



<b>Well Name:</b> MESA VERDE WC UNIT	<b>Well Location:</b> T24S / R32E / SEC 18 / LOT 4 / 32.2110368 / -103.7185246	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 13H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM66925	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b> 300254587500X1	<b>Well Status:</b> Approved Application for Permit to Drill	<b>Operator:</b> OXY USA INCORPORATED

### Notice of Intent

## Carlsbad Field Office Operator Copy

**Type of Submission:** Notice of Intent

**Type of Action:** Other

**Date Sundry Submitted:** 03/11/2021

**Time Sundry Submitted:** 02:46

**Date proposed operation will begin:** 05/03/2021

**Procedure Description:** OXY USA Inc requests approval to change the APD casing, cement and mud programs for the subject well. Also note the offline cementing and BOP Break testing variance requests added to the drill plan. Please find the attached revised drill plan and directional for BLM approval.

### Surface Disturbance

**Is any additional surface disturbance proposed?:** No

### NOI Attachments

#### Procedure Description

MesaVerdeWCUnit13H\_DirectPlan\_20210311100015.pdf

MesaVerdeWCUnit13H\_DirectPlot\_20210311100002.pdf

MESAVERDEWCUNIT13H\_DrillPlan\_20210311095916.pdf

**Well Name:** MESA VERDE WC UNIT

**Well Location:** T24S / R32E / SEC 18 /  
LOT 4 / 32.2110368 / -103.7185246

**County or Parish/State:** LEA /  
NM

**Well Number:** 13H

**Type of Well:** OIL WELL

**Allottee or Tribe Name:**

**Lease Number:** NMNM66925

**Unit or CA Name:**

**Unit or CA Number:**

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**Well Status:** Approved Application for  
Permit to Drill

**Operator:** OXY USA  
INCORPORATED

## Conditions of Approval

### Additional Reviews

Mesa\_Verde\_WC\_Unit\_13H\_DrillingSundryCOA\_1517941\_20210322111102.pdf

182432M\_Sundry\_1517941\_Mesa\_Verde\_WC\_Unit\_13H\_Lea\_NMNM066925\_Oxy\_13\_22\_03222021\_NMK\_20210322  
111046.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:** REEVES

**Signed on:** MAR 11, 2021 02:45 PM

**Name:** OXY USA INCORPORATED

**Title:** Advisor Regulatory

**Street Address:** 5 Greenway Plaza, Suite 110

**City:** Houston

**State:** TX

**Phone:** (713) 366-5716

**Email address:**

## Field Representative

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**

**PECOS DISTRICT  
DRILLING CONDITIONS OF APPROVAL**

<b>OPERATOR'S NAME:</b>	OXY USA INCORPORATED
<b>LEASE NO.:</b>	NMNM128362
<b>LOCATION:</b>	Section 18, T.24 S., R.32 E., NMP
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	MESA VERDE WC UNIT / 12H
<b>SURFACE HOLE FOOTAGE:</b>	365'/S & 1378'/W
<b>BOTTOM HOLE FOOTAGE:</b>	180'/S & 2200'/W

<b>WELL NAME &amp; NO.:</b>	MESA VERDE WC UNIT / 13H
<b>SURFACE HOLE FOOTAGE:</b>	330'/S & 1378'/W
<b>BOTTOM HOLE FOOTAGE:</b>	180'/N & 1260'/W

<b>WELL NAME &amp; NO.:</b>	MESA VERDE WC UNIT / 14H
<b>SURFACE HOLE FOOTAGE:</b>	400'/S & 1378'/W
<b>BOTTOM HOLE FOOTAGE:</b>	180'/N & 440'/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 checked="" type="radio"/> Low	<input 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 checked="" 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

Break Testing	<input checked="" type="radio"/> Yes	<input type="radio"/> No
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**ALL PREVIOUS COAs STILL APPLY.**

**A. CASING**

**Casing Design:**

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

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.**

**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 **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.

## **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.

## C. 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.

### BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less.
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required.
- The BLM is to be contacted (**575-393-3612 Lea County**) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.

