.73	8,761.89	5,082.40	-998.54	5,155.90	0.00	0.00	0.00
14,600.00	90.13	359.73	8,761.67	5,182.40	-999.00	5,255.46	0.00	0.00	0.00
14,700.00	90.13	359.73	8,761.45	5,282.40	-999.47	5,355.02	0.00	0.00	0.00
14,800.00	90.13	359.73	8,761.23	5,382.40	-999.93	5,454.58	0.00	0.00	0.00
14,900.00	90.13	359.73	8,761.01	5,482.39	-1,000.40	5,554.14	0.00	0.00	0.00
15,000.00	90.13	359.73	8,760.79	5,582.39	-1,000.86	5,653.70	0.00	0.00	0.00
15,100.00	90.13	359.73	8,760.57	5,682.39	-1,001.33	5,753.27	0.00	0.00	0.00
15,200.00	90.13	359.73	8,760.35	5,782.39	-1,001.79	5,852.83	0.00	0.00	0.00
15,300.00	90.13	359.73	8,760.14	5,882.39	-1,002.25	5,952.39	0.00	0.00	0.00
15,400.00	90.13	359.73	8,759.92	5,982.39	-1,002.72	6,051.95	0.00	0.00	0.00
15,500.00	90.13	359.73	8,759.70	6,082.39	-1,003.18	6,151.51	0.00	0.00	0.00
15,600.00	90.13	359.73	8,759.48	6,182.39	-1,003.65	6,251.07	0.00	0.00	0.00



