

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 and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Occidental Permian LTD PO Box 4294 Houston, TX 77210		² OGRID Number 157984	
⁴ Property Code 19520		³ API Number 30-025-52965	
⁵ Property Name North Hobbs G/SA Unit		⁶ Well No. 989	

⁷ Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
I	32	18S	38E		1658'	SOUTH	1262'	EAST	LEA

⁸ Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
M	33	18S	38E		1318'	SOUTH	1496'	WEST	LEA

⁹ Pool Information

Pool Name Hobbs; Grayburg - San Andres	Pool Code 31920
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Additional Well Information

¹¹ Work Type New Drill	¹² Well Type Injection	¹³ Cable/Rotary	¹⁴ Lease Type State	¹⁵ Ground Level Elevation 3630'
¹⁶ Multiple No	¹⁷ Proposed Depth 5600'	¹⁸ Formation SAN ANDRES	¹⁹ Contractor	²⁰ Spud Date 06/15/2024
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

²¹ Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
SURF	13 1/2"	9 5/8"	36	1600'	515/class C	SURF
PROD	8 3/4"	7"	26	5405'	784/class C	SURF

Casing/Cement Program: Additional Comments

as-drilled casing/cement design; Injection Order approved 05/03/2024 (Administration Order PMX-348)

²² Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
ANNULAR	5000	3000	

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

I further certify that I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.

Signature: *Roni Mathew*

Printed name: Roni Mathew

Title: Regulatory Advisor

E-mail Address: roni_mathew@oxy.com

Date: 05/08/2024

Phone: 713-215-7827

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date: 05/28/2024

Expiration Date: 05/28/2026

Conditions of Approval Attached

DISTRICT I
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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 30-025-52965	Pool Code 31920	Pool Name HOBBS; GRAYBURG-SAN ANDRES
Property Code 19520	Property Name NORTH HOBBS G/SA UNIT	Well Number 989
OGRID No. 157984	Operator Name OCCIDENTAL PERMIAN LTD	Elevation 3630.2'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	32	18-S	38-E		1658	SOUTH	1262	EAST	LEA

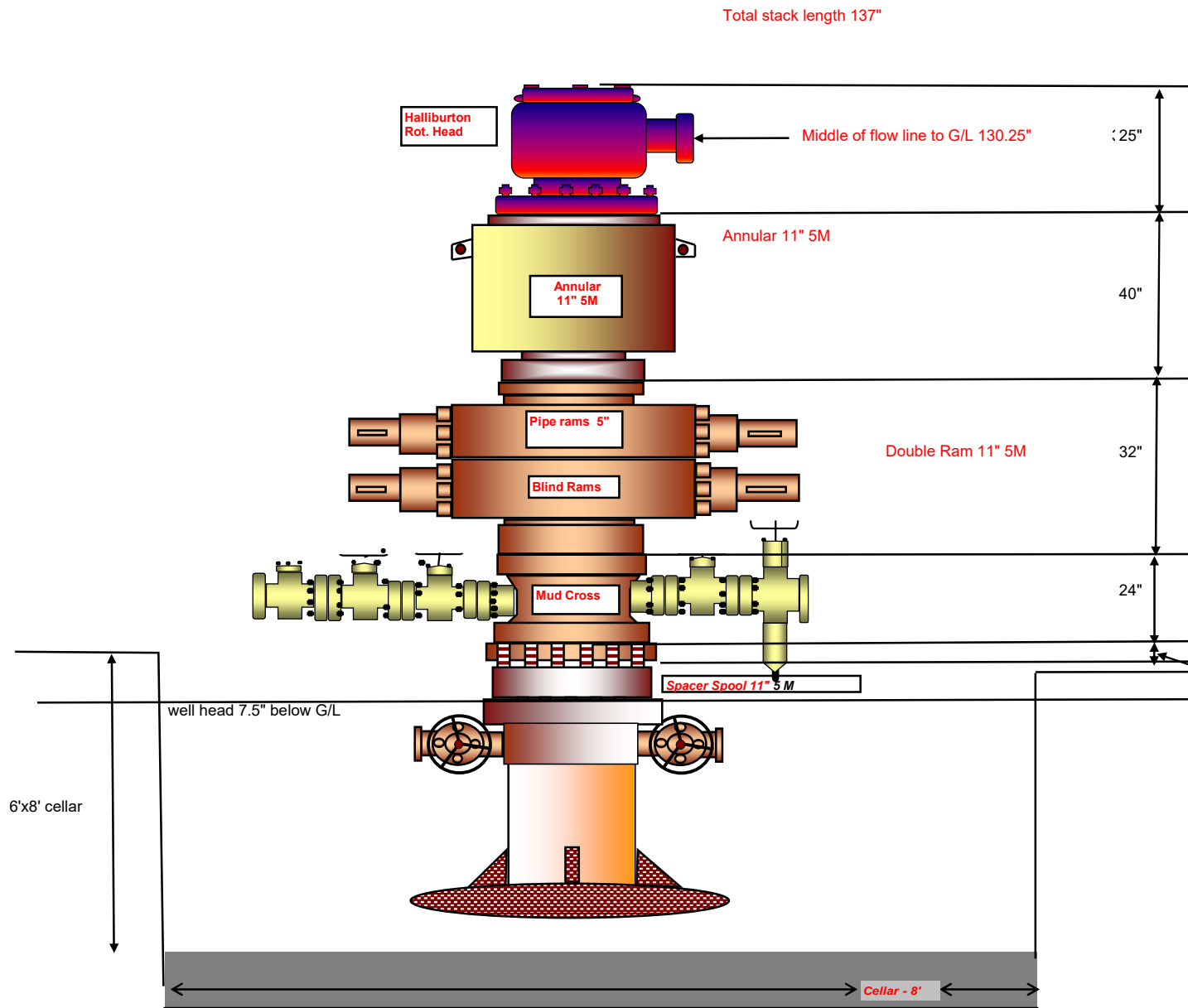
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	33	18-S	38-E		1318	SOUTH	1496	WEST	LEA
Dedicated Acres	Joint or Infill	Consolidation Code	Order No. PMX - 348						