### Offline Cementing

- Contact the BLM prior to the commencement of any offline cementing procedure.

NMK3222021

# Oxy USA Inc. - MESA VERDE WC UNIT 13H

## Drill Plan

### 1. Geologic Formations

TVD of Target (ft):	12062	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	17290	Deepest Expected Fresh Water (ft):	769

### Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	769	769	
Salado	1106	1106	Salt
Castile	3023	3023	Salt
Delaware	4638	4638	Oil/Gas/Brine
Bell Canyon	4663	4663	Oil/Gas/Brine
Cherry Canyon	5534	5533	Oil/Gas/Brine
Brushy Canyon	6817	6799	Losses
Bone Spring	8564	8520	Oil/Gas
Bone Spring 1st	9659	9598	Oil/Gas
Bone Spring 2nd	10263	10193	Oil/Gas
Bone Spring 3rd	11583	11493	Oil/Gas
Wolfcamp	12032	11893	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	829	0	829	10.75	45.5	J-55	BTC
Intermediate	9.875	0	11444	0	11354	7.625	26.4	L-80 HC	BTC
Production	6.75	0	17290	0	12062	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?	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?	



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%	829	-	694	922	Circulate
Int.	1	Intermediate 1S - Tail	OH x Csg	0.2148	5%	11,444	7,067	598	987	Circulate
Int.	2	Intermediate 2S - Tail BH	OH x Csg	0.2148	25%	7,067	829	872	1675	Bradenhead
Int.	2	Intermediate 2S - Tail BH	Csg x Csg	0.2338	0%	829	-	101	194	Bradenhead
Prod.	1	Production - Tail	OH x Csg	0.0835	15%	17,290	11,444	407	561	Circulate
Prod.	1	Production - Tail	Csg x Csg	0.0999	0%	11,444	10,944	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 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	11354
		5M	Blind Ram		✓	250 psi / 5000 psi	
			Pipe Ram				
			Double Ram		✓		
			Other*				
6.75" Hole	13-5/8"	5M	Annular		✓	100% of working pressure	12062
		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?
	<p>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.</p> <p>See attached schematics.</p>	

**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	829	0	829	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	829	11444	829	11354	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	11444	17290	11354	12062	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	7841 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

<b>Total Estimated Cuttings Volume:</b> 1440 bbls
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- Attachments
- ☒ Directional Plan
  - ☒ H2S Contingency Plan
  - ☒ Flex III Attachments
  - ☒ Spudder Rig Attachment

9. Company Personnel

<u>Name</u>	<u>Title</u>	<u>Office Phone</u>	<u>Mobile Phone</u>
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

**OXY**

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

**Mesa Verde WC Unit**

**Mesa Verde WC Unit 13H**

**WB00**

**Plan: Permitting Plan**

## **Standard Planning Report**

**01 March, 2021**



# Oxy Inc.

## Planning Report

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well Mesa Verde WC Unit 13H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=25' @ 3597.00ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=25' @ 3597.00ft
<b>Site:</b>	Mesa Verde WC Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Mesa Verde WC Unit 13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	WB00		
<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>	Mesa Verde WC Unit		
<b>Site Position:</b>		<b>Northing:</b>	441,172.41 usft
<b>From:</b>	Map	<b>Easting:</b>	734,323.24 usft
<b>Position Uncertainty:</b>	50.00 ft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	32° 12' 40.751543 N
		<b>Longitude:</b>	103° 42' 33.640877 W
		<b>Grid Convergence:</b>	0.33 °

<b>Well</b>	Mesa Verde WC Unit 13H		
<b>Well Position</b>	<b>+N/-S</b>	-119.36 ft	<b>Northing:</b> 441,053.06 usft
	<b>+E/-W</b>	-2,838.73 ft	<b>Easting:</b> 731,484.65 usft
<b>Position Uncertainty</b>	1.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
		<b>Ground Level:</b>	3,572.00 ft

