

Well Name: TAILS CC 10_3 FED COM	Well Location: T24S / R29E / SEC 10 / SWSE /	County or Parish/State: /
Well Number: 36H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM081616	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001548964	Well Status: Drilling Well	Operator: OXY USA INCORPORATED

Notice of Intent

Sundry ID: 2646473

Type of Submission: Notice of Intent	Type of Action: Other
Date Sundry Submitted: 12/01/2021	Time Sundry Submitted: 01:09
Date proposed operation will begin: 01/10/2022	

Procedure Description: OXY USA Inc. respectfully requests approval to amend the subject well AAPD well spacing and horizontal spacing unit to 1280-acres. Please see the attached C102 well plat, revised drill plan and directional for reference. The surface hole is not changing. Drill plan revised 12-27-21 as requested.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

- TailsCC10_3FederalCom36H_DrillPlan_12_27_21_20211227115734.pdf
- TAILSCC10_3FEDCOM36H_C102_20211201130930.pdf
- TailsCC10_3FederalCom36H_TNSWedge461_5.500in_20_20211201130706.00
- TailsCC10_3FederalCom36H_TNSWedge441_5.500in_20_20211201130700.00
- TailsCC10_3FederalCom36H_TNSWedge425_5.500in_20_20211201130655.00
- TailsCC10_3FederalCom36H_DirectPlot_20211201130635.pdf
- TailsCC10_3FederalCom36H_DirectPlan_20211201130624.pdf

Well Name: TAILS CC 10_3 FED COM	Well Location: T24S / R29E / SEC 10 / SWSE /	County or Parish/State: /
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Lease Number: NMNM081616	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001548964	Well Status: Drilling Well	Operator: OXY USA INCORPORATED

Operator Certification

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: LESLIE REEVES	Signed on: DEC 27, 2021 11:57 AM
Name: OXY USA INCORPORATED	
Title: Advisor Regulatory	
Street Address: 5 GREENWAY PLAZA, SUITE 110	
City: HOUSTON	State: TX
Phone: (713) 497-2492	
Email address: LESLIE_REEVES@OXY.COM	

Field Representative

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: Cody Layton	BLM POC Title: Assistant Field Manager Lands & Minerals
BLM POC Phone: 5752345959	BLM POC Email Address: clayton@blm.gov
Disposition: Approved	Disposition Date: 12/29/2021
Signature: Chris Walls	

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 30-015-48964	Pool Code 98220	Pool Name PURPLE SAGE WOLFCAMP (GAS)
Property Code 329988	Property Name TAILS CC 10_3 FEDERAL COM	Well Number 36H
OGRID No. 16696	Operator Name OXY USA INC.	Elevation 2939.3'

Surface Location

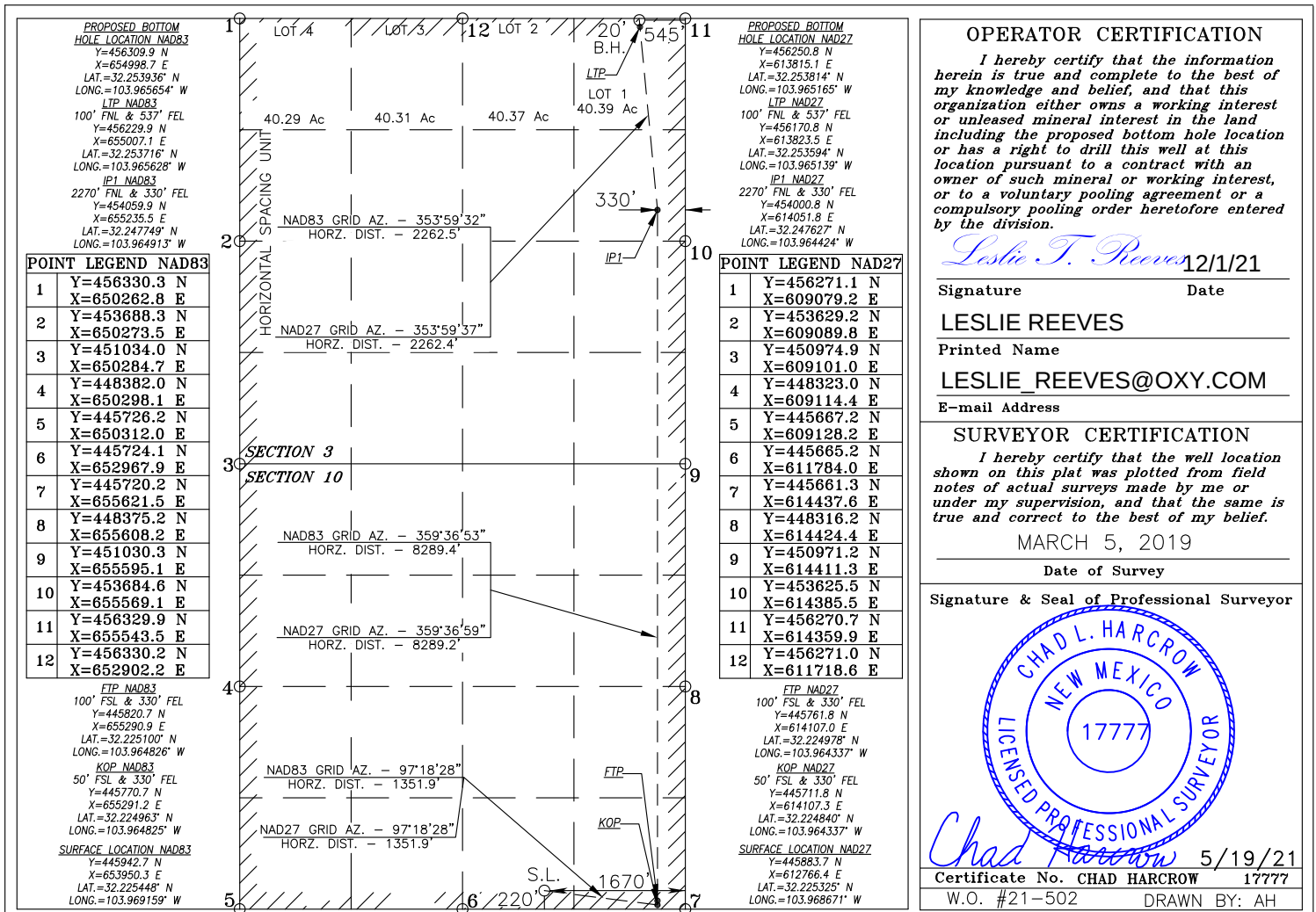
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	10	24-S	29-E		220	SOUTH	1670	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	3	24-S	29-E		20	NORTH	545	EAST	EDDY