# Oxy

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Tails CC 10_3 Federal Com 21H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Site:</b>	Tails CC 10_3	<b>North Reference:</b>	Grid
<b>Well:</b>	Tails CC 10_3 Federal Com 21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permitting Plan		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
15,700.00	90.13	359.73	8,759.26	6,282.38	-1,004.11	6,350.63	0.00	0.00	0.00	
15,800.00	90.13	359.73	8,759.04	6,382.38	-1,004.58	6,450.19	0.00	0.00	0.00	
15,900.00	90.13	359.73	8,758.82	6,482.38	-1,005.04	6,549.75	0.00	0.00	0.00	
16,000.00	90.13	359.73	8,758.60	6,582.38	-1,005.51	6,649.31	0.00	0.00	0.00	
16,100.00	90.13	359.73	8,758.38	6,682.38	-1,005.97	6,748.87	0.00	0.00	0.00	
16,200.00	90.13	359.73	8,758.16	6,782.38	-1,006.43	6,848.43	0.00	0.00	0.00	
16,300.00	90.13	359.73	8,757.94	6,882.38	-1,006.90	6,947.99	0.00	0.00	0.00	
16,400.00	90.13	359.73	8,757.72	6,982.37	-1,007.36	7,047.56	0.00	0.00	0.00	
16,500.00	90.13	359.73	8,757.50	7,082.37	-1,007.83	7,147.12	0.00	0.00	0.00	
16,600.00	90.13	359.73	8,757.28	7,182.37	-1,008.29	7,246.68	0.00	0.00	0.00	
16,700.00	90.13	359.73	8,757.06	7,282.37	-1,008.76	7,346.24	0.00	0.00	0.00	
16,800.00	90.13	359.73	8,756.84	7,382.37	-1,009.22	7,445.80	0.00	0.00	0.00	
16,900.00	90.13	359.73	8,756.63	7,482.37	-1,009.69	7,545.36	0.00	0.00	0.00	
17,000.00	90.13	359.73	8,756.41	7,582.37	-1,010.15	7,644.92	0.00	0.00	0.00	
17,100.00	90.13	359.73	8,756.19	7,682.37	-1,010.62	7,744.48	0.00	0.00	0.00	
17,200.00	90.13	359.73	8,755.97	7,782.36	-1,011.08	7,844.04	0.00	0.00	0.00	
17,300.00	90.13	359.73	8,755.75	7,882.36	-1,011.54	7,943.60	0.00	0.00	0.00	
17,400.00	90.13	359.73	8,755.53	7,982.36	-1,012.01	8,043.16	0.00	0.00	0.00	
17,500.00	90.13	359.73	8,755.31	8,082.36	-1,012.47	8,142.72	0.00	0.00	0.00	
17,600.00	90.13	359.73	8,755.09	8,182.36	-1,012.94	8,242.29	0.00	0.00	0.00	
17,700.00	90.13	359.73	8,754.87	8,282.36	-1,013.40	8,341.85	0.00	0.00	0.00	
17,800.00	90.13	359.73	8,754.65	8,382.36	-1,013.87	8,441.41	0.00	0.00	0.00	
17,900.00	90.13	359.73	8,754.43	8,482.35	-1,014.33	8,540.97	0.00	0.00	0.00	
18,000.00	90.13	359.73	8,754.21	8,582.35	-1,014.80	8,640.53	0.00	0.00	0.00	
18,100.00	90.13	359.73	8,753.99	8,682.35	-1,015.26	8,740.09	0.00	0.00	0.00	
18,200.00	90.13	359.73	8,753.77	8,782.35	-1,015.72	8,839.65	0.00	0.00	0.00	
18,300.00	90.13	359.73	8,753.55	8,882.35	-1,016.19	8,939.21	0.00	0.00	0.00	
18,400.00	90.13	359.73	8,753.34	8,982.35	-1,016.65	9,038.77	0.00	0.00	0.00	
18,500.00	90.13	359.73	8,753.12	9,082.35	-1,017.12	9,138.33	0.00	0.00	0.00	
18,600.00	90.13	359.73	8,752.90	9,182.35	-1,017.58	9,237.89	0.00	0.00	0.00	
18,700.00	90.13	359.73	8,752.68	9,282.34	-1,018.05	9,337.45	0.00	0.00	0.00	
18,800.00	90.13	359.73	8,752.46	9,382.34	-1,018.51	9,437.01	0.00	0.00	0.00	
18,900.00	90.13	359.73	8,752.24	9,482.34	-1,018.98	9,536.58	0.00	0.00	0.00	
19,000.00	90.13	359.73	8,752.02	9,582.34	-1,019.44	9,636.14	0.00	0.00	0.00	
19,100.00	90.13	359.73	8,751.80	9,682.34	-1,019.91	9,735.70	0.00	0.00	0.00	
19,200.00	90.13	359.73	8,751.58	9,782.34	-1,020.37	9,835.26	0.00	0.00	0.00	
19,300.00	90.13	359.73	8,751.36	9,882.34	-1,020.83	9,934.82	0.00	0.00	0.00	
19,400.00	90.13	359.73	8,751.14	9,982.33	-1,021.30	10,034.38	0.00	0.00	0.00	
19,500.00	90.13	359.73	8,750.92	10,082.33	-1,021.76	10,133.94	0.00	0.00	0.00	
19,600.00	90.13	359.73	8,750.70	10,182.33	-1,022.23	10,233.50	0.00	0.00	0.00	
19,700.00	90.13	359.73	8,750.48	10,282.33	-1,022.69	10,333.06	0.00	0.00	0.00	
19,783.69	90.13	359.73	8,750.30	10,366.02	-1,023.08	10,416.38	0.00	0.00	0.00	



# Oxy

## Planning Report

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well Tails CC 10_3 Federal Com 21H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 2969.30ft
<b>Site:</b>	Tails CC 10_3	<b>North Reference:</b>	Grid
<b>Well:</b>	Tails CC 10_3 Federal Com 21H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permitting Plan		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
PBHL (Tails CC 10_3 - plan hits target center - Point	0.00	0.00	8,750.30	10,366.02	-1,023.08	456,310.30	650,702.80	32° 15' 14.317170 N	103° 58' 46.382700
FTP (Tails CC 10_3 - plan hits target center - Point	0.00	0.00	8,773.30	-119.31	-974.38	445,825.80	650,751.50	32° 13' 30.562529 N	103° 58' 46.217805

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
2,985.00	2,985.00	0.00	0.00	Build 2.00°/100'
3,884.95	3,870.22	-96.86	-101.36	Hold 18.00° Tangent
6,927.99	6,764.34	-746.49	-781.17	Turn 2.00°/100'
8,576.97	8,377.40	-665.48	-971.84	KOP, Build 10.00°/100'
9,298.22	8,773.30	-119.31	-974.38	Landing Point
19,783.69	8,750.30	10,366.02	-1,023.08	TD at 19783.69' MD