<b>Wellbore</b>	WB00				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM_FILE	5/2/2018	6.80	59.92	48,017.00000000

<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>
	-2.60	0.00	0.00	347.63

<b>Plan Survey Tool Program</b>	<b>Date</b>	3/1/2021		
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	17,290.14	Permitting Plan (WB00)	B001Mb_MWD+HRGM
				OWSG MWD + HRGM

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,990.00	0.00	0.00	4,990.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,990.00	10.00	244.30	5,984.93	-37.75	-78.43	1.00	1.00	0.00	244.30	
11,543.69	10.00	244.30	11,454.25	-455.96	-947.42	0.00	0.00	0.00	0.00	
12,490.44	90.42	359.64	12,062.00	118.92	-1,048.57	10.00	8.49	12.18	114.94	
17,290.14	90.42	359.64	12,027.00	4,918.39	-1,078.41	0.00	0.00	0.00	0.00	PBHL (Mesa Verde)

# Oxy Inc.

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Mesa Verde WC Unit 13H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=25' @ 3597.00ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=25' @ 3597.00ft
<b>Site:</b>	Mesa Verde WC Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Mesa Verde WC Unit 13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	WB00		
<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
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,990.00	0.00	0.00	4,990.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.10	244.30	5,000.00	0.00	-0.01	0.00	1.00	1.00	0.00
5,100.00	1.10	244.30	5,099.99	-0.46	-0.95	-0.24	1.00	1.00	0.00
5,200.00	2.10	244.30	5,199.95	-1.67	-3.47	-0.89	1.00	1.00	0.00