Dedicated Acres 1280	Joint or Infill	Consolidation Code	Order No.
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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



Oxy USA Inc. - Tails CC 10_3 Federal Com 36H

Drill Plan

1. Geologic Formations

TVD of Target (ft):	10162	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	20907	Deepest Expected Fresh Water (ft):	159

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	159	159	
Salado	601	601	Salt
Castile	1594	1594	Salt
Delaware	3041	3041	Oil/Gas/Brine
Bell Canyon	3088	3088	Oil/Gas/Brine
Cherry Canyon	3896	3896	Oil/Gas/Brine
Brushy Canyon	5148	5142	Losses
Bone Spring	6808	6749	Oil/Gas
Bone Spring 1st	7873	7778	Oil/Gas
Bone Spring 2nd	8686	8563	Oil/Gas
Bone Spring 3rd	9798	9637	Oil/Gas
Wolfcamp	10284	10043	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	14.75	0	541	0	541	10.75	45.5	J-55	BTC
Intermediate	9.875	0	9614	0	9456	7.625	26.4	L-80 HC	BTC
Production	6.75	0	20907	0	10162	5.5	20	P-110	DQX

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

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

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

Annular Clearance Variance Request

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

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

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

3. Cementing Program

Section	Stage	Slurry:	Capacities	ft ³ /ft	Excess:	From	To	Sacks	Volume (ft ³)	Placement
Surface	1	Surface - Tail	OH x Csg	0.5563	100%	541	-	453	602	Circulate
Int.	1	Intermediate 1S - Tail	OH x Csg	0.2148	5%	9,614	5,398	576	951	Circulate
Int.	2	Intermediate 2S - Tail BH	OH x Csg	0.2148	25%	5,398	541	679	1304	Bradenhead
Int.	2	Intermediate 2S - Tail BH	Csg x Csg	0.2338	0%	541	-	66	126	Bradenhead
Prod.	1	Production - Tail	OH x Csg	0.2526	20%	20,907	9,614	2481	3423	Circulate
Prod.	1	Production - Tail	Csg x Csg	0.0999	0%	9,614	9,114	36	50	Circulate

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

Offline Cementing

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

The summarized operational sequence will be as follows:

Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe).

Land casing.

Fill pipe with kill weight fluid, and confirm well is static.

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

The summarized operational sequence will be as follows:

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe).
2. Land casing.
3. Fill pipe with kill weight fluid, and confirm well is static.
 - a. If well is not static notify BLM and kill well.
 - b. Once well is static notify BLM with intent to proceed with nipple down and offline cementing.
4. Set and pressure test annular packoff.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange. If any barrier fails to test, the BOP stack will not be 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.

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

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:	Deepest TVD Depth (ft) per Section:
9.875" Hole	13-5/8"	5M	Annular	✓	70% of working pressure	9456
		5M	Blind Ram	✓	250 psi / 3000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
6.75" Hole	13-5/8"	5M	Annular	✓	70% of working pressure	10162
		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

5. Mud Program

Section	Depth - MD		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	541	0	541	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	541	9614	541	9456	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	9614	20907	9456	10162	Water-Based or Oil-Based Mud	9.5 - 12.5	38-50	N/C

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

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring
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6. Logging and Testing Procedures

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

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

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	6606 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	162°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 3 well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. 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: 1474 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
Filip Krneta	Drilling Engineer Supervisor	713-350-4751	832-244-4980
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Diego Tellez	Drilling Manager	713-350-4602	713-303-4932



Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
 Site: Tails CC 10_3
 Well: Tails CC 10_3 Federal Com 36H
 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 36H

+N/-S	+E/-W	Northing	Ground Level: Easting	2939.30	Latitude	Longitude
0.00	0.00	445942.70	653950.30	32° 13' 31.613588 N	103° 58' 8.973855 W	

