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

Sundry Print Report

05/26/2021

Well Name: MESA VERDE WC UNIT

Well Location: T24S / R31E / SEC 13 / SWSW / 32.2104431 / -103.7363834

County or Parish/State: EDDY / NM

Well Number: 18H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM114979

Unit or CA Name: MESA VERDE WOLFCAMP RDU PA A

Unit or CA Number: NMNM137099A

US Well Number: 300154611000X1

Well Status: Drilling Well

Operator: OXY USA INCORPORATED

Notice of Intent

Type of Submission: Notice of Intent

Type of Action Other

Date Sundry Submitted: 03/11/2021

Time Sundry Submitted: 03:01

Date proposed operation will begin: 04/24/2021

Procedure Description: OXY USA Inc. respectfully requests approval to change the APD downhole points, pool name, and the casing, cement and mud programs. Also note the offline cementing and BOP Break testing variances added to the attached revised drill plan. Attachments include: new C102 well plat, drill plan and directional. New Well Location:(SHL is not changing.) KOP: 50 FSL 2310 FEL SWSE Sec 13 T24S R31E FTP: 100 FSL 2310 FEL SWSE Sec 13 T24S R31E LTP: 100 FNL 2310 FEL NWNE Sec 13 T24S R31E BHL: 20 FNL 2310 FEL NWNE Sec 13 T24S

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

MesaVerdeWCUnit18H_C102_20210311134400.pdf

MesaVerdeWCUnit18H_DirectPlan_20210311125224.pdf

MesaVerdeWCUnit18H_DirectPlot_20210311125212.pdf

MESAVERDEWCUNIT18H_DrillPlan_20210311124439.pdf

Well Name: MESA VERDE WC UNIT

Well Location: T24S / R31E / SEC 13 / SWSW / 32.2104431 / -103.7363834

County or Parish/State: EDDY / NM

Well Number: 18H

Type of Well: OIL WELL

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Lease Number: NMNM114979

Unit or CA Name: MESA VERDE WOLFCAMP RDU PA A

Unit or CA Number: NMNM137099A

US Well Number: 300154611000X1

Well Status: Drilling Well

Operator: OXY USA INCORPORATED

Conditions of Approval

Additional Reviews

Mesa_Verde_WC_Unit_18H_DrillingSundryCOA_1517966_20210426085716.pdf

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: MAR 11, 2021 03:00 PM

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: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 05/26/2021

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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	MESA VERDE WC UNIT	18H
OGRID No.	Operator Name	Elevation
	OXY USA INC.	3587.3'