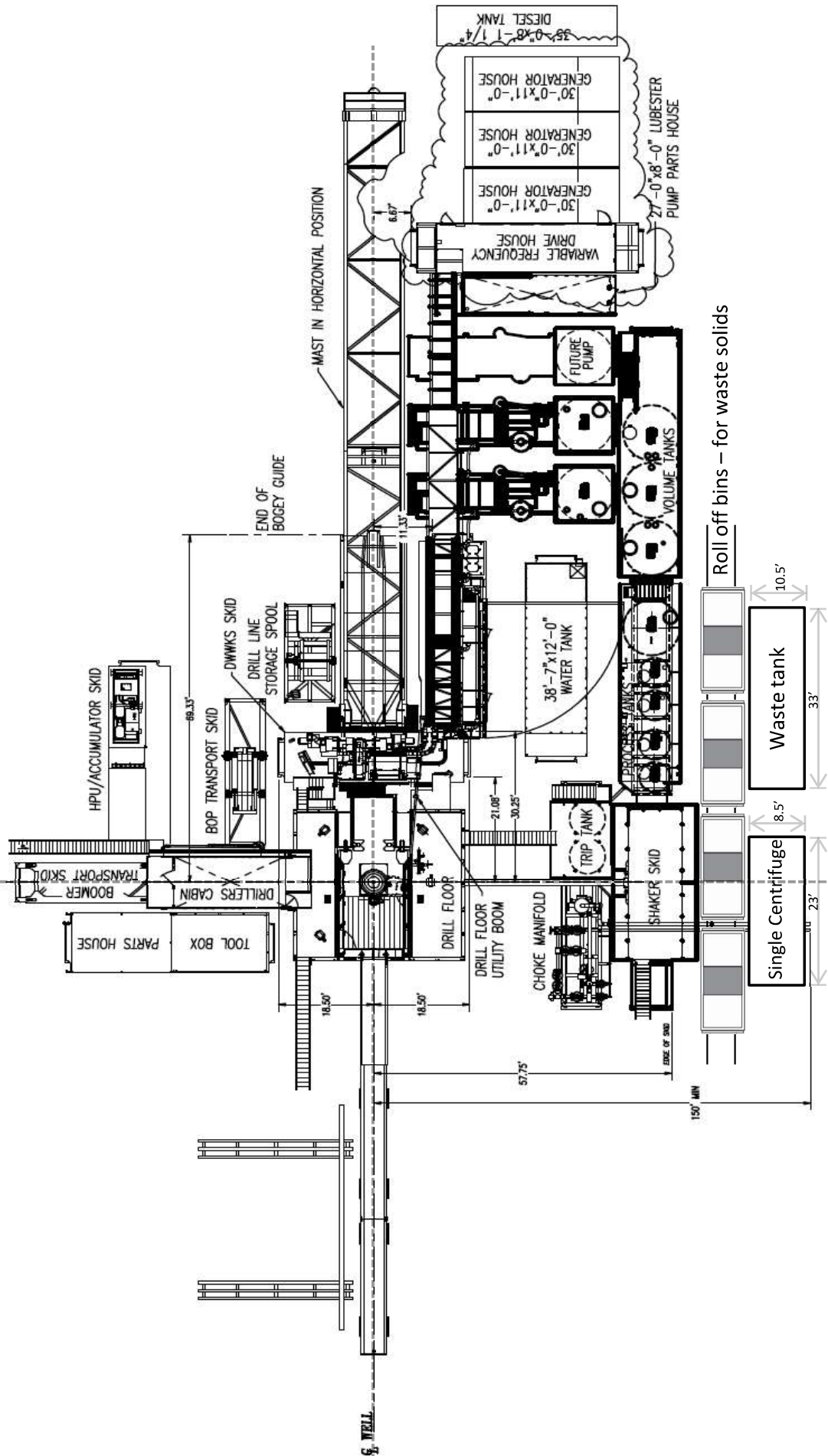
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>NAD 27 POINT LEGEND</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>1</td><td>Y=624332.5 N X=857779.7 E</td></tr> <tr><td>2</td><td>Y=624371.8 N X=860422.4 E</td></tr> <tr><td>3</td><td>Y=624405.5 N X=863079.8 E</td></tr> <tr><td>4</td><td>Y=624442.2 N X=865719.2 E</td></tr> <tr><td>5</td><td>Y=619150.8 N X=865784.5 E</td></tr> <tr><td>6</td><td>Y=619085.5 N X=860502.2 E</td></tr> <tr><td>7</td><td>Y=619057.1 N X=857846.1 E</td></tr> <tr><td>8</td><td>Y=621727.4 N X=860463.0 E</td></tr> </table>	1	Y=624332.5 N X=857779.7 E	2	Y=624371.8 N X=860422.4 E	3	Y=624405.5 N X=863079.8 E	4	Y=624442.2 N X=865719.2 E	5	Y=619150.8 N X=865784.5 E	6	Y=619085.5 N X=860502.2 E	7	Y=619057.1 N X=857846.1 E	8	Y=621727.4 N X=860463.0 E	<p><u>SURFACE LOCATION NAD 27</u> Y=620729.8 N X=859215.2 E LAT.=32.701047° N LONG.=103.165616° W</p> <p><u>PROPOSED BOTTOM HOLE LOCATION NAD 27</u> Y=620422.0 N X=861979.0 E LAT.=32.700117° N LONG.=103.156645° W</p>	<p style="text-align: center;">OPERATOR CERTIFICATION</p> <p><i>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p style="text-align: right;"><u>Roni Mathew</u> 12/4/2023</p> <p>Signature Date</p> <p>Roni Mathew</p> <p>Printed Name</p> <p><u>roni_mathew@oxy.com</u></p> <p>E-mail Address</p>
1	Y=624332.5 N X=857779.7 E																	
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<p>NAD 83 POINT LEGEND</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>1</td><td>Y=624392.4 N X=898959.7 E</td></tr> <tr><td>2</td><td>Y=624431.5 N X=901602.4 E</td></tr> <tr><td>3</td><td>Y=624465.0 N X=904259.7 E</td></tr> <tr><td>4</td><td>Y=624501.5 