# Oxy Inc.

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Mesa Verde WC Unit 13H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=25' @ 3597.00ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=25' @ 3597.00ft
<b>Site:</b>	Mesa Verde WC Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Mesa Verde WC Unit 13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	WB00		
<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)
5,300.00	3.10	244.30	5,299.85	-3.64	-7.55	-1.93	1.00	1.00	0.00
5,400.00	4.10	244.30	5,399.65	-6.36	-13.21	-3.38	1.00	1.00	0.00
5,500.00	5.10	244.30	5,499.33	-9.84	-20.44	-5.23	1.00	1.00	0.00
5,600.00	6.10	244.30	5,598.85	-14.07	-29.23	-7.48	1.00	1.00	0.00
5,700.00	7.10	244.30	5,698.18	-19.05	-39.59	-10.13	1.00	1.00	0.00
5,800.00	8.10	244.30	5,797.30	-24.79	-51.51	-13.18	1.00	1.00	0.00
5,900.00	9.10	244.30	5,896.18	-31.27	-64.98	-16.63	1.00	1.00	0.00
5,990.00	10.00	244.30	5,984.93	-37.75	-78.43	-20.07	1.00	1.00	0.00
6,000.00	10.00	244.30	5,994.78	-38.50	-80.00	-20.47	0.00	0.00	0.00
6,100.00	10.00	244.30	6,093.26	-46.03	-95.65	-24.48	0.00	0.00	0.00
6,200.00	10.00	244.30	6,191.74	-53.56	-111.29	-28.48	0.00	0.00	0.00
6,300.00	10.00	244.30	6,290.22	-61.09	-126.94	-32.49	0.00	0.00	0.00
6,400.00	10.00	244.30	6,388.70	-68.62	-142.59	-36.49	0.00	0.00	0.00
6,500.00	10.00	244.30	6,487.18	-76.15	-158.23	-40.50	0.00	0.00	0.00
6,600.00	10.00	244.30	6,585.66	-83.68	-173.88	-44.50	0.00	0.00	0.00
6,700.00	10.00	244.30	6,684.14	-91.21	-189.53	-48.51	0.00	0.00	0.00
6,800.00	10.00	244.30	6,782.63	-98.74	-205.18	-52.51	0.00	0.00	0.00
6,900.00	10.00	244.30	6,881.11	-106.27	-220.82	-56.51	0.00	0.00	0.00
7,000.00	10.00	244.30	6,979.59	-113.81	-236.47	-60.52	0.00	0.00	0.00
7,100.00	10.00	244.30	7,078.07	-121.34	-252.12	-64.52	0.00	0.00	0.00
7,200.00	10.00	244.30	7,176.55	-128.87	-267.76	-68.53	0.00	0.00	0.00
7,300.00	10.00	244.30	7,275.03	-136.40	-283.41	-72.53	0.00	0.00	0.00
7,400.00	10.00	244.30	7,373.51	-143.93	-299.06	-76.54	0.00	0.00	0.00
7,500.00	10.00	244.30	7,471.99	-151.46	-314.70	-80.54	0.00	0.00	0.00
7,600.00	10.00	244.30	7,570.47	-158.99	-330.35	-84.55	0.00	0.00	0.00
7,700.00	10.00	244.30	7,668.95	-166.52	-346.00	-88.55	0.00	0.00	0.00
7,800.00	10.00	244.30	7,767.43	-174.05	-361.65	-92.56	0.00	0.00	0.00
7,900.00	10.00	244.30	7,865.91	-181.58	-377.29	-96.56	0.00	0.00	0.00
8,000.00	10.00	244.30	7,964.39	-189.11	-392.94	-100.56	0.00	0.00	0.00
8,100.00	10.00	244.30	8,062.88	-196.64	-408.59	-104.57	0.00	0.00	0.00
8,200.00	10.00	244.30	8,161.36	-204.17	-424.23	-108.57	0.00	0.00	0.00
8,300.00	10.00	244.30	8,259.84	-211.70	-439.88	-112.58	0.00	0.00	0.00
8,400.00	10.00	244.30	8,358.32	-219.23	-455.53	-116.58	0.00	0.00	0.00
8,500.00	10.00	244.30	8,456.80	-226.76	-471.18	-120.59	0.00	0.00	0.00
8,600.00	10.00	244.30	8,555.28	-234.29	-486.82	-124.59	0.00	0.00	0.00
8,700.00	10.00	244.30	8,653.76	-241.82	-502.47	-128.60	0.00	0.00	0.00
8,800.00	10.00	244.30	8,752.24	-249.35	-518.12	-132.60	0.00	0.00	0.00
8,900.00	10.00	244.30	8,850.72	-256.88	-533.76	-136.61	0.00	0.00	0.00
9,000.00	10.00	244.30	8,949.20	-264.41	-549.41	-140.61	0.00	0.00	0.00
9,100.00	10.00	244.30	9,047.68	-271.94	-565.06	-144.61	0.00	0.00	0.00
9,200.00	10.00	244.30	9,146.16	-279.47	-580.70	-148.62	0.00	0.00	0.00
9,300.00	10.00	244.30	9,244.64	-287.00	-596.35	-152.62	0.00	0.00	0.00
9,400.00	10.00	244.30	9,343.13	-294.53	-612.00	-156.63	0.00	0.00	0.00
9,500.00	10.00	244.30	9,441.61	-302.07	-627.65	-160.63	0.00	0.00	0.00
9,600.00	10.00	244.30	9,540.09	-309.60	-643.29	-164.64	0.00	0.00	0.00
9,700.00	10.00	244.30	9,638.57	-317.13	-658.94	-168.64	0.00	0.00	0.00
9,800.00	10.00	244.30	9,737.05	-324.66	-674.59	-172.65	0.00	0.00	0.00
9,900.00	10.00	244.30	9,835.53	-332.19	-690.23	-176.65	0.00	0.00	0.00
10,000.00	10.00	244.30	9,934.01	-339.72	-705.88	-180.65	0.00	0.00	0.00
10,100.00	10.00	244.30	10,032.49	-347.25	-721.53	-184.66	0.00	0.00	0.00
10,200.00	10.00	244.30	10,130.97	-354.78	-737.17	-188.66	0.00	0.00	0.00
10,300.00	10.00	244.30	10,229.45	-362.31	-752.82	-192.67	0.00	0.00	0.00
10,400.00	10.00	244.30	10,327.93	-369.84	-768.47	-196.67	0.00	0.00	0.00
10,500.00	10.00	244.30	10,426.41	-377.37	-784.12	-200.68	0.00	0.00	0.00