Project: PRD NM DIRECTIONAL PLANS (NAD 1983)  
 Site: Tails CC 10\_3  
 Well: Tails CC 10\_3 Federal Com 21H  
 Wellbore: Wellbore #1  
 Design: Permitting Plan

## PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

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

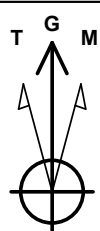
System Datum: Mean Sea Level

## WELL DETAILS: Tails CC 10\_3 Federal Com 21H

+N/-S	+E/-W	Ground Level:	2942.80	Latitude	Longitude
0.00	0.00	Northings	445945.10	32° 13' 31.71214 N	103° 58' 34.870717 W
		Eastings	651725.80		

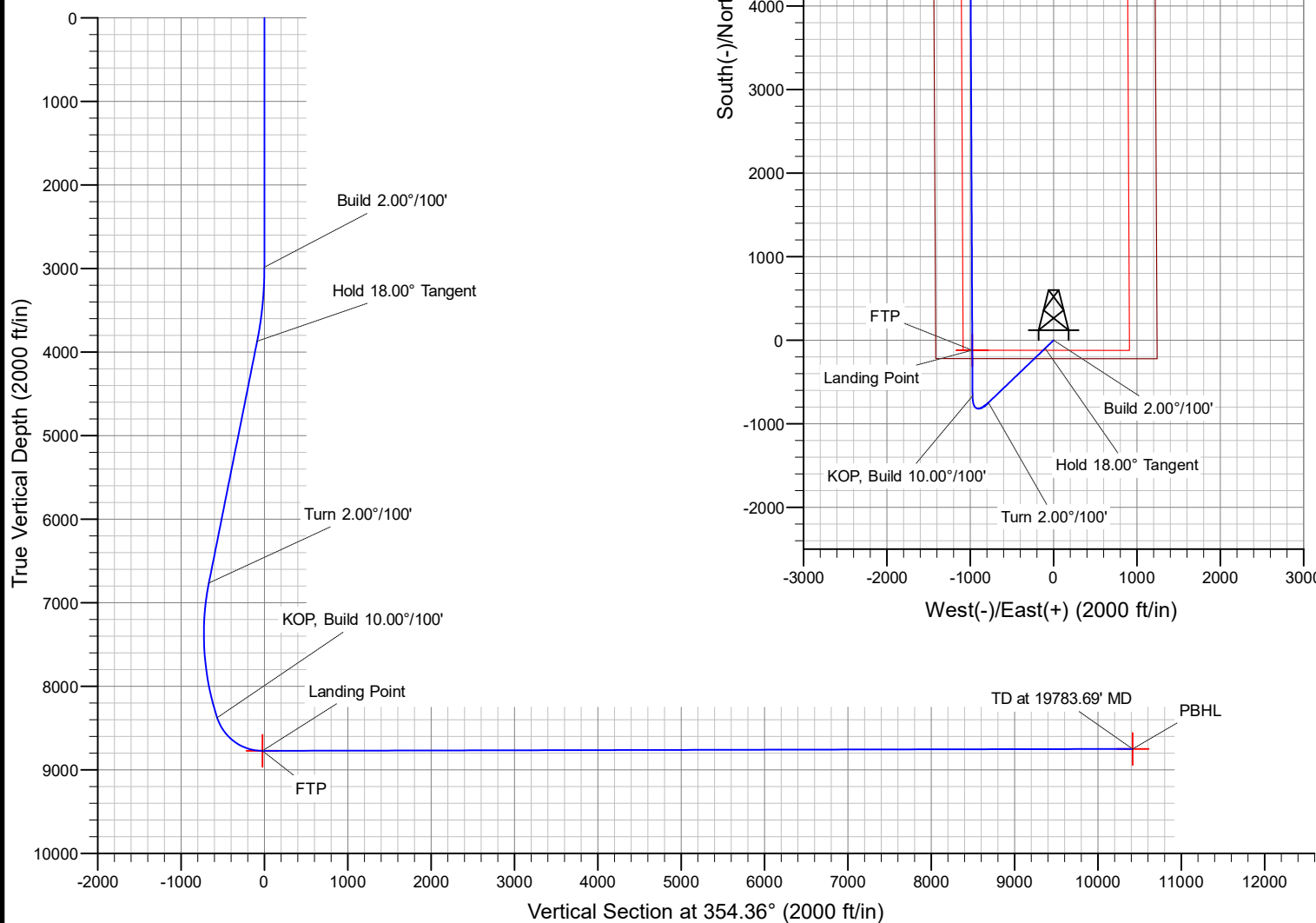
## SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2985.00	0.00	0.00	2985.00	0.00	0.00	0.00	0.00	0.00	Build 2.00°/100'
3884.95	18.00	226.30	3870.22	-96.86	-101.36	2.00	226.30	-86.44	Hold 18.00° Tangent
6927.99	18.00	226.30	6764.34	-746.49	-781.17	0.00	0.00	-666.16	Turn 2.00°/100'
8576.97	18.00	359.73	8377.40	-665.48	-971.84	2.00	155.65	-566.81	KOP, Build 10.00°/100'
9298.22	90.13	359.73	8773.30	-119.31	-974.38	10.00	0.00	-23.03	Landing Point
19783.69	90.13	359.73	8750.30	10366.02	-1023.08	0.00	0.00	10416.38	TD at 19783.69' MD