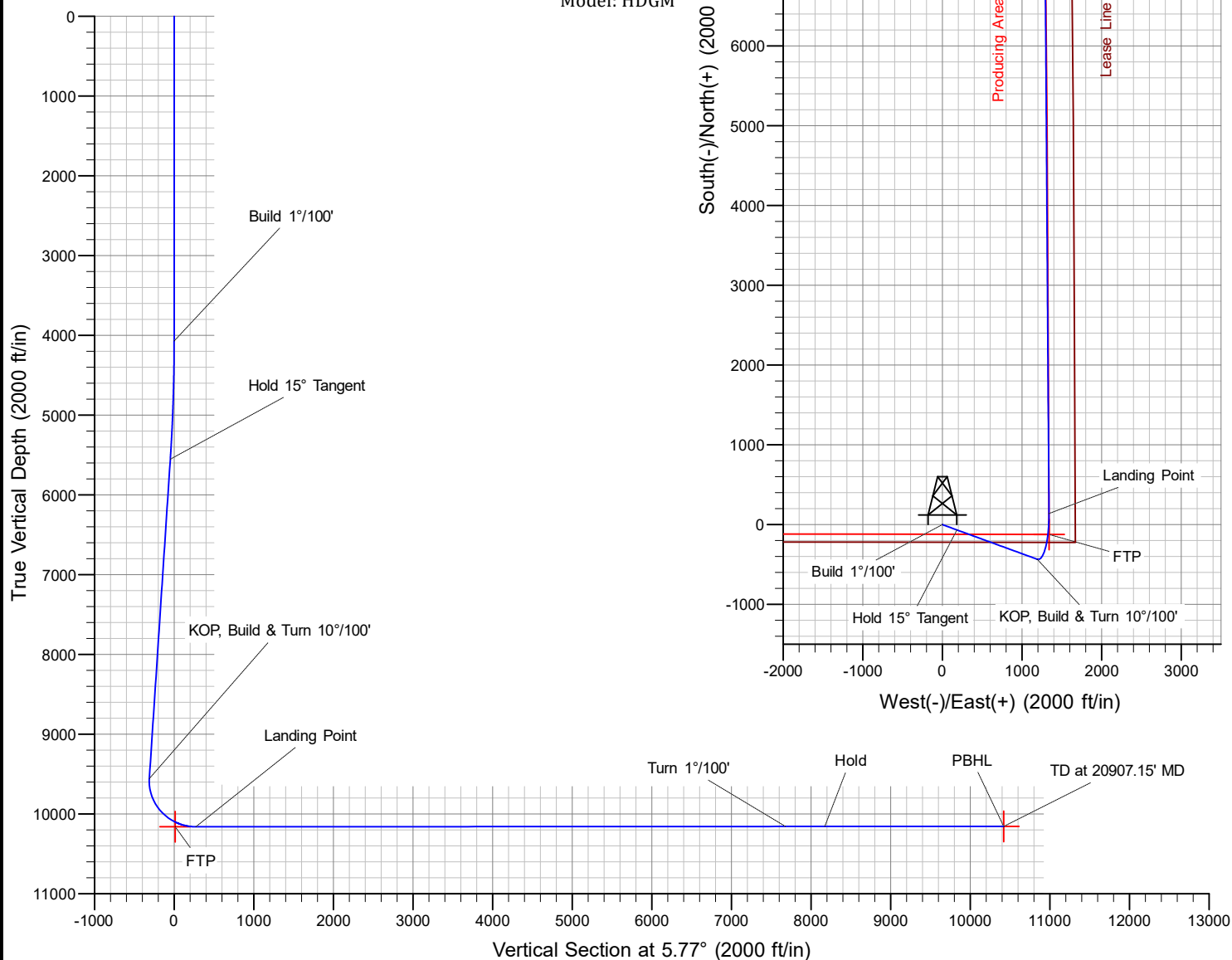
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4070.00	0.00	0.00	4070.00	0.00	0.00	0.00	0.00	0.00	Build 1°/100'
5570.00	15.00	110.00	5552.92	-66.77	183.46	1.00	110.00	-47.98	Hold 15° Tangent
9714.30	15.00	110.00	9556.01	-433.63	1191.39	0.00	0.00	-311.56	KOP, Build & Turn 10°/100'
10666.33	90.03	359.61	10161.80	138.31	1339.74	10.00	-109.74	272.40	Landing Point
18116.33	90.03	359.61	10157.90	7588.13	1289.03	0.00	0.00	7679.32	Turn 1°/100'
18616.72	90.02	354.61	10157.67	8087.73	1263.79	1.00	-90.09	8173.84	Hold
20907.15	90.02	354.61	10156.80	10368.01	1048.48	0.00	0.00	10420.89	TD at 20907.15' MD



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

Magnetic Field
 Strength: 47889.4nT
 Dip Angle: 59.93°
 Date: 7/30/2019
 Model: HDGM



OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)

Tails CC 10_3

Tails CC 10_3 Federal Com 36H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

18 November, 2021

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Tails CC 10_3 Federal Com 36H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2965.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2965.80ft
Site:	Tails CC 10_3	North Reference:	Grid
Well:	Tails CC 10_3 Federal Com 36H	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		Tails CC 10_3			
Site Position:		Northing:	445,564.90 usft	Latitude:	32° 13' 27.942674 N
From:	Map	Easting:	651,912.10 usft	Longitude:	103° 58' 32.716598 W
Position Uncertainty:	2.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.19 °