N X=906899.1 E</td></tr> <tr><td>5</td><td>Y=619210.1 N X=906964.6 E</td></tr> <tr><td>6</td><td>Y=619145.2 N X=901682.5 E</td></tr> <tr><td>7</td><td>Y=619117.1 N X=899026.4 E</td></tr> <tr><td>8</td><td>Y=621787.1 N X=901643.1 E</td></tr> </table>	1	Y=624392.4 N X=898959.7 E	2	Y=624431.5 N X=901602.4 E	3	Y=624465.0 N X=904259.7 E	4	Y=624501.5 N X=906899.1 E	5	Y=619210.1 N X=906964.6 E	6	Y=619145.2 N X=901682.5 E	7	Y=619117.1 N X=899026.4 E	8	Y=621787.1 N X=901643.1 E	<p><u>SURFACE LOCATION NAD 83</u> Y=620789.7 N X=900395.4 E LAT.=32.701161° N LONG.=103.166101° W</p> <p><u>PROPOSED BOTTOM HOLE LOCATION NAD 83</u> Y=620481.6 N X=903159.2 E LAT.=32.700230° N LONG.=103.157129° W</p>	<p style="text-align: center;">SURVEYOR CERTIFICATION</p> <p><i>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.</i></p> <p style="text-align: right;">NOVEMBER 14, 2023</p> <p>Date of Survey</p> <p>Signature & Seal of Professional Surveyor</p> <div style="text-align: center;"> </div> <p style="text-align: right;"><u>Chad Harcrow</u> 11/20/23</p> <p>Certificate No. CHAD HARCROW 17777</p> <p>W.O. #23-943 DRAWN BY: WN</p>
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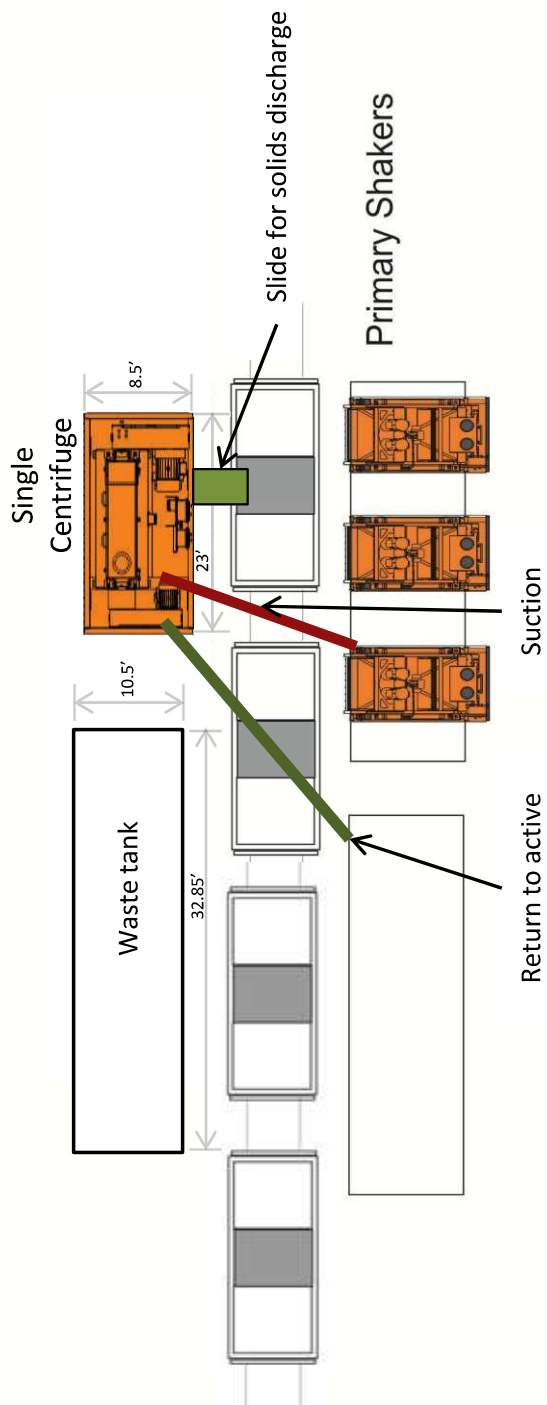
Geo Program							
	NHSAU 990-32	NHSAU 988-32	NHSAU 989-32	NHUCOOP-16	NHSAU 986-32	NHSAU 987-32	NHUCOOP-17
Top	TVD	TVD	TVD	TVD	TVD	TVD	TVD
Red Beds	198	197	197	197	202	202	203
Rustler	1510	1511	1510	1512	1504	1503	1506
Salt	1589	1590	1589	1591	1587	1587	1587
Yates	2656	2657	2659	2661	2652	2642	2660
Seven Rivers	2827	2852	2838	2880	2842	2842	2836
Queen	3361	3373	3365	3385	3370	3366	3380
Grayburg	3679	3685	3683	3695	3684	3674	3700
San Andres	3959	3978	3962	3994	3968	3960	3979