Azimuths to Grid North  
 True North: -0.19°  
 Magnetic North: 6.74°

Magnetic Field  
 Strength: 47886.7snT  
 Dip Angle: 59.93°  
 Date: 8/5/2019  
 Model: HDGM



## Oxy USA Inc. - Tails CC 10\_3 FED COM 21H

## 1. Geologic Formations

TVD of target	8773'	Pilot Hole Depth	N/A
MD at TD:	19783'	Deepest Expected fresh water:	206'

## Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	206	
Salado	635	Salt
Castile	1,450	Salt
Lamar/Delaware	2,967	Oil/Gas/Brine
Bell Canyon	2,983	Oil/Gas/Brine
Cherry Canyon	3,824	Oil/Gas/Brine
Brushy Canyon	5,082	Losses
Bone Spring	6,698	Oil/Gas
1st Bone Spring	7,697	Oil/Gas
<b>2nd Bone Spring</b>	<b>8,499</b>	<b>Oil/Gas</b>

\*H<sub>2</sub>S, water flows, loss of circulation, abnormal pressures, etc.

## 2. Casing Program

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	Buoyant	Buoyant
	From (ft)	To (ft)							Body SF Tension	Joint SF Tension
14.75	0	575	10.75	40.5	J-55	BTC	1.125	1.2	1.4	1.4
9.875	0	8476	7.625	26.4	L-80 HC	BTC	1.125	1.2	1.4	1.4
6.75	0	9026	5.5	20	P-110	DQX	1.125	1.2	1.4	1.4
6.75	9026	19783	4.5	13.5	P-110	DQX	1.125	1.2	1.4	1.4
SF Values will meet or Exceed										

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

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

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

**Oxy USA Inc. - Tails CC 10\_3 FED COM 21H****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 <sup>rd</sup> 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 2 <sup>nd</sup> 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?	

**Oxy USA Inc. - Tails CC 10\_3 FED COM 21H****3. Cementing Program**

Casing String	# Skis	Wt. (lb/gal)	Yld (ft <sup>3</sup> /sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	468	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate 1st Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate 1st Stage (Tail)	437	13.2	1.65	8.640	11:54	Class H Cement, Retarder, Dispersant, Salt
Intermediate 2nd Stage (Tail Slurry) to be pumped as Bradenhead Squeeze from surface, down the Intermediate annulus						
Intermediate 2nd Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate 2nd Stage (Tail)	656	12.9	1.92	10.41	23:10	Class C Cement, Accelerator
Production (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Production (Tail)	1373	13.2	1.38	6.686	3:39	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	575	100%
Intermediate 1st Stage (Lead)	N/A	N/A	N/A
Intermediate 1st Stage (Tail)	5332	8476	5%
Intermediate 2nd Stage (Lead)	N/A	N/A	N/A
Intermediate 2nd Stage (Tail)	0	5332	10%
Production (Lead)	N/A	N/A	N/A
Production (Tail)	7976	19783	20%

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.

**Oxy USA Inc. - Tails CC 10\_3 FED COM 21H**

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.