Well	Tails CC 10_3 Federal Com 36H					
Well Position	+N/-S	377.83 ft	Northing:	445,942.70 usft	Latitude:	32° 13' 31.613589 N
	+E/-W	2,038.36 ft	Easting:	653,950.30 usft	Longitude:	103° 58' 8.973855 W
Position Uncertainty		1.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	2,939.30 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/30/2019	6.93	59.93	47,889.40000000

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	5.77

Plan Survey Tool Program	Date	11/18/2021		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,907.11	Permitting Plan (Wellbore #1)	B001Mb_MWD+HRGM OWSG MWD + HRGM

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,070.00	0.00	0.00	4,070.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,570.00	15.00	110.00	5,552.92	-66.77	183.46	1.00	1.00	0.00	110.00	
9,714.30	15.00	110.00	9,556.01	-433.63	1,191.39	0.00	0.00	0.00	0.00	
10,666.33	90.03	359.61	10,161.80	138.31	1,339.74	10.00	7.88	-11.60	-109.74	
18,116.33	90.03	359.61	10,157.90	7,588.13	1,289.03	0.00	0.00	0.00	0.00	
18,616.72	90.02	354.61	10,157.67	8,087.73	1,263.79	1.00	0.00	-1.00	-90.09	
20,907.15	90.02	354.61	10,156.80	10,368.01	1,048.48	0.00	0.00	0.00	0.00	PBHL (Tails CC)

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Tails CC 10_3 Federal Com 36H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2965.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2965.80ft
Site:	Tails CC 10_3	North Reference:	Grid
Well:	Tails CC 10_3 Federal Com 36H	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
4,070.00	0.00	0.00	4,070.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.30	110.00	4,100.00	-0.03	0.07	-0.02	1.00	1.00	0.00
4,200.00	1.30	110.00	4,199.99	-0.50	1.39	-0.36	1.00	1.00	0.00
4,300.00	2.30	110.00	4,299.94	-1.58	4.34	-1.13	1.00	1.00	0.00
4,400.00	3.30	110.00	4,399.82	-3.25	8.93	-2.33	1.00	1.00	0.00
4,500.00	4.30	110.00	4,499.60	-5.52	15.16	-3.96	1.00	1.00	0.00
4,600.00	5.30	110.00	4,599.24	-8.38	23.02	-6.02	1.00	1.00	0.00
4,700.00	6.30	110.00	4,698.73	-11.83	32.51	-8.50	1.00	1.00	0.00
4,800.00	7.30	110.00	4,798.03	-15.88	43.64	-11.41	1.00	1.00	0.00
4,900.00	8.30	110.00	4,897.10	-20.53	56.39	-14.75	1.00	1.00	0.00
5,000.00	9.30	110.00	4,995.92	-25.76	70.77	-18.51	1.00	1.00	0.00
5,100.00	10.30	110.00	5,094.46	-31.58	86.76	-22.69	1.00	1.00	0.00
5,200.00	11.30	110.00	5,192.69	-37.99	104.37	-27.29	1.00	1.00	0.00
5,300.00	12.30	110.00	5,290.57	-44.98	123.59	-32.32	1.00	1.00	0.00