Surface Location

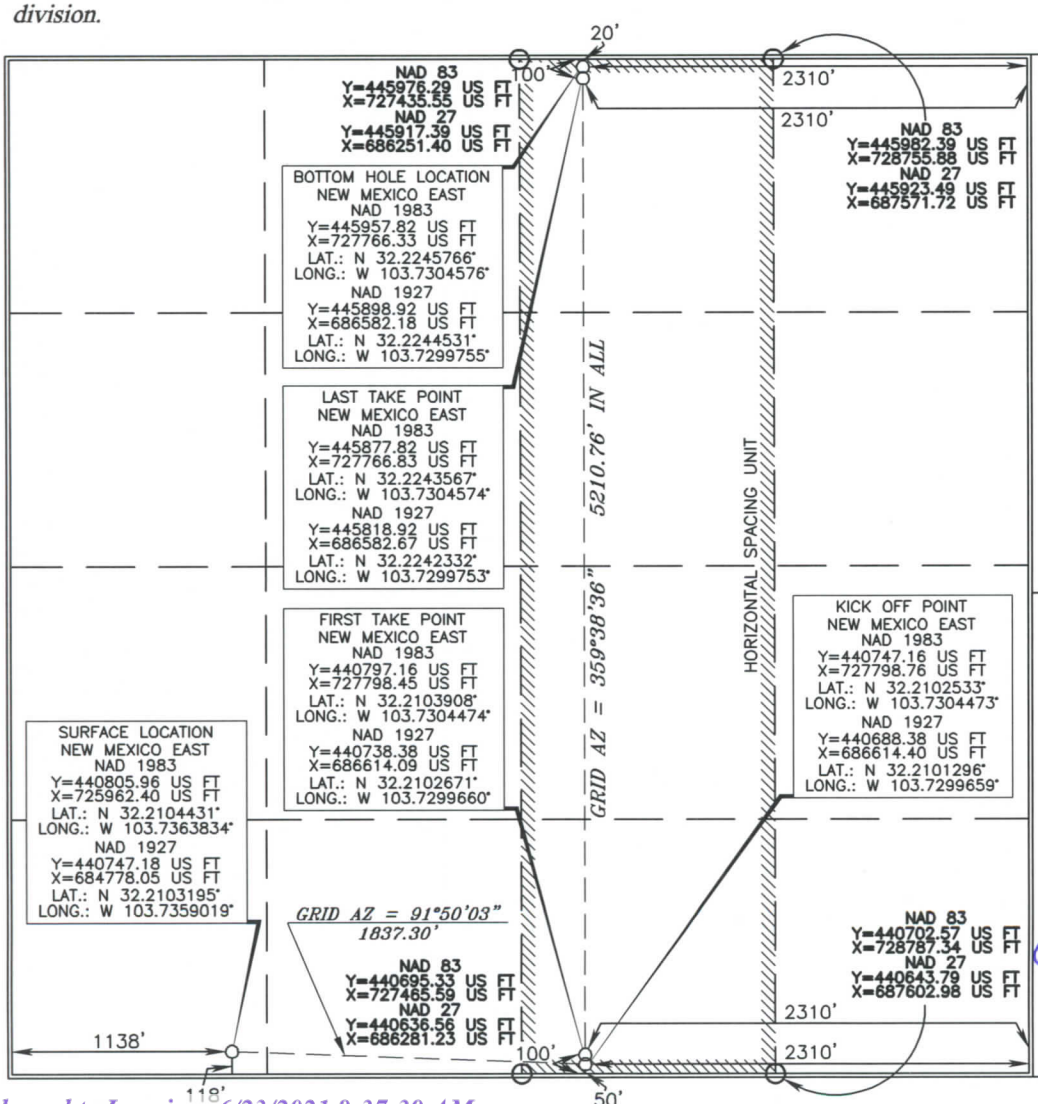
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	13	24 SOUTH	31 EAST, N.M.P.M.		118'	SOUTH	1138'	WEST	EDDY

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
B	13	24 SOUTH	31 EAST, N.M.P.M.		20'	NORTH	2310'	EAST	EDDY

Dedicated Acres	Joint or Infill	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.



OPERATOR CERTIFICATION

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

Leslie T. Reeves
Signature Date

Printed Name

E-mail Address

SURVEYOR CERTIFICATION

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

15079
AUGUST 23, 2018
Date of Survey

Signature and Seal of Professional Surveyor

TERRY J. ASEL — NEW MEXICO — REGISTERED PROFESSIONAL LAND SURVEYOR

Terry J. Asel 2/26/2021

Certificate Number 15079

WO# 180823WL-a (Rev. A) (KA)

Oxy USA Inc. - MESA VERDE WC UNIT 18H

Drill Plan

1. Geologic Formations

TVD of Target (ft):	12104	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	17458	Deepest Expected Fresh Water (ft):	740

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	740	740	
Salado	1071	1071	Salt
Castile	2942	2942	Salt
Delaware	4629	4628	Oil/Gas/Brine
Bell Canyon	4651	4650	Oil/Gas/Brine
Cherry Canyon	5530	5512	Oil/Gas/Brine
Brushy Canyon	6806	6750	Losses
Bone Spring	8583	8474	Oil/Gas
Bone Spring 1st	9697	9555	Oil/Gas
Bone Spring 2nd	10342	10181	Oil/Gas
Bone Spring 3rd	11672	11471	Oil/Gas
Wolfcamp	12153	11907	Oil/Gas
Penn			Oil/Gas
Strawn			Oil/Gas