**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 cement

**Pilot Hole Cementing specs:**

Pilot hole depth: N/A

KOP: N/A

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft3/sack	Water gal/sk	Slurry Description and Cement Type
N/A							
N/A							

## Oxy USA Inc. - Tails CC 10\_3 FED COM 21H

## 4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
9.875" Hole	13-5/8"	3M	Annular	✓	70% of working pressure
		3M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		
6.75" Hole	13-5/8"	3M	Annular	✓	70% of working pressure
		3M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

\*Specify if additional ram is utilized.

Oxy will utilize a 5M annular with a 10M BOPE stack. The BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

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

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



## Oxy USA Inc. - Tails CC 10\_3 FED COM 21H

### BOP Break Testing Request

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

BOP break test under the following conditions:

- 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.
- When skidding to drill a production section that does not penetrate into the third Bone Spring or deeper.

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

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

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

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

## Oxy USA Inc. - Tails CC 10\_3 FED COM 21H

## 5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	575	Water-Based Mud	8.6-8.8	40-60	N/C
575	8476	Saturated Brine-Based or Oil-Based Mud	8.0-10.0	35-45	N/C
8476	19783	Water-Based or Oil-Based Mud	8.0-9.6	38-50	N/C

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

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

## 6. Logging and Testing Procedures

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

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

## Oxy USA Inc. - Tails CC 10\_3 FED COM 21H

## 7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4380 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	151°F

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

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

## 8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe. <ul style="list-style-type: none"> <li>We plan to drill the eight 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.</li> </ul>	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. <ul style="list-style-type: none"> <li>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.</li> </ul>	Yes

**Total estimated cuttings volume:** 1370.5 bbls.

## Attachments

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

**Oxy USA Inc. - Tails CC 10\_3 FED COM 21H****9. Company Personnel**

<b><u>Name</u></b>	<b><u>Title</u></b>	<b><u>Office Phone</u></b>	<b><u>Mobile Phone</u></b>
Ben Pelton	Drilling Engineer	713-497-2379	701-690-8645
Margaret Giltner	Drilling Engineer Supervisor	713-366-5026	210-683-8480
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Diego Tellez	Drilling Manager	713-350-4602	713-303-4932

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original  
to Appropriate  
District Office

### GAS CAPTURE PLAN

Date: 07/08/2020

☒ Original

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

☐ Amended - Reason for Amendment: \_\_\_\_\_

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

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

#### Well(s)/Production Facility – Name of facility

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
TAILS CC 10_3 FED COM 1H	pending	N-10-24S-29E	600 FSL 1400 FWL	4,000	0	
TAILS CC 10_3 FED COM 2H	pending	N-10-24S-29E	600 FSL 1435 FWL	4,000	0	
TAILS CC 10_3 FED COM 3H	pending	N-10-24S-29E	600 FSL 1470 FWL	4,000	0	
TAILS CC 10_3 FED COM 4H	pending	P-10-24S-29E	940 FSL 1210 FEL	4,000	0	
TAILS CC 10_3 FED COM 5H	pending	P-10-24S-29E	940 FSL 1175 FEL	4,000	0	
TAILS CC 10_3 FED COM 6H	pending	P-10-24S-29E	940 FSL 1140 FEL	4,000	0	
TAILS CC 10_3 FED COM 11H	pending	M-10-24S-29E	220 FSL 1140 FWL	5,400	0	
TAILS CC 10_3 FED COM 12H	pending	M-10-24S-29E	220 FSL 1175 FWL	5,400	0	
TAILS CC 10_3 FED COM 13H	pending	O-10-24S-29E	940 FSL 1730 FEL	5,400	0	
TAILS CC 10_3 FED COM 14H	pending	O-10-24S-29E	940 FSL 1695 FEL	5,400	0	
TAILS CC 10_3 FED COM 21H	pending	N-10-24S-29E	220 FSL 1415 FWL	2,800	0	
TAILS CC 10_3 FED COM 22H	pending	N-10-24S-29E	220 FSL 1450 FWL	2,800	0	
TAILS CC 10_3 FED COM 23H	pending	N-10-24S-29E	220 FSL 1485 FWL	2,800	0	
TAILS CC 10_3 FED COM 24H	pending	O-10-24S-29E	400 FSL 1740 FEL	2,800	0	
TAILS CC 10_3 FED COM 25H	pending	O-10-24S-29E	400 FSL 1705 FEL	2,800	0	
TAILS CC 10_3 FED COM 26H	pending	O-10-24S-29E	400 FSL 1670 FEL	2,800	0	