# Oxy Inc.

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Mesa Verde WC Unit 13H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=25' @ 3597.00ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=25' @ 3597.00ft
<b>Site:</b>	Mesa Verde WC Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Mesa Verde WC Unit 13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	WB00		
<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)	
10,600.00	10.00	244.30	10,524.89	-384.90	-799.76	-204.68	0.00	0.00	0.00	
10,700.00	10.00	244.30	10,623.38	-392.43	-815.41	-208.69	0.00	0.00	0.00	
10,800.00	10.00	244.30	10,721.86	-399.96	-831.06	-212.69	0.00	0.00	0.00	
10,900.00	10.00	244.30	10,820.34	-407.49	-846.70	-216.70	0.00	0.00	0.00	
11,000.00	10.00	244.30	10,918.82	-415.02	-862.35	-220.70	0.00	0.00	0.00	
11,100.00	10.00	244.30	11,017.30	-422.55	-878.00	-224.70	0.00	0.00	0.00	
11,200.00	10.00	244.30	11,115.78	-430.08	-893.65	-228.71	0.00	0.00	0.00	
11,300.00	10.00	244.30	11,214.26	-437.61	-909.29	-232.71	0.00	0.00	0.00	
11,400.00	10.00	244.30	11,312.74	-445.14	-924.94	-236.72	0.00	0.00	0.00	
11,500.00	10.00	244.30	11,411.22	-452.67	-940.59	-240.72	0.00	0.00	0.00	
11,543.69	10.00	244.30	11,454.25	-455.96	-947.42	-242.47	0.00	0.00	0.00	
11,600.00	9.16	278.27	11,509.82	-457.44	-956.27	-242.02	10.00	-1.49	60.32	
11,700.00	14.51	321.54	11,607.83	-446.46	-971.98	-227.93	10.00	5.34	43.27	
11,800.00	23.14	337.67	11,702.46	-418.41	-987.28	-197.25	10.00	8.63	16.13	
11,900.00	32.53	345.10	11,790.82	-374.14	-1,001.69	-150.92	10.00	9.40	7.43	
12,000.00	42.18	349.44	11,870.22	-315.00	-1,014.79	-90.35	10.00	9.65	4.34	
12,100.00	51.95	352.41	11,938.26	-242.78	-1,026.17	-17.37	10.00	9.76	2.96	
12,200.00	61.77	354.67	11,992.87	-159.68	-1,035.49	65.80	10.00	9.82	2.26	
12,300.00	71.62	356.54	12,032.39	-68.23	-1,042.47	156.63	10.00	9.85	1.87	
12,400.00	81.49	358.21	12,055.62	28.81	-1,046.89	252.35	10.00	9.87	1.67	
12,490.44	90.42	359.64	12,062.00	118.92	-1,048.57	340.73	10.00	9.87	1.59	
12,500.00	90.42	359.64	12,061.93	128.47	-1,048.63	350.08	0.00	0.00	0.00	
12,600.00	90.42	359.64	12,061.20	228.47	-1,049.25	447.89	0.00	0.00	0.00	
12,700.00	90.42	359.64	12,060.47	328.46	-1,049.87	545.70	0.00	0.00	0.00	
12,800.00	90.42	359.64	12,059.74	428.46	-1,050.49	643.50	0.00	0.00	0.00	