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



Oxy



Well Head

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

HYDROGEN SULFIDE (H₂S) **CONTINGENCY PLAN**

Oxy ORCM
EOR Drilling

5-9-2023
Rev. 1


	Oxy ORCM EOR Drilling		
	H ₂ S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

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	Oxy ORCM EOR Drilling		
	H ₂ S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

Revision Status

Revision #	Revision Date	Next Review	Change Description
1	05-09-2023	05-09-2025	Complete reformat of the original document last dated 10-27-2022

	Oxy ORCM EOR Drilling		
	H ₂ S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

1. SCOPE

This contingency plan establishes guidelines for the public; all company employees, and contract employees whose work activities may involve exposure to H₂S gas.

The H₂S Contingency Plan must coincide and be compatible with Oxy Onshore Resources Carbon Management (ORCM) – Enhanced Oil Recovery (EOR) Incident Management Plan (IMP).

2. OBJECTIVE

1. Provide an immediate and predetermined response plan to any condition when H₂S is detected. All H₂S detections in excess of 10 parts per million (ppm) concentrations are considered an Emergency.
2. Prevent any and all accidents and prevent the uncontrolled release of H₂S into the atmosphere.
3. Provide proper evacuation procedures to cope with emergencies.

3. DOCUMENT DISCUSSION


Implementation	For new drills, this plan with all details is to be fully implemented before drilling out of the surface shoe or 1000' before the anticipated H ₂ S zone. For Completions or workovers, it needs to be in place before operations start
Emergency response procedure	This section outlines the conditions and denotes steps to be taken in the event of an emergency.
Emergency equipment procedure	This section outlines the safety and emergency equipment that will be required for the drilling, completion, or workover operations on this well.
Training provisions	This section outlines the training provisions that must be adhered to prior to drilling, completing or working-over
Drilling / Completions emergency call lists	Included are the telephone numbers of all persons to be contacted should an emergency exist.
Briefing	This section deals with the briefing of all people involved in Drilling, Completion, or Well Servicing operation.
Public safety	Public safety personnel will be made aware of any potential evacuation and any additional support needed.
Checklists	Status checklists and procedural checklists have been included to insure adherence to the plan.
General information	A general information section has been included to supply support information.

4. EMERGENCY PROCEDURES

4.1 High H₂S While Operating

In the event of any evidence that H₂S is 10 ppm or higher while operating, personnel (Oxy and contractors) should take the following steps:

1. Begin evacuation procedures and secure well if it is safe to do so.
2. All personnel to report to the designated upwind safe briefing / muster area. If necessary and personnel are unable to escape safely then don escape breathing equipment if available and proceed to muster area.

	Oxy ORCM EOR Drilling		
	H₂S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

3. All personnel on location should be accounted for at the muster area. An emergency search may be conducted only when personnel trained and qualified to do so are available (trained and qualified backup personnel must be in place).
4. Non-essential personnel should be directed to leave the well site.
5. Drill Site Manager (DSM) to call out the H₂S contractor to send H₂S Safety personnel and air trailer (if they are not already on location).
6. The location entrance should be fully secured. The proper condition flag should be displayed at the entrance to the location for drilling locations.
7. All personnel to wait at muster area until the H₂S Safety personnel identifies the area / sensor where H₂S was detected, and if H₂S still is present. The H₂S Safety personnel will also report the level of concentration or if there is a faulty sensor or false alarm.
8. If H₂S is present, then the cascade system should be rigged up (if not already rigged up) and preparations made to work under cascade supplied air.

If no H₂S is present, the "H₂S All Clear Sign off checklist" should be completed and signed by Rig Manager / Supervisor, DSM, and or H₂S Safety personnel. After signature, all personnel can resume work under normal conditions.
9. Crew / essential personnel may go in and work under cascade supplied air as required after H₂S Safety personnel is on location and cascade system is operational.

NOTE: Self-contained breathing apparatus (SCBA) use is for emergency response or rescue which does include the initial well evaluation and possible shut in if not already shut in; no work will be performed utilizing the SCBA air packs.