TAILS CC 10_3 FED COM 31H	pending	N-10-24S-29E	220 FSL 1725 FWL	5,500	0	
TAILS CC 10_3 FED COM 32H	pending	N-10-24S-29E	220 FSL 1760 FWL	5,500	0	
TAILS CC 10_3 FED COM 33H	pending	N-10-24S-29E	220 FSL 1795 FWL	5,500	0	
TAILS CC 10_3 FED COM 34H	pending	O-10-24S-29E	220 FSL 1740 FEL	5,500	0	
TAILS CC 10_3 FED COM 35H	pending	O-10-24S-29E	220 FSL 1705 FEL	5,500	0	
TAILS CC 10_3 FED COM 36H	pending	O-10-24S-29E	220 FSL 1670 FEL	5,500	0	
TAILS CC 10_3 FED COM 37H	pending	N-10-24S-29E	600 FSL 1775 FWL	5,500	0	
TAILS CC 10_3 FED COM 38H	pending	B-15-24S-29E	340 FNL 1880 FEL	5,500	0	
TAILS CC 10_3 FED COM 311H	pending	N-10-24S-29E	600 FSL 1710 FWL	4,000	0	
TAILS CC 10_3 FED COM 312H	pending	B-15-24S-29E	305 FNL 1880 FEL	4,000	0	
TAILS CC 10_3 FED COM 41H	pending	C-15-24S-29E	180 FNL 1628 FWL	7,000	0	
TAILS CC 10_3 FED COM 42H	pending	C-15-24S-29E	200 FNL 1656 FWL	7,000	0	
TAILS CC 10_3 FED COM 43H	pending	A-15-24S-29E	880 FNL 1195 FEL	7,000	0	
TAILS CC 10_3 FED COM 44H	pending	A-15-24S-29E	845 FNL 1195 FEL	7,000	0	
TAILS CC 10_3 FED COM 51H	pending	C-15-24S-29E	160 FNL 1599 FWL	7,000	0	
TAILS CC 10_3 FED COM 52H	pending	C-15-24S-29E	217 FNL 1681 FWL	7,000	0	
TAILS CC 10_3 FED COM 53H	pending	A-15-24S-29E	810 FNL 1195 FEL	7,000	0	
TAILS CC 10_3 FED COM 54H	pending	A-15-24S-29E	910 FNL 1195 FEL	7,000	0	
TAILS CC 10_3 FED COM 71H	pending	N-10-24S-29E	600 FSL 1740 FWL	1,400	0	
TAILS CC 10_3 FED COM 72H	pending	N-10-24S-29E	600 FSL 1810 FWL	1,400	0	
TAILS CC 10_3 FED COM 73H	pending	P-10-24S-29E	940 FSL 900 FEL	1,400	0	
TAILS CC 10_3 FED COM 74H	pending	P-10-24S-29E	940 FSL 870 FEL	1,400	0	
TAILS CC 10_3 FED COM 83H	pending	P-10-24S-29E	940 FSL 835 FEL	5,500	0	
TAILS CC 10_3 FED COM 84H	pending	P-10-24S-29E	940 FSL 800 FEL	5,500	0	

### **Gathering System and Pipeline Notification**

Well(s) will be connected to a production facility after flowback operations are complete, where a gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise Field Services, LLC (“Enterprise”) and is connected to Enterprise low/high pressure gathering system located in Eddy County, New Mexico. OXY USA INC. (“OXY”) provides (periodically) to Enterprise a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, OXY and Enterprise have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at OXY USA WTP LP Processing Plant located in Sec. 23, Twn. 21S, Rng. 23E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