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

2. Casing Program

		MD		TVD					
Section	Hole Size (in)	From (ft)	To (ft)	From (ft)	To (ft)	Csg. OD (in)	Csg Wt. (ppf)	Grade	Conn.
Surface	14.75	0	800	0	800	10.75	45.5	J-55	BTC
Intermediate	9.875	0	11632	0	11429	7.625	26.4	L-80 HC	BTC
Production	6.75	0	17458	0	12104	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 the 7.625” Intermediate II as a contingency string to be run only if severe hole conditions dictate an additional casing string necessary.
*Oxy requests the option to run production casing with DQX, TORQ DQW and/or TORQ SFW 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?	Y
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	Y
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Section	Stage	Slurry:	Capacities	ft^3/ft	Excess:	From	To	Sacks	Volume (ft^3)	Placement
Surface	1	Surface - Tail	OH x Csg	0.5563	100%	800	-	669	890	Circulate
Int.	1	Intermediate 1S - Tail	OH x Csg	0.2148	5%	11,632	7,056	625	1032	Circulate
Int.	2	Intermediate 2S - Tail BH	OH x Csg	0.2148	25%	7,056	800	875	1679	Bradenhead
Int.	2	Intermediate 2S - Tail BH	Csg x Csg	0.2338	0%	800	-	97	187	Bradenhead
Prod.	1	Production - Tail	OH x Csg	0.0835	15%	17,458	11,632	405	560	Circulate
Prod.	1	Production - Tail	Csg x Csg	0.0999	0%	11,632	11,132	36	50	Circulate

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

Offline Cementing

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

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

The summarized operational sequence will be as follows:

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe).
2. Land casing.
3. Fill pipe with kill weight fluid, and confirm well is static.
   a. If well is not static notify BLM and kill well.
   b. Once well is static notify BLM with intent to proceed with nipple down and offline cementing.
4. Set and pressure test annular packoff.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed.
6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange.
8. If well is not static notify BLM and kill well prior to cementing or nippling up for further remediation.
9. Install offline cement tool.
10. Rig up cement equipment.
    a. Notify BLM prior to cement job.
11. Perform cement job.
12. Confirm well is static and floats are holding after cement job.
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for 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	11429
		5M	Blind Ram	✔	250 psi / 5000 psi	
			Pipe Ram			
			Double Ram	✔		
			Other*			
6.75" Hole	13-5/8”	5M	Annular	✔	100% of working pressure	12104
		10M	Blind Ram	✔	250 psi / 10000 psi	
			Pipe Ram			
			Double Ram	✔		
			Other*			

*Specify if additional ram is utilized

Per BLM’s Memorandum No. NM-2017-008: *Decision and Rationale for a Variance Allowing the Use of a 5M Annular Preventer with a 10M BOP Stack*, Oxy requests to employ a 5M annular with a 10M BOPE stack in the pilot and lateral sections of the well and will ensure that two barriers to flow are maintained at all times. Please see attached Well Control Plan.

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

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

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

BOP Break Testing Request

Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019. 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.

5. Mud Program

Section	Depth - MD		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	800	0	800	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	800	11632	800	11429	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	11632	17458	11429	12104	Water-Based or Oil-Based Mud	9.5 - 12.5	38-50	N/C

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

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

6. Logging and Testing Procedures

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

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

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7868 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	177°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

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: 1454 bbls

Attachments
_x__ Directional Plan
_x__ H2S Contingency Plan
_x__ Flex III Attachments
_x__ Spudder Rig Attachment

9. Company Personnel

Name	Title	Office Phone	Mobile Phone
Linsay Earle	Drilling Engineer	713-350-4921	832-596-5507
William Turner	Drilling Engineer Supervisor	713-350-4951	661-817-4586
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Diego Tellez	Drilling Manager	713-350-4602	713-303-4932

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: Mesa Verde WC Unit
Well: Mesa Verde WC Unit 18H
Wellbore: WB00
Design: Permitting Plan

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

System Datum: Mean Sea Level

WELL DETAILS: Mesa Verde WC Unit 18H

Ground Level: 3587.30

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	440805.96	725962.40	32° 12' 37.595227 N	103° 44' 10.980327 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	
3970.00	0.00	0.00	3970.00	0.00	0.00	0.00	0.00	0.00	Build 1°/100'
5370.00	14.00	97.66	5356.11	-22.69	168.67	1.00	97.66	34.33	Hold 14° Tangent
11732.15	14.00	97.66	11529.28	-227.84	1694.08	0.00	0.00	344.81	KOP, Build & Turn 10°/100'
12659.03	90.78	359.64	12103.80	353.21	1834.27	10.00	-97.60	939.55	Landing Point
17458.49	90.78	359.64	12038.80	5152.14	1804.03	0.00	0.00	5458.85	TD at 17458.49' MD

Azimuths to Grid North
True North: -0.32°
Magnetic North: 6.48°

Magnetic Field
Strength: 48004.4nT
Dip Angle: 59.92°
Date: 6/5/2018
Model: HDGM

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Mesa Verde WC Unit
Mesa Verde WC Unit 18H

WB00

Plan: Permitting Plan

Standard Planning Report

01 March, 2021

Oxy Inc.