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Tails CC 10_3 Federal Com 36H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2965.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2965.80ft
Site:	Tails CC 10_3	North Reference:	Grid
Well:	Tails CC 10_3 Federal Com 36H	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)
5,400.00	13.30	110.00	5,388.09	-52.56	144.41	-37.76	1.00	1.00	0.00
5,500.00	14.30	110.00	5,485.20	-60.72	166.82	-43.63	1.00	1.00	0.00
5,570.00	15.00	110.00	5,552.92	-66.77	183.46	-47.98	1.00	1.00	0.00
5,600.00	15.00	110.00	5,581.90	-69.43	190.75	-49.88	0.00	0.00	0.00
5,700.00	15.00	110.00	5,678.49	-78.28	215.07	-56.24	0.00	0.00	0.00
5,800.00	15.00	110.00	5,775.09	-87.13	239.40	-62.60	0.00	0.00	0.00
5,900.00	15.00	110.00	5,871.68	-95.98	263.72	-68.96	0.00	0.00	0.00
6,000.00	15.00	110.00	5,968.27	-104.84	288.04	-75.32	0.00	0.00	0.00
6,100.00	15.00	110.00	6,064.86	-113.69	312.36	-81.68	0.00	0.00	0.00
6,200.00	15.00	110.00	6,161.46	-122.54	336.68	-88.04	0.00	0.00	0.00
6,300.00	15.00	110.00	6,258.05	-131.39	361.00	-94.41	0.00	0.00	0.00
6,400.00	15.00	110.00	6,354.64	-140.25	385.32	-100.77	0.00	0.00	0.00
6,500.00	15.00	110.00	6,451.24	-149.10	409.64	-107.13	0.00	0.00	0.00
6,600.00	15.00	110.00	6,547.83	-157.95	433.96	-113.49	0.00	0.00	0.00
6,700.00	15.00	110.00	6,644.42	-166.80	458.28	-119.85	0.00	0.00	0.00
6,800.00	15.00	110.00	6,741.01	-175.65	482.61	-126.21	0.00	0.00	0.00
6,900.00	15.00	110.00	6,837.61	-184.51	506.93	-132.57	0.00	0.00	0.00
7,000.00	15.00	110.00	6,934.20	-193.36	531.25	-138.93	0.00	0.00	0.00
7,100.00	15.00	110.00	7,030.79	-202.21	555.57	-145.29	0.00	0.00	0.00
7,200.00	15.00	110.00	7,127.38	-211.06	579.89	-151.65	0.00	0.00	0.00
7,300.00	15.00	110.00	7,223.98	-219.91	604.21	-158.01	0.00	0.00	0.00
7,400.00	15.00	110.00	7,320.57	-228.77	628.53	-164.37	0.00	0.00	0.00
7,500.00	15.00	110.00	7,417.16	-237.62	652.85	-170.73	0.00	0.00	0.00
7,600.00	15.00	110.00	7,513.75	-246.47	677.17	-177.09	0.00	0.00	0.00
7,700.00	15.00	110.00	7,610.35	-255.32	701.49	-183.45	0.00	0.00	0.00
7,800.00	15.00	110.00	7,706.94	-264.18	725.82	-189.81	0.00	0.00	0.00
7,900.00	15.00	110.00	7,803.53	-273.03	750.14	-196.17	0.00	0.00	0.00
8,000.00	15.00	110.00	7,900.12	-281.88	774.46	-202.53	0.00	0.00	0.00
8,100.00	15.00	110.00	7,996.72	-290.73	798.78	-208.89	0.00	0.00	0.00
8,200.00	15.00	110.00	8,093.31	-299.58	823.10	-215.25	0.00	0.00	0.00
8,300.00	15.00	110.00	8,189.90	-308.44	847.42	-221.61	0.00	0.00	0.00
8,400.00	15.00	110.00	8,286.49	-317.29	871.74	-227.97	0.00	0.00	0.00
8,500.00	15.00	110.00	8,383.09	-326.14	896.06	-234.33	0.00	0.00	0.00
8,600.00	15.00	110.00	8,479.68	-334.99	920.38	-240.69	0.00	0.00	0.00
8,700.00	15.00	110.00	8,576.27	-343.84	944.71	-247.05	0.00	0.00	0.00
8,800.00	15.00	110.00	8,672.86	-352.70	969.03	-253.41	0.00	0.00	0.00
8,900.00	15.00	110.00	8,769.46	-361.55	993.35	-259.77	0.00	0.00	0.00
9,000.00	15.00	110.00	8,866.05	-370.40	1,017.67	-266.13	0.00	0.00	0.00
9,100.00	15.00	110.00	8,962.64	-379.25	1,041.99	-272.49	0.00	0.00	0.00
9,200.00	15.00	110.00	9,059.23	-388.11	1,066.31	-278.85	0.00	0.00	0.00
9,300.00	15.00	110.00	9,155.83	-396.96	1,090.63	-285.21	0.00	0.00	0.00
9,400.00	15.00	110.00	9,252.42	-405.81	1,114.95	-291.57	0.00	0.00	0.00
9,500.00	15.00	110.00	9,349.01	-414.66	1,139.27	-297.93	0.00	0.00	0.00
9,600.00	15.00	110.00	9,445.61	-423.51	1,163.59	-304.29	0.00	0.00	0.00
9,700.00	15.00	110.00	9,542.20	-432.37	1,187.92	-310.65	0.00	0.00	0.00
9,714.30	15.00	110.00	9,556.01	-433.63	1,191.39	-311.56	0.00	0.00	0.00
9,800.00	14.50	75.92	9,639.04	-434.82	1,212.26	-310.64	10.00	-0.59	-39.77
9,900.00	19.36	45.26	9,734.87	-420.07	1,236.23	-293.56	10.00	4.86	-30.66
10,000.00	27.11	29.00	9,826.78	-388.40	1,259.10	-259.74	10.00	7.76	-16.26
10,100.00	35.93	19.90	9,911.99	-340.75	1,280.19	-210.22	10.00	8.82	-9.10
10,200.00	45.19	14.06	9,987.90	-278.60	1,298.84	-146.50	10.00	9.26	-5.83
10,300.00	54.67	9.87	10,052.22	-203.81	1,314.50	-70.52	10.00	9.48	-4.19
10,400.00	64.26	6.57	10,102.97	-118.66	1,326.68	15.42	10.00	9.59	-3.30
10,500.00	73.91	3.77	10,138.63	-25.74	1,335.01	108.71	10.00	9.65	-2.80
10,600.00	83.60	1.23	10,158.11	72.12	1,339.25	206.50	10.00	9.69	-2.54