### **Flowback Strategy**

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

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

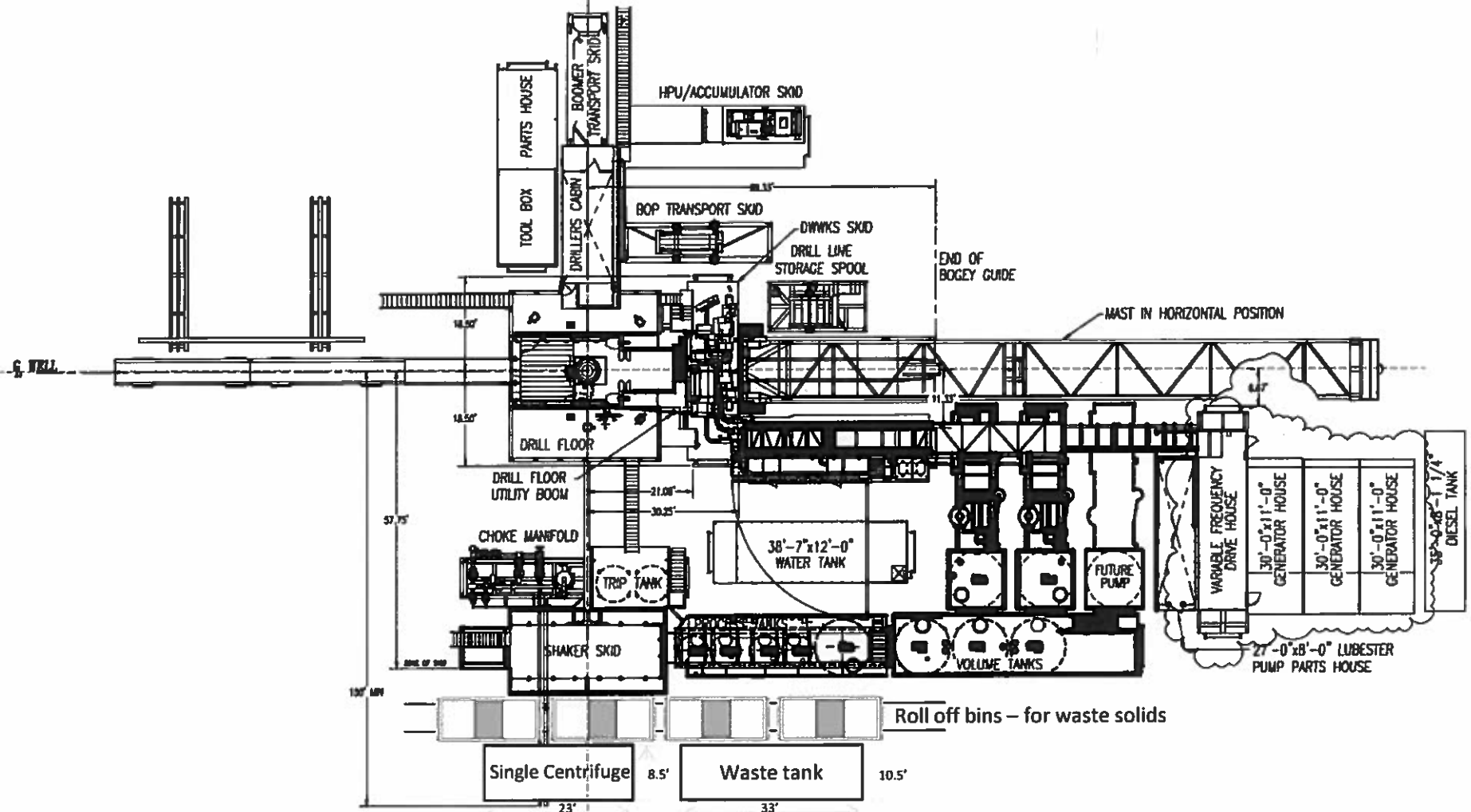
### **Alternatives to Reduce Flaring**

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

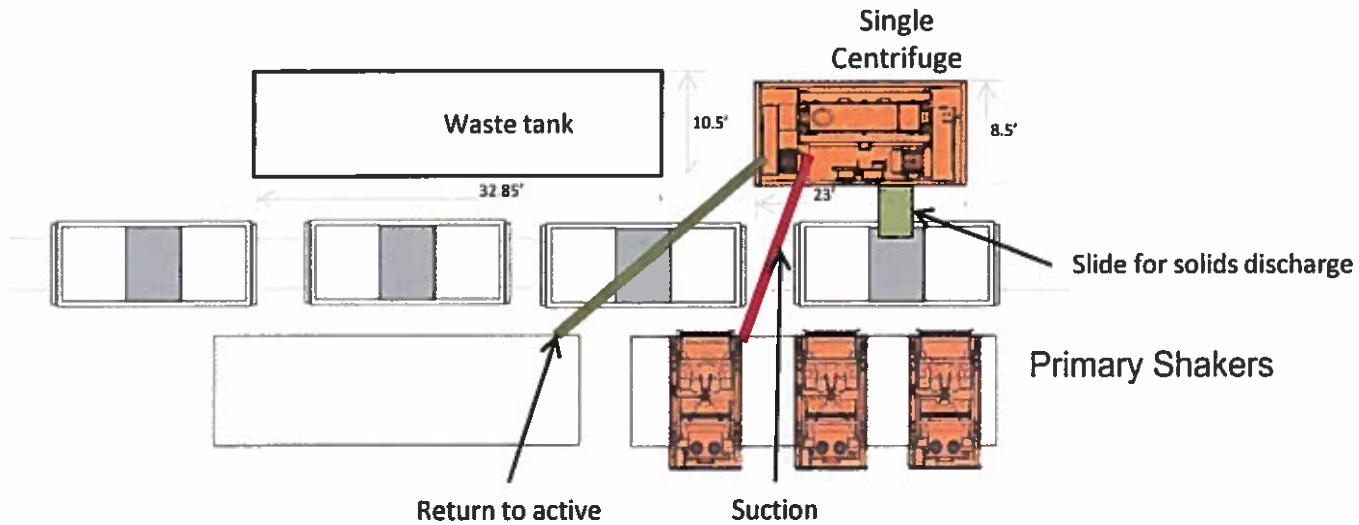
- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive,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



**Oxy Single Centrifuge  
Closed Loop System – New  
Mexico Flex III**  
May 28, 2013



Oxy



Oxy Single Centrifuge  
Closed Loop System – New  
Mexico Flex III  
May 28, 2013

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	OXY USA INCORPORATED
<b>LEASE NO.:</b>	NMNM081616
<b>LOCATION:</b>	Section 10, T.24 S., R.29 E., NMPM
<b>COUNTY:</b>	Eddy County, New Mexico

<b>WELL NAME &amp; NO.:</b>	TAILS CC 10_3 FED COM 21H
<b>SURFACE HOLE FOOTAGE:</b>	220'S & 1415'/W
<b>BOTTOM HOLE FOOTAGE:</b>	20'/N & 440'/W

<b>WELL NAME &amp; NO.:</b>	TAILS CC 10_3 FED COM 22H
<b>SURFACE HOLE FOOTAGE:</b>	220'S & 1450'/W
<b>BOTTOM HOLE FOOTAGE:</b>	20'/N & 1340'/W

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input type="radio"/> Multibowl	<input checked="" type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input checked="" type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

### A. HYDROGEN SULFIDE

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

### B. CASING

#### Primary Casing Design:

1. The 10-3/4 inch surface casing shall be set at approximately **575** 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.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

**Option 1 (Single Stage):**

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

**Option 2:**

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

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
  - b. Second stage above DV tool:
    - Cement to surface. If cement does not circulate, contact the appropriate BLM office.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