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Mesa Verde WC Unit 18H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3613.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3613.80ft
Site:	Mesa Verde WC Unit	**North Reference:**	Grid
Well:	Mesa Verde WC Unit 18H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
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 Mesa Verde WC Unit

Site Position:		**Northing:**	441,172.41 usft	**Latitude:**	32° 12' 40.751543 N
From:	Map	**Easting:**	734,323.24 usft	**Longitude:**	103° 42' 33.640877 W
Position Uncertainty:	50.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.33 °

Well Mesa Verde WC Unit 18H

Well Position	**+N/-S**	-366.47 ft	**Northing:**	440,805.96 usft	**Latitude:**	32° 12' 37.595227 N
	+E/-W	-8,361.26 ft	**Easting:**	725,962.40 usft	**Longitude:**	103° 44' 10.980327 W
Position Uncertainty		1.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,587.30 ft

Wellbore WB00

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/5/2018	6.80	59.92	48,004.40000000

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	19.30

Plan Survey Tool Program **Date** 3/1/2021

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,458.49	Permitting Plan (WB00)	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	
3,970.00	0.00	0.00	3,970.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,370.00	14.00	97.66	5,356.11	-22.69	168.67	1.00	1.00	0.00	97.66	
11,732.15	14.00	97.66	11,529.28	-227.84	1,694.08	0.00	0.00	0.00	0.00	
12,659.03	90.78	359.64	12,103.80	353.21	1,834.27	10.00	8.28	-10.58	-97.60	
17,458.49	90.78	359.64	12,038.80	5,152.14	1,804.03	0.00	0.00	0.00	0.00	PBHL (Mesa Verde

Oxy Inc.

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Mesa Verde WC Unit 18H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3613.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3613.80ft
Site:	Mesa Verde WC Unit	**North Reference:**	Grid
Well:	Mesa Verde WC Unit 18H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
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
3,970.00	0.00	0.00	3,970.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.30	97.66	4,000.00	-0.01	0.08	0.02	1.00	1.00	0.00
4,100.00	1.30	97.66	4,099.99	-0.20	1.46	0.30	1.00	1.00	0.00
4,200.00	2.30	97.66	4,199.94	-0.62	4.57	0.93	1.00	1.00	0.00
4,300.00	3.30	97.66	4,299.82	-1.27	9.42	1.92	1.00	1.00	0.00
4,400.00	4.30	97.66	4,399.60	-2.15	15.98	3.25	1.00	1.00	0.00
4,500.00	5.30	97.66	4,499.24	-3.27	24.28	4.94	1.00	1.00	0.00
4,600.00	6.30	97.66	4,598.73	-4.61	34.29	6.98	1.00	1.00	0.00
4,700.00	7.30	97.66	4,698.03	-6.19	46.03	9.37	1.00	1.00	0.00
4,800.00	8.30	97.66	4,797.10	-8.00	59.48	12.11	1.00	1.00	0.00
4,900.00	9.30	97.66	4,895.92	-10.04	74.64	15.19	1.00	1.00	0.00
5,000.00	10.30	97.66	4,994.46	-12.31	91.51	18.63	1.00	1.00	0.00
5,100.00	11.30	97.66	5,092.69	-14.80	110.08	22.41	1.00	1.00	0.00
5,200.00	12.30	97.66	5,190.57	-17.53	130.35	26.53	1.00	1.00	0.00

Oxy Inc.