4.2 Uncontrollable Conditions


If uncontrollable conditions occur:

1. Take steps to protect and / or remove any public in the down-wind area from the location – partial evacuation and isolation. Notify necessary civil authorities and appropriate regulatory entities (i.e., BLM and Texas railroad commission) of the situation.
2. Remove all personnel to the nearest upwind designated safe briefing / muster area or off location.
3. Notify civil authorities of safe briefing / muster area.
4. An assigned contractor, employee, or civil authority will blockade the entrance to the location. No unauthorized personnel will be allowed entry to the location.
5. Proceed with best plan (at the time) to regain control of the well.

****Reference the ORCM - EOR Blowout Response Plan**

4.3 Responsibility


Designated personnel listed below shall be responsible for the total implementation of this plan and shall be in complete command during any emergency.

	Oxy ORCM EOR Drilling		
	H₂S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

All personnel	<ol style="list-style-type: none"> 1. On alarm, will report to the nearest upwind designated safe briefing / muster area. 2. Check status / headcount of personnel. 3. Secure breathing equipment if available and safe to retrieve. 4. Await orders from supervision.
DSM / WSM / WOC	<ol style="list-style-type: none"> 1. Report to nearest upwind designated safe briefing / muster area. 2. Notify and call out H₂S Safety personnel and air trailer if not already on location from the respective contractor. 3. Coordinate preparations of individuals to return to work area when cleared to do so by the H₂S Safety personnel. 4. Assess situation and take control measures as necessary.
Rig Manager / Supervisor	<ol style="list-style-type: none"> 1. Report to up nearest upwind designated safe briefing / muster area. 2. All personnel on location will be accounted for and an emergency search may be conducted only when personnel trained and qualified to do so are available (trained and qualified backup personnel must be in place). 3. Coordinate preparations of individuals to return to work area when cleared to do so by the H₂S supervisor. 4. Assess situation and take control measures if needed. 5. If the DSM is not present the Rig Manager / Supervisor will assume supervision of the event until his return.
Driller / Operator / Line Boss	<ol style="list-style-type: none"> 1. Begin evacuation procedures and secure well if safe to do so 2. Check monitor for point of release if possible. 3. Don escape equipment, if necessary, report to nearest upwind designated safe briefing / muster area. 4. Assist Rig Manager in checking status of personnel. 5. Assign least essential person to notify DSM and toolpusher by quickest means in case of their absence. 6. Assumes the responsibilities of DSM and Rig Manager until they arrive should they be absent.
Derrickman / Floorman / Equipment Operators	Remain in briefing / muster area until instructed by supervisor.
Mud engineer	<ol style="list-style-type: none"> 1. Report to nearest upwind designated safe briefing / muster area. 2. When instructed, begin check of mud for pH and H₂S level. (Garett gas train)
H₂S Safety personnel	Identify the area / alarm where H ₂ S was detected, and if H ₂ S still present at what level of concentration or if faulty sensor or false alarm.

5. GENERAL EVACUATION PLAN

When the site supervision determines the H₂S gas cannot be limited to the well location and the public will be involved, they will activate the Incident Management Plan (See **ORCM EOR IMP**).

	Oxy ORCM EOR Drilling		
	H ₂ S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

6. EMERGENCY RESPONSE DRILLS

Muster drills should be conducted, at the work site, by each crew on a weekly basis. The drills should consist of a dry-run performance of personnel roles and responsibilities related to each assigned job.

Each drill should be critiqued by OXY DSM and any new considerations documented. The results should be communicated to the HSE Department, OXY and Contractor line management and all affected personnel, including Field and Office Superintendents. Records of each drill and a critique summary should be sent to the HSE Department for review if deemed necessary by the Drilling & Completions Manager.

7. TRAINING REQUIREMENTS

When working in an area where H₂S gas is expected, pre-job training requirements must be carried out. All companies will ensure that all essential personnel at the well site will have had adequate training in the following:

1. Hazards and characteristics of H₂S.
2. Physical effects of H₂S on the human body.
3. Toxicity of H₂S and sulfur dioxide.
4. H₂S detection.
5. Use of SCBA and supplied air equipment if expected to don and use the equipment
6. An adequate number of trained personnel in first aid and cardiopulmonary resuscitation (CPR).

8. SERVICE COMPANY AND VISITING PERSONNEL PRECAUTIONS

Each service company and visitor will be expected to attend a well site briefing / orientation upon arrival.


Each service company must equip and train their personnel on the use and capabilities with an H₂S monitor which is intrinsically safe, and capable of sensing a minimum H₂S concentration of 10 ppm. These devices are to be electronic, and capable of emitting a visual and audible alarm.

Visitors who are not equipped with personal H₂S monitors must be escorted by somebody equipped with a properly calibrated personal H₂S monitor with the approval of the functional superintendent.

9. EMERGENCY EQUIPMENT REQUIREMENTS

9.1 Minimum Emergency Equipment for Drilling Rigs

1. 1 sign at the location entrance with the following language:
Caution – Potential Poison Gas
Hydrogen Sulfide (H₂S)
No Admittance Without Authorization
2. Windssocks
 - One 36" length windssock at the center of location visible from the rig floor
 - One 36" length windssock visible from the pit areas
 - One windssock located at the primary and secondary muster areas

	Oxy ORCM EOR Drilling		
	H₂S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

