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

Sundry Print Report

10/12/2021

Well Name: DEPTH CC 6-7 FEDERAL COM

Well Location: T24S / R29E / SEC 6 / LOT 4 / 32.2538209 / -104.0283039

County or Parish/State: EDDY / NM

Well Number: 41H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM013996, NMNM13996

Unit or CA Name:

Unit or CA Number:

US Well Number: 3001546777

Well Status: Approved Application for Permit to Drill

Operator: OXY USA INCORPORATED

Notice of Intent

Sundry ID: 2387823

Type of Submission: Notice of Intent

Type of Action: Other

Date Sundry Submitted: 05/19/2021

Time Sundry Submitted: 09:24

Date proposed operation will begin: 08/01/2021

Procedure Description: OXY USA Inc. respectfully requests approval to amend the casing, cement, mud programs for the subject well approved APD. We request approval for the addition of a pilot hole. The revised drill plan attached includes the CBL variance, BOP Break testing language and the skid order. Also attached additional drilling documents. - (10/6/21 Revised DrillPlan attachment as requested. As stated we will follow BLM Break Testing requirements.)

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

DepthCC6_7FederalCom41H_BOPBreakSKID_20211006093639.pdf

DepthCC6_7FederalCom41H_DrillPlan_v2_20211006093559.pdf

DepthCC6_7FederalCom41H_SFTORQ_20210519092206.pdf

DepthCC6_7FederalCom41H_DQW_20210519092128.pdf

DepthCC6_7FederalCom41H_OxyWellControlPlan_20210519091538.pdf

DepthCC6_7FederalCom41H_BOP_20210519091442.pdf

DepthCC6_7FederalCom41H_DirectPlan_ST_20210519091413.pdf

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DepthCC6_7FederalCom41H_DirectPlan_Pilot_20210519091358.pdf

DepthCC6_7FederalCom41H_DirectPlot_20210519091335.pdf

Conditions of Approval

Additional Reviews

Depth_CC_6_7_Federal_Com_41H_Sundry_ID_2387823_20211006104317.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: OCT 06, 2021 09:37 AM

Name: OXY USA INCORPORATED

Title: Advisor Regulatory

Street Address: 5 GREENWAY PLAZA, SUITE 110

City: HOUSTON **State:** TX

Phone: (713) 497-2492

Email address: LESLIE_REEVES@OXY.COM

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 10/12/2021

Signature: Chris Walls

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**OXY USA Incorporated**
LEASE NO.:	**NMNM13996**
LOCATION:	Section 6, T.24 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	Depth CC 6-7 Federal Com 41H
SURFACE HOLE FOOTAGE:	170'/N & 1250'/W
BOTTOM HOLE FOOTAGE	20'/S & 330'/W

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

Break Testing	☒ Yes	☐ No

A. HYDROGEN SULFIDE

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

B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **319 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of

six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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:

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage.

a. First stage: Operator will cement **5,118 feet** with intent to reach the top of the Brushy Canyon.

b. Second stage:

- Operator will perform bradenhead squeeze. 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.
  Cement excess is less than 25%, more cement might be required.

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

Operator has proposed to pump down 10-3/4" X 7-5/8" annulus. Operator must run Echo-meter to verify fluid top and the volume of displacement fluid above the cement slurry in the annulus Or operator must run a CBL from TD of the 7-5/8" casing to surface. Submit results to BLM. Operator must run one CBL per Well Pad.

The pilot hole plugging procedure is approved as written. Note plug tops on subsequent drilling report. The BLM is to be contacted 24 hours prior to the commencement of any plugging operations **(575-361-2822 Eddy County)** and when tagging the plugs.

- ❖ Mud Requirement: Mud shall be placed between all or below plugs. Minimum consistency of plugging mud shall be obtained by mixing at a rate of 25 sacks (50 pounds each) of gel per 100 barrels of **brine** water. Minimum nine (9) pounds per gallon.

- ❖ Cement requirement: Sufficient cement shall be used to bring any required plug to the specified depth and length. Any given cement volumes on the proposed plugging procedure are merely estimates and are not final. Unless specific approval is received, no plug except the surface plug shall be less than 25 sacks of cement. Any plug that requires a tag will have a minimum WOC time of 4 hours.

- ❖ Subsequent Plugging Reporting: Within 30 days after plugging work is completed to the BLM. The report should give in detail the manner in which the plugging work was carried out, the extent (by depths) of cement plugs placed, and the size and location (by depths) of casing left in the well. **Show date pilot hole was plugged and tagged.**

3. The minimum required fill of cement behind the production casing is:

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

C. PRESSURE CONTROL

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

2.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **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.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

Offline Cementing

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

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to 70% working pressure)**
- Approve as written on drill plan.
- 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 **(575-361-2822 Eddy 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.