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Mesa Verde WC Unit 18H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3613.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3613.80ft
Site:	Mesa Verde WC Unit	**North Reference:**	Grid
Well:	Mesa Verde WC Unit 18H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
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)
5,300.00	13.30	97.66	5,288.09	-20.48	152.30	31.00	1.00	1.00	0.00
5,370.00	14.00	97.66	5,356.11	-22.69	168.67	34.33	1.00	1.00	0.00
5,400.00	14.00	97.66	5,385.22	-23.65	175.87	35.80	0.00	0.00	0.00
5,500.00	14.00	97.66	5,482.25	-26.88	199.84	40.68	0.00	0.00	0.00
5,600.00	14.00	97.66	5,579.28	-30.10	223.82	45.56	0.00	0.00	0.00
5,700.00	14.00	97.66	5,676.31	-33.33	247.80	50.44	0.00	0.00	0.00
5,800.00	14.00	97.66	5,773.34	-36.55	271.77	55.32	0.00	0.00	0.00
5,900.00	14.00	97.66	5,870.37	-39.78	295.75	60.20	0.00	0.00	0.00
6,000.00	14.00	97.66	5,967.40	-43.00	319.72	65.08	0.00	0.00	0.00
6,100.00	14.00	97.66	6,064.43	-46.23	343.70	69.96	0.00	0.00	0.00
6,200.00	14.00	97.66	6,161.46	-49.45	367.68	74.84	0.00	0.00	0.00
6,300.00	14.00	97.66	6,258.49	-52.68	391.65	79.72	0.00	0.00	0.00
6,400.00	14.00	97.66	6,355.52	-55.90	415.63	84.60	0.00	0.00	0.00
6,500.00	14.00	97.66	6,452.54	-59.12	439.61	89.48	0.00	0.00	0.00
6,600.00	14.00	97.66	6,549.57	-62.35	463.58	94.36	0.00	0.00	0.00
6,700.00	14.00	97.66	6,646.60	-65.57	487.56	99.24	0.00	0.00	0.00
6,800.00	14.00	97.66	6,743.63	-68.80	511.54	104.12	0.00	0.00	0.00
6,900.00	14.00	97.66	6,840.66	-72.02	535.51	109.00	0.00	0.00	0.00
7,000.00	14.00	97.66	6,937.69	-75.25	559.49	113.88	0.00	0.00	0.00
7,100.00	14.00	97.66	7,034.72	-78.47	583.46	118.76	0.00	0.00	0.00
7,200.00	14.00	97.66	7,131.75	-81.70	607.44	123.64	0.00	0.00	0.00
7,300.00	14.00	97.66	7,228.78	-84.92	631.42	128.52	0.00	0.00	0.00
7,400.00	14.00	97.66	7,325.81	-88.15	655.39	133.40	0.00	0.00	0.00
7,500.00	14.00	97.66	7,422.84	-91.37	679.37	138.28	0.00	0.00	0.00
7,600.00	14.00	97.66	7,519.87	-94.60	703.35	143.16	0.00	0.00	0.00
7,700.00	14.00	97.66	7,616.90	-97.82	727.32	148.04	0.00	0.00	0.00
7,800.00	14.00	97.66	7,713.93	-101.05	751.30	152.92	0.00	0.00	0.00
7,900.00	14.00	97.66	7,810.96	-104.27	775.27	157.80	0.00	0.00	0.00
8,000.00	14.00	97.66	7,907.99	-107.49	799.25	162.68	0.00	0.00	0.00
8,100.00	14.00	97.66	8,005.02	-110.72	823.23	167.56	0.00	0.00	0.00
8,200.00	14.00	97.66	8,102.05	-113.94	847.20	172.44	0.00	0.00	0.00
8,300.00	14.00	97.66	8,199.08	-117.17	871.18	177.32	0.00	0.00	0.00
8,400.00	14.00	97.66	8,296.11	-120.39	895.16	182.20	0.00	0.00	0.00
8,500.00	14.00	97.66	8,393.14	-123.62	919.13	187.08	0.00	0.00	0.00
8,600.00	14.00	97.66	8,490.17	-126.84	943.11	191.96	0.00	0.00	0.00
8,700.00	14.00	97.66	8,587.20	-130.07	967.09	196.84	0.00	0.00	0.00
8,800.00	14.00	97.66	8,684.22	-133.29	991.06	201.72	0.00	0.00	0.00
8,900.00	14.00	97.66	8,781.25	-136.52	1,015.04	206.60	0.00	0.00	0.00
9,000.00	14.00	97.66	8,878.28	-139.74	1,039.01	211.48	0.00	0.00	0.00
9,100.00	14.00	97.66	8,975.31	-142.97	1,062.99	216.36	0.00	0.00	0.00
9,200.00	14.00	97.66	9,072.34	-146.19	1,086.97	221.24	0.00	0.00	0.00
9,300.00	14.00	97.66	9,169.37	-149.42	1,110.94	226.12	0.00	0.00	0.00
9,400.00	14.00	97.66	9,266.40	-152.64	1,134.92	231.00	0.00	0.00	0.00
9,500.00	14.00	97.66	9,363.43	-155.87	1,158.90	235.88	0.00	0.00	0.00
9,600.00	14.00	97.66	9,460.46	-159.09	1,182.87	240.76	0.00	0.00	0.00
9,700.00	14.00	97.66	9,557.49	-162.31	1,206.85	245.64	0.00	0.00	0.00
9,800.00	14.00	97.66	9,654.52	-165.54	1,230.82	250.52	0.00	0.00	0.00
9,900.00	14.00	97.66	9,751.55	-168.76	1,254.80	255.40	0.00	0.00	0.00
10,000.00	14.00	97.66	9,848.58	-171.99	1,278.78	260.28	0.00	0.00	0.00
10,100.00	14.00	97.66	9,945.61	-175.21	1,302.75	265.16	0.00	0.00	0.00
10,200.00	14.00	97.66	10,042.64	-178.44	1,326.73	270.04	0.00	0.00	0.00
10,300.00	14.00	97.66	10,139.67	-181.66	1,350.71	274.92	0.00	0.00	0.00
10,400.00	14.00	97.66	10,236.70	-184.89	1,374.68	279.80	0.00	0.00	0.00
10,500.00	14.00	97.66	10,333.73	-188.11	1,398.66	284.68	0.00	0.00	0.00