12,900.00	90.42	359.64	12,059.01	528.46	-1,051.12	741.31	0.00	0.00	0.00	
13,000.00	90.42	359.64	12,058.28	628.45	-1,051.74	839.12	0.00	0.00	0.00	
13,100.00	90.42	359.64	12,057.55	728.45	-1,052.36	936.93	0.00	0.00	0.00	
13,200.00	90.42	359.64	12,056.82	828.44	-1,052.98	1,034.74	0.00	0.00	0.00	
13,300.00	90.42	359.64	12,056.09	928.44	-1,053.60	1,132.55	0.00	0.00	0.00	
13,400.00	90.42	359.64	12,055.36	1,028.43	-1,054.22	1,230.35	0.00	0.00	0.00	
13,500.00	90.42	359.64	12,054.64	1,128.43	-1,054.84	1,328.16	0.00	0.00	0.00	
13,600.00	90.42	359.64	12,053.91	1,228.42	-1,055.47	1,425.97	0.00	0.00	0.00	
13,700.00	90.42	359.64	12,053.18	1,328.42	-1,056.09	1,523.78	0.00	0.00	0.00	
13,800.00	90.42	359.64	12,052.45	1,428.41	-1,056.71	1,621.59	0.00	0.00	0.00	
13,900.00	90.42	359.64	12,051.72	1,528.41	-1,057.33	1,719.39	0.00	0.00	0.00	
14,000.00	90.42	359.64	12,050.99	1,628.40	-1,057.95	1,817.20	0.00	0.00	0.00	
14,100.00	90.42	359.64	12,050.26	1,728.40	-1,058.57	1,915.01	0.00	0.00	0.00	
14,200.00	90.42	359.64	12,049.53	1,828.40	-1,059.20	2,012.82	0.00	0.00	0.00	
14,300.00	90.42	359.64	12,048.80	1,928.39	-1,059.82	2,110.63	0.00	0.00	0.00	
14,400.00	90.42	359.64	12,048.07	2,028.39	-1,060.44	2,208.44	0.00	0.00	0.00	
14,500.00	90.42	359.64	12,047.34	2,128.38	-1,061.06	2,306.24	0.00	0.00	0.00	
14,600.00	90.42	359.64	12,046.62	2,228.38	-1,061.68	2,404.05	0.00	0.00	0.00	
14,700.00	90.42	359.64	12,045.89	2,328.37	-1,062.30	2,501.86	0.00	0.00	0.00	
14,800.00	90.42	359.64	12,045.16	2,428.37	-1,062.93	2,599.67	0.00	0.00	0.00	
14,900.00	90.42	359.64	12,044.43	2,528.36	-1,063.55	2,697.48	0.00	0.00	0.00	
15,000.00	90.42	359.64	12,043.70	2,628.36	-1,064.17	2,795.29	0.00	0.00	0.00	
15,100.00	90.42	359.64	12,042.97	2,728.35	-1,064.79	2,893.09	0.00	0.00	0.00	
15,200.00	90.42	359.64	12,042.24	2,828.35	-1,065.41	2,990.90	0.00	0.00	0.00	
15,300.00	90.42	359.64	12,041.51	2,928.34	-1,066.03	3,088.71	0.00	0.00	0.00	
15,400.00	90.42	359.64	12,040.78	3,028.34	-1,066.66	3,186.52	0.00	0.00	0.00	
15,500.00	90.42	359.64	12,040.05	3,128.34	-1,067.28	3,284.33	0.00	0.00	0.00	
15,600.00	90.42	359.64	12,039.32	3,228.33	-1,067.90	3,382.13	0.00	0.00	0.00	
15,700.00	90.42	359.64	12,038.59	3,328.33	-1,068.52	3,479.94	0.00	0.00	0.00	