3. H₂S sensors and alarms

****Safety contractor is to visually inspect and test the sensors and alarms on a weekly basis after rigging up****

i. Five (5) H₂S Sensors

- 1 between the reserve pit and rig at the generator side corner of the reserve pit
- 1 at the shakers and trip tank or mud return line receiver tank
- 3 at the rig floor and substructure:
 - 1 on rig floor driller side inside the derrick leg
 - 1 at bell nipple or beneath the rotary table adjacent to the flow line
 - 1 on substructure leg at draw-works side base of Blowout Preventor (BOP)

ii. Five (5) Audio / Visual alarms


- 1 audible alarm near the mud pumps facing the rig floor
- 1 visual alarm on the A-leg side of the driller shack facing the driller
- 1 audible alarm on the A-leg side of the driller shack facing the driller
- 1 visual alarm in the generator house
- 1 audio/visual control panel in the driller cabin

4. H₂S condition flags shall be displayed at the front gate with color indication of severity of H₂S.
5. Mud inspection devices:
 - Garrett gas train or hatch tester for inspection of sulfide concentration in mud system.
6. Adequate fire extinguishers shall be located at strategic locations
7. Hydraulic BOP equipment with a remote control that is rated for the anticipated pressures. Equipment is to be tested on installation and as required thereafter.
8. Gas buster equipment shall be installed before drilling out of surface.
9. 1 combustible gas detector on location at all times.
10. Radio / cell telephone communication at the rig (i.e., rig floor, trailer, vehicle, etc.).
11. Special control equipment such as a rotating head will be used as required.
12. An evacuation plan with evacuation routes should be established prior to well spud for each well and discussed with all personnel on location.
13. Designated areas will be maintained:
 - Parking and visitor area – all vehicles are to be parked at a predetermined safe distance from the wellhead with the first movement forward and toward the exit when possible.
 - A designated smoking area.
 - Two briefing / muster areas on opposite sides of the location – at the maximum allowable distance from the well bore to offset prevailing winds perpendicularly or at a 45-degree angle if wind direction tends to shift in the area.

9.2 Use of SCBA

All SCBAs shall be fitted with positive pressure demand regulators and shall conform to a recognized oil and gas industry standard, such as US National Institute of Occupational Safety and Health (NIOSH) or equivalent.

SCBAs shall be inspected monthly to ensure that they are properly stored, cleaned, maintained and ready for use, as per the manufacturer recommendation or as conditions warrant. Maintenance will be performed by qualified personnel certified by the manufacturer of the equipment, shall be responsible for the safe and efficient operation of the system and shall regularly maintain the system in its entirety as per Occupational Safety and Health

	Oxy ORCM EOR Drilling		
	H ₂ S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

Administration (OSHA) 29 Code of Federal Regulation (CFR) 1910.134, Compressed Gas Association (CGA) 7.0 and 7.1.

Anyone who may use the SCBAs shall be trained in the use of that specific equipment. **Note:** Items as facial hair (i.e., beard, sideburns, etc.) and eyeglasses will not allow proper seal. Anyone that may be reasonably expected to wear SCBAs should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses or contact lenses.

Persons assigned a task that requires use of SCBA shall be medically cleared and have a current fit test for the breathing equipment in use.

SCBAs should be worn:

1. While sampling air to determine if toxic concentrations of H₂S exist.
2. While entering areas where over 10 ppm H₂S has been detected.
3. Any time there is a doubt as to the H₂S level in the area to be entered.

9.3 Rescue

Oxy does not have the expectation for employees to perform rescue in an H₂S release situation. Rescue activities may be carried out by trained and certified personnel from a contracted safety company.

10. TOXIC EFFECTS OF H₂S

H₂S is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 ppm, which is .001% by volume. H₂S is heavier than air (specific gravity – 1.192) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. H₂S is almost as toxic as hydrogen cyanide and is between five and six times more toxic than carbon monoxide. The principal hazard of H₂S inhalation is death caused by paralysis of the respiratory system. The inhaled gas is absorbed into the bloodstream and is then carried to the brain where it affects the respiratory nerve center. Other symptoms of H₂S exposure include headaches, dizziness, drowsiness, increased heart rate, and nausea, with severity being determined by the amount of exposure. Coughing and pain in the eyes, throat, and chest may be attributed to the formation of acid formed when H₂S comes into contact with the moist surfaces of body tissue. Toxicity data for H₂S and various other gases are compared in Table 1. Physical effects at various H₂S exposure levels are shown in Table 2.


10.1 Table 1 – Toxicity of various gases

Common name	Chemical formula	Threshold limit (1)	Hazardous limit (2)	Lethal concentration (3)
Hydrogen Cyanide	HCN	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H ₂ S	10 ppm	250 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	5 ppm	-	1000 ppm
Chlorine	Cl ₂	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO ₂	5000 ppm	5%	10%
Methane	CH ₄	90,000 ppm	Combustible above 5% in air	

1) Threshold limit – concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.

2) Hazardous limit – concentration that will cause death with short-term exposure.

3) Lethal concentration – concentration that will cause death with short-term exposure.

	Oxy ORCM EOR Drilling		
	H₂S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

10.2 Table 2 – Physical effects of H₂S

Percent (%)	ppm	Grains (100 gr/ft ³)*	Physical effects
0.001	<10	00.65	Obvious and unpleasant odor.
0.002	10	01.30	Safe for 8 hours of exposure.
0.010	100	06.48	Kill smell in 3 – 15 minutes. May sting eyes and throat.
0.020	200	12.96	Kills smell shortly; stings eyes and throat.
0.050	500	32.96	Dizziness; breathing ceases in a few minutes; needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; death will result if not rescued promptly.
0.100	1000	64.30	Unconscious at once; followed by death within minutes.