Oxy Inc.

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Mesa Verde WC Unit 18H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3613.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3613.80ft
Site:	Mesa Verde WC Unit	**North Reference:**	Grid
Well:	Mesa Verde WC Unit 18H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,600.00	14.00	97.66	10,430.76	-191.34	1,422.64	289.56	0.00	0.00	0.00
10,700.00	14.00	97.66	10,527.79	-194.56	1,446.61	294.44	0.00	0.00	0.00
10,800.00	14.00	97.66	10,624.82	-197.79	1,470.59	299.32	0.00	0.00	0.00
10,900.00	14.00	97.66	10,721.85	-201.01	1,494.56	304.20	0.00	0.00	0.00
11,000.00	14.00	97.66	10,818.88	-204.24	1,518.54	309.08	0.00	0.00	0.00
11,100.00	14.00	97.66	10,915.91	-207.46	1,542.52	313.96	0.00	0.00	0.00
11,200.00	14.00	97.66	11,012.93	-210.68	1,566.49	318.84	0.00	0.00	0.00
11,300.00	14.00	97.66	11,109.96	-213.91	1,590.47	323.72	0.00	0.00	0.00
11,400.00	14.00	97.66	11,206.99	-217.13	1,614.45	328.60	0.00	0.00	0.00
11,500.00	14.00	97.66	11,304.02	-220.36	1,638.42	333.48	0.00	0.00	0.00
11,600.00	14.00	97.66	11,401.05	-223.58	1,662.40	338.36	0.00	0.00	0.00
11,700.00	14.00	97.66	11,498.08	-226.81	1,686.37	343.24	0.00	0.00	0.00
11,732.15	14.00	97.66	11,529.28	-227.84	1,694.08	344.81	0.00	0.00	0.00
11,800.00	14.70	70.17	11,595.09	-226.02	1,710.33	351.91	10.00	1.03	-40.51
11,900.00	20.25	41.86	11,690.60	-208.78	1,733.87	375.96	10.00	5.55	-28.31
12,000.00	28.28	27.16	11,781.77	-174.73	1,756.29	415.51	10.00	8.04	-14.71
12,100.00	37.23	18.80	11,865.83	-124.89	1,776.91	469.36	10.00	8.94	-8.35
12,200.00	46.55	13.36	11,940.22	-60.77	1,795.09	535.88	10.00	9.32	-5.44
12,300.00	56.06	9.40	12,002.68	15.66	1,810.29	613.05	10.00	9.51	-3.96
12,400.00	65.68	6.24	12,051.31	102.10	1,822.05	698.51	10.00	9.61	-3.16
12,500.00	75.35	3.53	12,084.63	195.91	1,830.01	789.68	10.00	9.67	-2.71
12,600.00	85.05	1.06	12,101.64	294.25	1,833.92	883.78	10.00	9.70	-2.48
12,659.03	90.78	359.64	12,103.80	353.21	1,834.27	939.55	10.00	9.71	-2.40
12,700.00	90.78	359.64	12,103.24	394.18	1,834.02	978.13	0.00	0.00	0.00
12,800.00	90.78	359.64	12,101.89	494.17	1,833.39	1,072.29	0.00	0.00	0.00