GENERAL REQUIREMENTS

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

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

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

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

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

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

Oxy USA Inc. – Depth 41H/42H/43H/44H, Radius 51H/52H Break Test Sundry

Oxy requests permission to Break Test, as per the agreement reached in the OXY/BLM meeting on September 5, 2019.

API #	Well Name
30-015-46777	Depth CC 6_7 Federal Com 41H
30-015-46780	Depth CC 6_7 Federal Com 42H
30-015-46781	Depth CC 6_7 Federal Com 43H
30-015-46779	Depth CC 6_7 Federal Com 44H
30-015-46825	Radius CC 6_7 Federal Com 51H
30-015-46826	Radius CC 6_7 Federal Com 51H

BOP break test under the following conditions:

- After a full BOP test is conducted
- When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower.
- When skidding to drill a production section that does not penetrate into the third Bone Spring or deeper.

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

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

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

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

Depth 43H/44H	
PRIMARY SKID ORDER	
Step	**Operation**
1	RU on Depth 43H
2	Full BOP Test
3	Drill 9-7/8" Deep Intermediate on Depth 43H
4	Skid to Depth 44H
5	Full BOP Test
6	Drill 9-7/8" Deep Intermediate and 6-3/4” Curve/Lateral on Depth 44H
7	Skid to Depth 43H
8	Full BOP Test
9	Drill 6-3/4" Curve/Lateral on Depth 43H
10	Rig Down on Depth 43H
	NOTE: No opportunity to Break Test per Variance Rules

Oxy USA Inc. – Depth 41H/42H/43H/44H, Radius 51H/52H Break Test Sundry

Depth 41H/42H, Radius 51H/52H	
PRIMARY SKID ORDER	
Step	**Operation**
1	RU on Radius 52H
2	Full BOP Test
3	Drill 9-7/8" Deep Intermediate on Radius 52H
4	Skid to Depth 42H
5	Full BOP Test
6	Drill 9-7/8" Deep Intermediate on Depth 42H
7	Skid to Radius 51H
8	Full BOP Test
9	Drill 9-7/8" Deep Intermediate on Radius 51H
10	Skid to Depth 41H
11	Full BOP Test
12	Drill 9-7/8" Deep Intermediate and 6-3/4” Pilot on Depth 41H
13	Plugback Pilot Hole/Full BOP Test (if needed)
14	Sidetrack/Drill 6-3/4" Curve/Lateral on Depth 41H
15	Skid to Radius 51H
16	Full BOP Test
17	Drill 6-3/4" Curve/Lateral on Radius 51H
18	Skid to Depth 42H
19	Full BOP Test
20	Drill 6-3/4" Curve/Lateral on Depth 42H
21	Skid to Radius 52H
22	Full BOP Test
23	Drill 6-3/4" Curve/Lateral on Radius 52H
24	Rig Down on Radius 52H
	NOTE: No opportunity to Break Test per Variance Rules

Oxy USA Inc. - Depth CC 6_7 Federal Com 41H

Drill Plan

1. Geologic Formations

TVD of Target (ft):	10848	Pilot Hole Depth (ft):	12077
Total Measured Depth (ft):	21269	Deepest Expected Fresh Water (ft):	102

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	102	102	
Salado	515	515	Salt
Castile	1263	1263	Salt
Delaware	2729	2729	Oil/Gas/Brine
Bell Canyon	2778	2778	Oil/Gas/Brine
Cherry Canyon	3629	3629	Oil/Gas/Brine
Brushy Canyon	4868	4868	Losses
Bone Spring	6469	6459	Oil/Gas
Bone Spring 1st	7454	7432	Oil/Gas
Bone Spring 2nd	8246	8214	Oil/Gas
Bone Spring 3rd	9349	9303	Oil/Gas
Wolfcamp	9715	9663	Oil/Gas
Penn	11467	11375	Oil/Gas
Strawn	11877	11785	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	455	0	455	10.75	45.5	J-55	BTC
Intermediate	9.875	0	9249	0	9203	7.625	26.4	L-80 HC	BTC
Production	6.75	0	10770	0	10548	5.5	26	P-110 CYHP	TORQ SFW
Production	6.75	10770	21269	10548	10848	5	21.4	P-110 CYHP	TORQ DQW