OXY Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Tails CC 10_3 Federal Com 36H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2965.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2965.80ft
Site:	Tails CC 10_3	North Reference:	Grid
Well:	Tails CC 10_3 Federal Com 36H	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)
10,666.33	90.03	359.61	10,161.80	138.31	1,339.74	272.40	10.00	9.70	-2.45
10,700.00	90.03	359.61	10,161.78	171.98	1,339.51	305.88	0.00	0.00	0.00
10,800.00	90.03	359.61	10,161.73	271.98	1,338.83	405.30	0.00	0.00	0.00
10,900.00	90.03	359.61	10,161.68	371.97	1,338.15	504.72	0.00	0.00	0.00
11,000.00	90.03	359.61	10,161.62	471.97	1,337.47	604.14	0.00	0.00	0.00
11,100.00	90.03	359.61	10,161.57	571.97	1,336.78	703.56	0.00	0.00	0.00
11,200.00	90.03	359.61	10,161.52	671.97	1,336.10	802.99	0.00	0.00	0.00
11,300.00	90.03	359.61	10,161.47	771.96	1,335.42	902.41	0.00	0.00	0.00
11,400.00	90.03	359.61	10,161.42	871.96	1,334.74	1,001.83	0.00	0.00	0.00
11,500.00	90.03	359.61	10,161.36	971.96	1,334.06	1,101.25	0.00	0.00	0.00
11,600.00	90.03	359.61	10,161.31	1,071.96	1,333.38	1,200.67	0.00	0.00	0.00
11,700.00	90.03	359.61	10,161.26	1,171.95	1,332.70	1,300.09	0.00	0.00	0.00
11,800.00	90.03	359.61	10,161.21	1,271.95	1,332.02	1,399.52	0.00	0.00	0.00
11,900.00	90.03	359.61	10,161.15	1,371.95	1,331.34	1,498.94	0.00	0.00	0.00
12,000.00	90.03	359.61	10,161.10	1,471.95	1,330.66	1,598.36	0.00	0.00	0.00
12,100.00	90.03	359.61	10,161.05	1,571.94	1,329.98	1,697.78	0.00	0.00	0.00
12,200.00	90.03	359.61	10,161.00	1,671.94	1,329.30	1,797.20	0.00	0.00	0.00
12,300.00	90.03	359.61	10,160.94	1,771.94	1,328.62	1,896.63	0.00	0.00	0.00
12,400.00	90.03	359.61	10,160.89	1,871.94	1,327.94	1,996.05	0.00	0.00	0.00
12,500.00	90.03	359.61	10,160.84	1,971.94	1,327.26	2,095.47	0.00	0.00	0.00
12,600.00	90.03	359.61	10,160.79	2,071.93	1,326.57	2,194.89	0.00	0.00	0.00
12,700.00	90.03	359.61	10,160.73	2,171.93	1,325.89	2,294.31	0.00	0.00	0.00
12,800.00	90.03	359.61	10,160.68	2,271.93	1,325.21	2,393.73	0.00	0.00	0.00
12,900.00	90.03	359.61	10,160.63	2,371.93	1,324.53	2,493.16	0.00	0.00	0.00
13,000.00	90.03	359.61	10,160.58	2,471.92	1,323.85	2,592.58	0.00	0.00	0.00
13,100.00	90.03	359.61	10,160.53	2,571.92	1,323.17	2,692.00	0.00	0.00	0.00
13,200.00	90.03	359.61	10,160.47	2,671.92	1,322.49	2,791.42	0.00	0.00	0.00
13,300.00	90.03	359.61	10,160.42	2,771.92	1,321.81	2,890.84	0.00	0.00	0.00
13,400.00	90.03	359.61	10,160.37	2,871.91	1,321.13	2,990.26	0.00	0.00	0.00
13,500.00	90.03	359.61	10,160.32	2,971.91	1,320.45	3,089.69	0.00	0.00	0.00
13,600.00	90.03	359.61	10,160.26	3,071.91	1,319.77	3,189.11	0.00	0.00	0.00
13,700.00	90.03	359.61	10,160.21	3,171.91	1,319.09	3,288.53	0.00	0.00	0.00
13,800.00	90.03	359.61	10,160.16	3,271.91	1,318.41	3,387.95	0.00	0.00	0.00
13,900.00	90.03	359.61	10,160.11	3,371.90	1,317.73	3,487.37	0.00	0.00	0.00
14,000.00	90.03	359.61	10,160.05	3,471.90	1,317.05	3,586.80	0.00	0.00	0.00
14,100.00	90.03	359.61	10,160.00	3,571.90	1,316.36	3,686.22	0.00	0.00	0.00
14,200.00	90.03	359.61	10,159.95	3,671.90	1,315.68	3,785.64	0.00	0.00	0.00
14,300.00	90.03	359.61	10,159.90	3,771.89	1,315.00	3,885.06	0.00	0.00	0.00
14,400.00	90.03	359.61	10,159.84	3,871.89	1,314.32	3,984.48	0.00	0.00	0.00
14,500.00	90.03	359.61	10,159.79	3,971.89	1,313.64	4,083.90	0.00	0.00	0.00
14,600.00	90.03	359.61	10,159.74	4,071.89	1,312.96	4,183.33	0.00	0.00	0.00
14,700.00	90.03	359.61	10,159.69	4,171.88	1,312.28	4,282.75	0.00	0.00	0.00
14,800.00	90.03	359.61	10,159.64	4,271.88	1,311.60	4,382.17	0.00	0.00	0.00
14,900.00	90.03	359.61	10,159.58	4,371.88	1,310.92	4,481.59	0.00	0.00	0.00
15,000.00	90.03	359.61	10,159.53	4,471.88	1,310.24	4,581.01	0.00	0.00	0.00
15,100.00	90.03	359.61	10,159.48	4,571.87	1,309.56	4,680.43	0.00	0.00	0.00
15,200.00	90.03	359.61	10,159.43	4,671.87	1,308.88	4,779.86	0.00	0.00	0.00
15,300.00	90.03	359.61	10,159.37	4,771.87	1,308.20	4,879.28	0.00	0.00	0.00
15,400.00	90.03	359.61	10,159.32	4,871.87	1,307.52	4,978.70	0.00	0.00	0.00
15,500.00	90.03	359.61	10,159.27	4,971.87	1,306.84	5,078.12	0.00	0.00	0.00
15,600.00	90.03	359.61	10,159.22	5,071.86	1,306.15	5,177.54	0.00	0.00	0.00
15,700.00	90.03	359.61	10,159.16	5,171.86	1,305.47	5,276.97	0.00	0.00	0.00
15,800.00	90.03	359.61	10,159.11	5,271.86	1,304.79	5,376.39	0.00	0.00	0.00
15,900.00	90.03	359.61	10,159.06	5,371.86	1,304.11	5,475.81	0.00	0.00	0.00
16,000.00	90.03	359.61	10,159.01	5,471.85	1,303.43	5,575.23	0.00	0.00	0.00