*at 15.00 psia and 60°F


11. WEEKLY REQUIREMENTS LIST

Each of the following shall be performed each week:

1. Safety contractor will check each piece of the breathing equipment to make sure that demand or forced air regulator is working. This requires that the bottle be opened, and the mask assembly donned so that when you inhale you receive air or feel air flow. The mask shall be sized in accordance with the person's fit test for the particular mask.
2. Safety contractor will check the mask assembly to see that straps are loosened and turned back so that it is ready to don.
3. Safety contractor will check the pressure on all air bottles (active and spares) to make sure they are charged to full volume. Air quality shall be checked for proper air grade (breathing air – Grade D) before the bottles are brought to location.
4. BOP skills (well control / muster drills) will be tested weekly.
5. Supply pressure on BOP accumulator stand will be checked weekly.

12. ATTACHMENTS**12.1 Attachment 1 – List of Abbreviations**

BOP	Blowout Preventer
CFR	Code of Federal Regulation
CGA	Compressed Gas Association
CPR	Cardiopulmonary Resuscitation
DSM	Drill Site Manager
EOR	Enhanced Oil Recovery
H₂S	Hydrogen Sulfide
HSE	Health, Safety, and Environmental
IMP	Incident Management Plan
NIOSH	National Institute of Occupational Safety and Health

	Oxy ORCM EOR Drilling		
	H₂S CONTINGENCY PLAN	Rev. 1	Date: 5-9-2023

OSHA	Occupational Safety and Health Administration
ORCM	Onshore Resources Carbon Management
Ppm	parts per million
SCBA	Self-Contained Breathing Apparatus

12.2 Attachment 2 – Drilling H₂S All Clear Sign Off Sheet

DRILLING H₂S ALL CLEAR SIGN OFF SHEET

DSM: _____ Well: _____ Rig: _____

Date: _____ Time: _____

Verify with a H₂S gas tester the H₂S concentration of all areas listed below.

DSM initial	RM initial	HSE Tech initial	Area	H ₂ S PPM
			1. Shakers, Mud pits, mixing hopper area (active and reserve)	
			2. Wellhead/Cellar, Sub, Choke manifold	
			3. Pump Trailer, MCC, Generator	
			4. Rig Floor	
			5. Back yard around Frac tanks, bulk bins, mud products	
			6. DSM Trailer, RM Trailer, Change House	
			7. Mud Engineer Trailer, Mud logger, Directional Driller, MWD Hands trailer	
			8. Open Pit and/or Closed loop system, Wrangler pipe-rack area	
			9. Flare Line	

Hazards:	
----------	--

DSM
Signature _____

RM
Signature _____

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well North Hobbs G/SA Unit 989-32
Company:	Occidental Petroleum - Permian	TVD Reference:	GE 3630.2' + KB 16.8' @ 3647.00usft
Project:	Lea County, NM (NAD 27)	MD Reference:	GE 3630.2' + KB 16.8' @ 3647.00usft
Site:	North Hobbs Unit	North Reference:	Grid
Well:	North Hobbs G/SA Unit 989-32	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	Lea County, NM (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	North Hobbs Unit		
Site Position:		Northing:	620,869.10 usft
From:	Map	Easting:	860,172.70 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 42' 5.04 N
		Longitude:	103° 9' 45.00 W

Well	North Hobbs G/SA Unit 989-32		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	
Grid Convergence:	0.63 °		
		Latitude:	32° 42' 3.77 N
		Longitude:	103° 9' 56.22 W
		Ground Level:	3,630.20 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	3/28/2024	6.27	60.50	47,507.00000000

Design	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	96.35	

Plan Survey Tool Program	Date	4/10/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	5,404.59 Plan #2 (OH)	B001Mc_MWD+HRGM_Rev5.		
			ISCWSA MWD + HRGM		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,405.77	46.67	96.35	2,239.33	-66.34	595.71	3.00	3.00	6.19	96.35	
5,404.59	46.67	96.35	4,297.00	-307.80	2,763.80	0.00	0.00	0.00	0.00	PBHL (NHU 989-32)