12,900.00	90.78	359.64	12,100.53	594.16	1,832.75	1,166.46	0.00	0.00	0.00
13,000.00	90.78	359.64	12,099.18	694.14	1,832.12	1,260.62	0.00	0.00	0.00
13,100.00	90.78	359.64	12,097.82	794.13	1,831.49	1,354.78	0.00	0.00	0.00
13,200.00	90.78	359.64	12,096.47	894.12	1,830.86	1,448.94	0.00	0.00	0.00
13,300.00	90.78	359.64	12,095.12	994.11	1,830.23	1,543.11	0.00	0.00	0.00
13,400.00	90.78	359.64	12,093.76	1,094.10	1,829.60	1,637.27	0.00	0.00	0.00
13,500.00	90.78	359.64	12,092.41	1,194.09	1,828.97	1,731.43	0.00	0.00	0.00
13,600.00	90.78	359.64	12,091.05	1,294.08	1,828.34	1,825.60	0.00	0.00	0.00
13,700.00	90.78	359.64	12,089.70	1,394.07	1,827.71	1,919.76	0.00	0.00	0.00
13,800.00	90.78	359.64	12,088.34	1,494.06	1,827.08	2,013.92	0.00	0.00	0.00
13,900.00	90.78	359.64	12,086.99	1,594.04	1,826.45	2,108.08	0.00	0.00	0.00
14,000.00	90.78	359.64	12,085.64	1,694.03	1,825.82	2,202.25	0.00	0.00	0.00
14,100.00	90.78	359.64	12,084.28	1,794.02	1,825.19	2,296.41	0.00	0.00	0.00
14,200.00	90.78	359.64	12,082.93	1,894.01	1,824.56	2,390.57	0.00	0.00	0.00
14,300.00	90.78	359.64	12,081.57	1,994.00	1,823.93	2,484.73	0.00	0.00	0.00
14,400.00	90.78	359.64	12,080.22	2,093.99	1,823.30	2,578.90	0.00	0.00	0.00
14,500.00	90.78	359.64	12,078.86	2,193.98	1,822.67	2,673.06	0.00	0.00	0.00
14,600.00	90.78	359.64	12,077.51	2,293.97	1,822.04	2,767.22	0.00	0.00	0.00
14,700.00	90.78	359.64	12,076.16	2,393.96	1,821.41	2,861.38	0.00	0.00	0.00
14,800.00	90.78	359.64	12,074.80	2,493.94	1,820.78	2,955.55	0.00	0.00	0.00
14,900.00	90.78	359.64	12,073.45	2,593.93	1,820.15	3,049.71	0.00	0.00	0.00
15,000.00	90.78	359.64	12,072.09	2,693.92	1,819.52	3,143.87	0.00	0.00	0.00
15,100.00	90.78	359.64	12,070.74	2,793.91	1,818.89	3,238.03	0.00	0.00	0.00
15,200.00	90.78	359.64	12,069.39	2,893.90	1,818.26	3,332.20	0.00	0.00	0.00
15,300.00	90.78	359.64	12,068.03	2,993.89	1,817.63	3,426.36	0.00	0.00	0.00
15,400.00	90.78	359.64	12,066.68	3,093.88	1,817.00	3,520.52	0.00	0.00	0.00
15,500.00	90.78	359.64	12,065.32	3,193.87	1,816.37	3,614.68	0.00	0.00	0.00
15,600.00	90.78	359.64	12,063.97	3,293.85	1,815.74	3,708.85	0.00	0.00	0.00
15,700.00	90.78	359.64	12,062.61	3,393.84	1,815.11	3,803.01	0.00	0.00	0.00

Oxy Inc.