OXY

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Tails CC 10_3 Federal Com 36H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2965.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2965.80ft
Site:	Tails CC 10_3	North Reference:	Grid
Well:	Tails CC 10_3 Federal Com 36H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,100.00	90.03	359.61	10,158.95	5,571.85	1,302.75	5,674.65	0.00	0.00	0.00
16,200.00	90.03	359.61	10,158.90	5,671.85	1,302.07	5,774.07	0.00	0.00	0.00
16,300.00	90.03	359.61	10,158.85	5,771.85	1,301.39	5,873.50	0.00	0.00	0.00
16,400.00	90.03	359.61	10,158.80	5,871.84	1,300.71	5,972.92	0.00	0.00	0.00
16,500.00	90.03	359.61	10,158.75	5,971.84	1,300.03	6,072.34	0.00	0.00	0.00
16,600.00	90.03	359.61	10,158.69	6,071.84	1,299.35	6,171.76	0.00	0.00	0.00
16,700.00	90.03	359.61	10,158.64	6,171.84	1,298.67	6,271.18	0.00	0.00	0.00
16,800.00	90.03	359.61	10,158.59	6,271.84	1,297.99	6,370.60	0.00	0.00	0.00
16,900.00	90.03	359.61	10,158.54	6,371.83	1,297.31	6,470.03	0.00	0.00	0.00
17,000.00	90.03	359.61	10,158.48	6,471.83	1,296.62	6,569.45	0.00	0.00	0.00
17,100.00	90.03	359.61	10,158.43	6,571.83	1,295.94	6,668.87	0.00	0.00	0.00
17,200.00	90.03	359.61	10,158.38	6,671.83	1,295.26	6,768.29	0.00	0.00	0.00
17,300.00	90.03	359.61	10,158.33	6,771.82	1,294.58	6,867.71	0.00	0.00	0.00
17,400.00	90.03	359.61	10,158.27	6,871.82	1,293.90	6,967.13	0.00	0.00	0.00
17,500.00	90.03	359.61	10,158.22	6,971.82	1,293.22	7,066.56	0.00	0.00	0.00
17,600.00	90.03	359.61	10,158.17	7,071.82	1,292.54	7,165.98	0.00	0.00	0.00
17,700.00	90.03	359.61	10,158.12	7,171.81	1,291.86	7,265.40	0.00	0.00	0.00
17,800.00	90.03	359.61	10,158.06	7,271.81	1,291.18	7,364.82	0.00	0.00	0.00
17,900.00	90.03	359.61	10,158.01	7,371.81	1,290.50	7,464.24	0.00	0.00	0.00
18,000.00	90.03	359.61	10,157.96	7,471.81	1,289.82	7,563.67	0.00	0.00	0.00
18,100.00	90.03	359.61	10,157.91	7,571.81	1,289.14	7,663.09	0.00	0.00	0.00
18,116.33	90.03	359.61	10,157.90	7,588.13	1,289.03	7,679.32	0.00	0.00	0.00
18,200.00	90.03	358.77	10,157.86	7,671.80	1,287.85	7,762.44	1.00	0.00	-1.00
18,300.00	90.03	357.77	10,157.81	7,771.75	1,284.83	7,861.58	1.00	0.00	-1.00
18,400.00	90.03	356.77	10,157.76	7,871.63	1,280.08	7,960.48	1.00	0.00	-1.00
18,500.00	90.02	355.77	10,157.72	7,971.42	1,273.58	8,059.11	1.00	0.00	-1.00
18,600.00	90.02	354.77	10,157.68	8,071.08	1,265.34	8,157.43	1.00	0.00	-1.00
18,616.72	90.02	354.61	10,157.67	8,087.73	1,263.79	8,173.84	1.00	0.00	-1.00
18,700.00	90.02	354.61	10,157.64	8,170.64	1,255.96	8,255.55	0.00	0.00	0.00
18,800.00	90.02	354.61	10,157.60	8,270.20	1,246.56	8,353.65	0.00	0.00	0.00
18,900.00	90.02	354.61	10,157.56	8,369.75	1,237.16	8,451.76	0.00	0.00	0.00
19,000.00	90.02	354.61	10,157.53	8,469.31	1,227.76	8,549.86	0.00	0.00	0.00
19,100.00	90.02	354.61	10,157.49	8,568.87	1,218.36	8,647.97	0.00	0.00	0.00
19,200.00	90.02	354.61	10,157.45	8,668.43	1,208.96	8,746.08	0.00	0.00	0.00
19,300.00	90.02	354.61	10,157.41	8,767.98	1,199.56	8,844.18	0.00	0.00	0.00
19,400.00	90.02	354.61	10,157.37	8,867.54	1,190.16	8,942.29	0.00	0.00	0.00
19,500.00	90.02	354.61	10,157.34	8,967.10	1,180.76	9,040.39	0.00	0.00	0.00
19,600.00	90.02	354.61	10,157.30	9,066.65	1,171.36	9,138.50	0.00	0.00	0.00
19,700.00	90.02	354.61	10,157.26	9,166.21	1,161.96	9,236.61	0.00	0.00	0.00
19,800.00	90.02	354.61	10,157.22	9,265.77	1,152.56	9,334.71	0.00	0.00	0.00
19,900.00	90.02	354.61	10,157.18	9,365.33	1,143.16	9,432.82	0.00	0.00	0.00
20,000.00	90.02	354.61	10,157.15	9,464.88	1,133.76	9,530.93	0.00	0.00	0.00
20,100.00	90.02	354.61	10,157.11	9,564.44	1,124.36	9,629.03	0.00	0.00	0.00
20,200.00	90.02	354.61	10,157.07	9,664.00	1,114.96	9,727.14	0.00	0.00	0.00
20,300.00	90.02	354.61	10,157.03	9,763.55	1,105.56	9,825.24	0.00	0.00	0.00
20,400.00	90.02	354.61	10,156.99	9,863.11	1,096.16	9,923.35	0.00	0.00	0.00
20,500.00	90.02	354.61	10,156.96	9,962.67	1,086.76	10,021.46	0.00	0.00	0.00
20,600.00	90.02	354.61	10,156.92	10,062.23	1,077.35	10,119.56	0.00	0.00	0.00
20,700.00	90.02	354.61	10,156.88	10,161.78	1,067.95	10,217.67	0.00	0.00	0.00
20,800.00	90.02	354.61	10,156.84	10,261.34	1,058.55	10,315.78	0.00	0.00	0.00
20,900.00	90.02	354.61	10,156.80	10,360.90	1,049.15	10,413.88	0.00	0.00	0.00
20,907.15	90.02	354.61	10,156.80	10,368.01	1,048.48	10,420.89	0.00	0.00	0.00