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well North Hobbs G/SA Unit 989-32
Company:	Occidental Petroleum - Permian	TVD Reference:	GE 3630.2' + KB 16.8' @ 3647.00usft
Project:	Lea County, NM (NAD 27)	MD Reference:	GE 3630.2' + KB 16.8' @ 3647.00usft
Site:	North Hobbs Unit	North Reference:	Grid
Well:	North Hobbs G/SA Unit 989-32	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (NHU 989-32)									
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
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	1.50	96.35	899.99	-0.07	0.65	0.65	3.00	3.00	0.00
1,000.00	4.50	96.35	999.85	-0.65	5.85	5.89	3.00	3.00	0.00
1,100.00	7.50	96.35	1,099.29	-1.81	16.24	16.34	3.00	3.00	0.00
1,200.00	10.50	96.35	1,198.04	-3.54	31.78	31.98	3.00	3.00	0.00
1,300.00	13.50	96.35	1,295.85	-5.84	52.45	52.77	3.00	3.00	0.00
1,400.00	16.50	96.35	1,392.43	-8.71	78.17	78.65	3.00	3.00	0.00
1,500.00	19.50	96.35	1,487.52	-12.13	108.87	109.55	3.00	3.00	0.00
1,600.00	22.50	96.35	1,580.87	-16.09	144.49	145.38	3.00	3.00	0.00
1,700.00	25.50	96.35	1,672.22	-20.59	184.91	186.05	3.00	3.00	0.00
1,800.00	28.50	96.35	1,761.31	-25.62	230.02	231.44	3.00	3.00	0.00
1,900.00	31.50	96.35	1,847.90	-31.15	279.71	281.44	3.00	3.00	0.00
2,000.00	34.50	96.35	1,931.76	-37.18	333.83	335.89	3.00	3.00	0.00
2,100.00	37.50	96.35	2,012.65	-43.68	392.24	394.67	3.00	3.00	0.00
2,200.00	40.50	96.35	2,090.35	-50.65	454.78	457.59	3.00	3.00	0.00
2,300.00	43.50	96.35	2,164.66	-58.05	521.27	524.50	3.00	3.00	0.00
2,405.77	46.67	96.35	2,239.33	-66.34	595.71	599.39	3.00	3.00	0.00
2,500.00	46.67	96.35	2,303.99	-73.93	663.83	667.94	0.00	0.00	0.00
2,600.00	46.67	96.35	2,372.60	-81.98	736.13	740.68	0.00	0.00	0.00
2,700.00	46.67	96.35	2,441.22	-90.03	808.43	813.43	0.00	0.00	0.00
2,800.00	46.67	96.35	2,509.83	-98.09	880.73	886.17	0.00	0.00	0.00
2,900.00	46.67	96.35	2,578.45	-106.14	953.03	958.92	0.00	0.00	0.00
3,000.00	46.67	96.35	2,647.07	-114.19	1,025.32	1,031.66	0.00	0.00	0.00
3,100.00	46.67	96.35	2,715.68	-122.24	1,097.62	1,104.41	0.00	0.00	0.00
3,200.00	46.67	96.35	2,784.30	-130.29	1,169.92	1,177.15	0.00	0.00	0.00
3,300.00	46.67	96.35	2,852.91	-138.34	1,242.22	1,249.90	0.00	0.00	0.00
3,400.00	46.67	96.35	2,921.53	-146.40	1,314.52	1,322.64	0.00	0.00	0.00
3,500.00	46.67	96.35	2,990.15	-154.45	1,386.82	1,395.39	0.00	0.00	0.00
3,600.00	46.67	96.35	3,058.76	-162.50	1,459.11	1,468.13	0.00	0.00	0.00
3,700.00	46.67	96.35	3,127.38	-170.55	1,531.41	1,540.88	0.00	0.00	0.00
3,800.00	46.67	96.35	3,195.99	-178.60	1,603.71	1,613.62	0.00	0.00	0.00
3,900.00	46.67	96.35	3,264.61	-186.65	1,676.01	1,686.37	0.00	0.00	0.00
4,000.00	46.67	96.35	3,333.22	-194.71	1,748.31	1,759.11	0.00	0.00	0.00
4,100.00	46.67	96.35	3,401.84	-202.76	1,820.60	1,831.86	0.00	0.00	0.00
4,200.00	46.67	96.35	3,470.46	-210.81	1,892.90	1,904.60	0.00	0.00	0.00
4,300.00	46.67	96.35	3,539.07	-218.86	1,965.20	1,977.35	0.00	0.00	0.00
4,400.00	46.67	96.35	3,607.69	-226.91	2,037.50	2,050.09	0.00	0.00	0.00
4,500.00	46.67	96.35	3,676.30	-234.96	2,109.80	2,122.84	0.00	0.00	0.00
4,600.00	46.67	96.35	3,744.92	-243.02	2,182.09	2,195.58	0.00	0.00	0.00
4,700.00	46.67	96.35	3,813.54	-251.07	2,254.39	2,268.33	0.00	0.00	0.00
4,800.00	46.67	96.35	3,882.15	-259.12	2,326.69	2,341.08	0.00	0.00	0.00
4,900.00	46.67	96.35	3,950.77	-267.17	2,398.99	2,413.82	0.00	0.00	0.00
5,000.00	46.67	96.35	4,019.38	-275.22	2,471.29	2,486.57	0.00	0.00	0.00
5,100.00	46.67	96.35	4,088.00	-283.28	2,543.59	2,559.31	0.00	0.00	0.00

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Site:	North Hobbs Unit	North Reference:	Grid
Well:	North Hobbs G/SA Unit 989-32	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,200.00	46.67	96.35	4,156.62	-291.33	2,615.88	2,632.06	0.00	0.00	0.00	
5,300.00	46.67	96.35	4,225.23	-299.38	2,688.18	2,704.80	0.00	0.00	0.00	
5,404.59	46.67	96.35	4,297.00	-307.80	2,763.80	2,780.89	0.00	0.00	0.00	
PBHL (NHU 989-32)										

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 342132

CONDITIONS

Operator: OCCIDENTAL PERMIAN LTD P.O. Box 4294 Houston, TX 772104294	OGRID: 157984
	Action Number: 342132
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Notify OCD 24 hours prior to casing & cement	5/29/2024
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	5/29/2024
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	5/29/2024
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	5/29/2024
pkautz	Cement is required to circulate on both surface and production strings of casing	5/29/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	5/29/2024
pkautz	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud	5/29/2024
pkautz	MUST COMPLY WITH ALL COA'S IN ADMINISTRATIVE ORDER PMX-348	5/29/2024