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Mesa Verde WC Unit 18H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3613.80ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3613.80ft
Site:	Mesa Verde WC Unit	**North Reference:**	Grid
Well:	Mesa Verde WC Unit 18H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,800.00	90.78	359.64	12,061.26	3,493.83	1,814.48	3,897.17	0.00	0.00	0.00
15,900.00	90.78	359.64	12,059.91	3,593.82	1,813.85	3,991.33	0.00	0.00	0.00
16,000.00	90.78	359.64	12,058.55	3,693.81	1,813.22	4,085.50	0.00	0.00	0.00
16,100.00	90.78	359.64	12,057.20	3,793.80	1,812.59	4,179.66	0.00	0.00	0.00
16,200.00	90.78	359.64	12,055.84	3,893.79	1,811.96	4,273.82	0.00	0.00	0.00
16,300.00	90.78	359.64	12,054.49	3,993.78	1,811.33	4,367.99	0.00	0.00	0.00
16,400.00	90.78	359.64	12,053.13	4,093.77	1,810.70	4,462.15	0.00	0.00	0.00
16,500.00	90.78	359.64	12,051.78	4,193.75	1,810.07	4,556.31	0.00	0.00	0.00
16,600.00	90.78	359.64	12,050.43	4,293.74	1,809.44	4,650.47	0.00	0.00	0.00
16,700.00	90.78	359.64	12,049.07	4,393.73	1,808.81	4,744.64	0.00	0.00	0.00
16,800.00	90.78	359.64	12,047.72	4,493.72	1,808.18	4,838.80	0.00	0.00	0.00
16,900.00	90.78	359.64	12,046.36	4,593.71	1,807.55	4,932.96	0.00	0.00	0.00
17,000.00	90.78	359.64	12,045.01	4,693.70	1,806.92	5,027.12	0.00	0.00	0.00
17,100.00	90.78	359.64	12,043.66	4,793.69	1,806.29	5,121.29	0.00	0.00	0.00
17,200.00	90.78	359.64	12,042.30	4,893.68	1,805.66	5,215.45	0.00	0.00	0.00
17,300.00	90.78	359.64	12,040.95	4,993.67	1,805.03	5,309.61	0.00	0.00	0.00
17,400.00	90.78	359.64	12,039.59	5,093.65	1,804.40	5,403.77	0.00	0.00	0.00
17,458.49	90.78	359.64	12,038.80	5,152.14	1,804.03	5,458.85	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL (Mesa Verde - plan hits target center - Point	0.00	0.00	12,038.80	5,152.14	1,804.03	445,957.82	727,766.33	32° 13' 28.475967 N	103° 43' 49.647317
FTP (Mesa Verde WC - plan misses target center by 100.72ft at 12331.15ft MD (12019.39 TVD, 41.63 N, 1814.35 E) - Point	0.00	0.00	12,103.80	-8.80	1,836.15	440,797.16	727,798.45	32° 12' 37.406741 N	103° 43' 49.610431

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
739.80	739.80	RUSTLER			
1,070.80	1,070.80	SALADO			
2,941.80	2,941.80	CASTILE			
4,629.25	4,627.80	DELAWARE			
4,651.41	4,649.80	BELL CANYON			
5,530.46	5,511.80	CHERRY CANYON			
6,806.36	6,749.80	BRUSHY CANYON			
8,583.13	8,473.80	BONE SPRING			
9,697.23	9,554.80	BONE SPRING 1ST			
10,342.39	10,180.80	BONE SPRING 2ND			
11,671.88	11,470.80	BONE SPRING 3RD			
12,208.17	11,945.80	WOLFCAMP			

Oxy Inc.
Planning Report

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Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3613.80ft
Site:	Mesa Verde WC Unit	**North Reference:**	Grid
Well:	Mesa Verde WC Unit 18H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
3,970.00	3,970.00	0.00	0.00	Build 1°/100'
5,370.00	5,356.11	-22.69	168.67	Hold 14° Tangent
11,732.15	11,529.28	-227.84	1,694.08	KOP, Build & Turn 10°/100'
12,659.03	12,103.80	353.21	1,834.27	Landing Point
17,458.49	12,038.80	5,152.14	1,804.03	TD at 17458.49' MD

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA INCORPORATED
LEASE NO.:	NMNM114979
WELL NAME & NO.:	18H - MESA VERDE WC UNIT
SURFACE HOLE FOOTAGE:	118'/S& 1138'/W
BOTTOM HOLE FOOTAGE	20'/N & 2310'/E
LOCATION:	Section 13, T.24 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

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

A. CASING

Casing Design:

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 **Secretary Potash 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 or ECHO-METER 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** inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **500 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 **500 feet** into previous casing string. Operator shall provide method of verification.

B. 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 **5000 (5M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) 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 **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) 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.

District I
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District II
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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 29672

COMMENTS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 29672
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 5/28/2021	5/28/2021

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CONDITIONS

Action 29672

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 29672
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	5/28/2021
kpickford	No NSL required.	5/28/2021