- ❖ In **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 10-3/4" X 7-5/8" annulus. Operator must run a CBL from TD of the 7-5/8" casing to surface. Submit results to BLM.**

3. The minimum required fill of cement behind the **5-1/2 X 4-1/2** inch production casing is:

**Option 1 (Single Stage):**

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

**Option 2:**

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

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

**C. PRESSURE CONTROL**

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

**Option 1:**

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **3000 (3M)** psi.

**Option 2:**

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the

blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

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

#### **D. SPECIAL REQUIREMENT (S)**

##### **Communitization Agreement**

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

## GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

☒ Lea County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.



## A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

**B. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

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

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

**NMK12012020**

**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**

COMMENTS

Action 14692

**COMMENTS**

Operator:	OXY USA INC	P.O. Box 4294	Houston, TX772104294	OGRID:	16696	Action Number:	14692	Action Type:	FORM 3160-3
Created By	Comment					Comment Date			
kpickford	KP GEO Review 1/14/2020					01/14/2021			

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**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 14692

**CONDITIONS OF APPROVAL**

Operator:			OGRID:	Action Number:	Action Type:
OXY USA INC	P.O. Box 4294	Houston, TX772104294	16696	14692	FORM 3160-3

OCD Reviewer	Condition
kpickford	Notify OCD 24 hours prior to casing & cement
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system