# Oxy Inc.

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Mesa Verde WC Unit 13H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=25' @ 3597.00ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=25' @ 3597.00ft
<b>Site:</b>	Mesa Verde WC Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Mesa Verde WC Unit 13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	WB00		
<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)	
15,800.00	90.42	359.64	12,037.87	3,428.32	-1,069.14	3,577.75	0.00	0.00	0.00	
15,900.00	90.42	359.64	12,037.14	3,528.32	-1,069.76	3,675.56	0.00	0.00	0.00	
16,000.00	90.42	359.64	12,036.41	3,628.31	-1,070.39	3,773.37	0.00	0.00	0.00	
16,100.00	90.42	359.64	12,035.68	3,728.31	-1,071.01	3,871.18	0.00	0.00	0.00	
16,200.00	90.42	359.64	12,034.95	3,828.30	-1,071.63	3,968.98	0.00	0.00	0.00	
16,300.00	90.42	359.64	12,034.22	3,928.30	-1,072.25	4,066.79	0.00	0.00	0.00	
16,400.00	90.42	359.64	12,033.49	4,028.29	-1,072.87	4,164.60	0.00	0.00	0.00	
16,500.00	90.42	359.64	12,032.76	4,128.29	-1,073.49	4,262.41	0.00	0.00	0.00	
16,600.00	90.42	359.64	12,032.03	4,228.29	-1,074.12	4,360.22	0.00	0.00	0.00	
16,700.00	90.42	359.64	12,031.30	4,328.28	-1,074.74	4,458.03	0.00	0.00	0.00	
16,800.00	90.42	359.64	12,030.57	4,428.28	-1,075.36	4,555.83	0.00	0.00	0.00	
16,900.00	90.42	359.64	12,029.84	4,528.27	-1,075.98	4,653.64	0.00	0.00	0.00	
17,000.00	90.42	359.64	12,029.12	4,628.27	-1,076.60	4,751.45	0.00	0.00	0.00	
17,100.00	90.42	359.64	12,028.39	4,728.26	-1,077.22	4,849.26	0.00	0.00	0.00	
17,200.00	90.42	359.64	12,027.66	4,828.26	-1,077.85	4,947.07	0.00	0.00	0.00	
17,290.14	90.42	359.64	12,027.00	4,918.39	-1,078.41	5,035.23	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	12,027.00	4,918.39	-1,078.41	445,971.20	730,406.30	32° 13' 28.460749 N	103° 43' 18.914124	
FTP (Mesa Verde WC - plan misses target center by 101.06ft at 12171.86ft MD (11978.97 TVD, -184.03 N, -1033.09 E) - Point	0.00	0.00	12,062.00	-240.10	-1,046.30	440,812.97	730,438.40	32° 12' 37.415625 N	103° 43' 18.882083	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
769.00	769.00	RUSTLER				
1,106.00	1,106.00	SALADO				
3,023.00	3,023.00	CASTILE				
4,638.00	4,638.00	DELAWARE				
4,663.00	4,663.00	BELL CANYON				
5,533.82	5,533.00	CHERRY CANYON				
6,816.63	6,799.00	BRUSHY CANYON				
8,564.18	8,520.00	BONE SPRING				
9,658.81	9,598.00	BONE SPRING 1ST				
10,262.99	10,193.00	BONE SPRING 2ND				
11,582.97	11,493.00	BONE SPRING 3RD				
12,129.76	11,956.00	WOLFCAMP				

**Oxy Inc.**  
Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Mesa Verde WC Unit 13H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=25' @ 3597.00ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=25' @ 3597.00ft
<b>Site:</b>	Mesa Verde WC Unit	<b>North Reference:</b>	Grid
<b>Well:</b>	Mesa Verde WC Unit 13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	WB00		
<b>Design:</b>	Permitting Plan		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
4,990.00	4,990.00	0.00	0.00	Build 1°/100'	
5,990.00	5,984.93	-37.75	-78.43	Hold 10° Tangent	
11,543.69	11,454.25	-455.96	-947.42	KOP, Build & Turn 10°/100'	
12,490.44	12,062.00	118.92	-1,048.57	Landing Point	
17,290.14	12,027.00	4,918.39	-1,078.41	TD at 17290.14' MD	

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 22305

CONDITIONS OF APPROVAL

Operator:	OXY USA INC	P.O. Box 4294	Houston, TX772104294	OGRID:	16696	Action Number:	22305	Action Type:	C-103A
OCD Reviewer									Condition
pkautz									None