OXY

Planning Report

Database:	HOPSP	Local Co-ordinate Reference:	Well Tails CC 10_3 Federal Com 36H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2965.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2965.80ft
Site:	Tails CC 10_3	North Reference:	Grid
Well:	Tails CC 10_3 Federal Com 36H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
IP1 (Tails CC 10_3 - plan misses target center by 8218.96ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	8,117.84	1,285.30	454,059.90	655,235.50	32° 14' 51.896749 N	103° 57' 53.687831
PBHL (Tails CC 10_3 - plan hits target center - Point	0.00	0.00	10,156.80	10,368.01	1,048.48	456,309.90	654,998.70	32° 15' 14.170373 N	103° 57' 56.355535
FTP (Tails CC 10_3 - plan misses target center by 56.15ft at 10419.08ft MD (10110.98 TVD, -101.44 N, 1328.57 E) - Point	0.00	0.00	10,161.80	-122.01	1,340.71	445,820.70	655,290.90	32° 13' 30.361061 N	103° 57' 53.371880

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
158.80	158.80	RUSTLER				
600.80	600.80	SALADO				
1,593.80	1,593.80	CASTILE				
3,040.80	3,040.80	DELAWARE				
3,087.80	3,087.80	BELL CANYON				
3,895.80	3,895.80	CHERRY CANYON				
5,148.15	5,141.80	BRUSHY CANYON				
6,808.06	6,748.80	BONE SPRING				
7,873.36	7,777.80	BONE SPRING 1ST				
8,686.05	8,562.80	BONE SPRING 2ND				
9,797.69	9,636.80	BONE SPRING 3RD				
10,284.02	10,042.80	WOLFCAMP				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,070.00	4,070.00	0.00	0.00	Build 1°/100'
5,570.00	5,552.92	-66.77	183.46	Hold 15° Tangent
9,714.30	9,556.01	-433.63	1,191.39	KOP, Build & Turn 10°/100'
10,666.33	10,161.80	138.31	1,339.74	Landing Point
18,116.33	10,157.90	7,588.13	1,289.03	Turn 1°/100'
18,616.72	10,157.67	8,087.73	1,263.79	Hold
20,907.15	10,156.80	10,368.01	1,048.48	TD at 20907.15' MD



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



Special Data Sheet

TH DS-20.0359

12 August 2020

Rev 00

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

Pipe Body Data

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

Connection Data

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

Notes

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



TenarisHydril Wedge 425®



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

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

Pipe Body Data

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

Connection Data

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

Notes

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

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

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TenarisHydril Wedge 441®



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

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

Pipe Body Data

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

Connection Data

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

Notes

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

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

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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 69790

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 69790
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	• NSL Will require an administrative order for non-standard location prior to placing the well on production.	1/3/2022
kpickford	Adhere to previous NMOCD Conditions of Approval	1/3/2022