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

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

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

Annular Clearance Variance Request

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

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

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd 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 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%	455	-	381	506	Circulate
Int.	1	Intermediate 1S - Tail	OH x Csg	0.2148	5%	9,249	5,118	565	932	Circulate
Int.	2	Intermediate 2S - Tail BH	OH x Csg	0.2148	25%	5,118	455	652	1252	Bradenhead
Int.	2	Intermediate 2S - Tail BH	Csg x Csg	0.2338	0%	455	-	55	106	Bradenhead
Prod.	1	Production - Tail	OH x Csg2	0.2812	20%	21,269	10,770	2568	3543	Circulate
Prod.	1	Production - Tail	OH x Csg1	0.2526	20%	10,770	9,249	334	461	Circulate
Prod.	1	Production - Tail	Csg x Csg	0.0999	0%	9,249	8,749	36	50	Circulate
Pilot	1	Pilot - Filler Plug	OH	0.4176	10%	12,077	11,425	290	300	Circulate
Pilot	2	Pilot - KO Base Plug	OH	0.4176	10%	11,425	10,772	290	300	Circulate
Pilot	3	Pilot - ST KO Plug	OH	0.4176	10%	10,772	10,120	315	300	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
Pilot - ST KO Plug	17.5	0.952	3.51		H		x		
Pilot - KO Base Plug	16.4	1.032	4.13		H				
Pilot - Filler Plug	14.4	1.032	4.13		H				

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"	3M	Annular	✔	70% of working pressure	9203
		3M	Blind Ram	✔	250 psi / 3000 psi	
			Pipe Ram			
			Double Ram	✔		
			Other*			
6.75" Hole (Pilot)	13-5/8"	5M	Annular	✔	100% of working pressure	11985
		10M	Blind Ram	✔	250 psi / 10000 psi	
			Pipe Ram			
			Double Ram	✔		
			Other*			
6.75" Hole (Lateral)	13-5/8"	5M	Annular	✔	70% of working pressure	10848
		5M	Blind Ram	✔	250 psi / 5000 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 manifold.

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

BOP Break Testing Request

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

BOP break test under the following conditions:
- After a full BOP test is conducted
- When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower.

If the kill line is broken prior to skid, two tests will be performed.
1) Wellhead flange, co-flex hose, kill line connections and upper pipe rams
2) Wellhead flange, HCR valve, check valve, upper pipe rams

If the kill line is not broken prior to skid, only one test will be performed.
1)Wellhead flange, co-flex hose, check valve, upper pipe rams

5. Mud Program

Section	Depth - MD		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Surface	0	455	0	455	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	455	9249	455	9203	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Pilot	9249	12077	9203	11985	Water-Based or Oil-Based Mud	9.5 - 13.5 (Pilot)	38-50	N/C
Production	10320	21269	10248	10848	Water-Based or Oil-Based Mud	9.5 - 13	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
Yes	Triple Combo (Spectral Gamma, Dipole Sonic, CMR)	Pilot

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8414 psi (Pilot), 7334 psi (Lateral)
Abnormal Temperature	No
BH Temperature at deepest TVD	176°F (Pilot), 167°F (Lateral)

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

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

8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe. We plan to drill the 4 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: 1540 bbls

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

9. Company Personnel

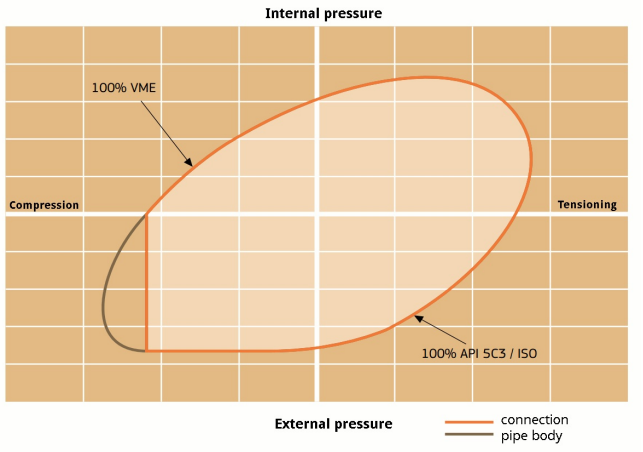
Name	Title	Office Phone	Mobile Phone
Garrett Granier	Drilling Engineer	713-513-6633	832-265-0581
Filip Krneta	Drilling Engineer Supervisor	713-350-4751	832-244-4980
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Diego Tellez	Drilling Manager	713-350-4602	713-303-4932

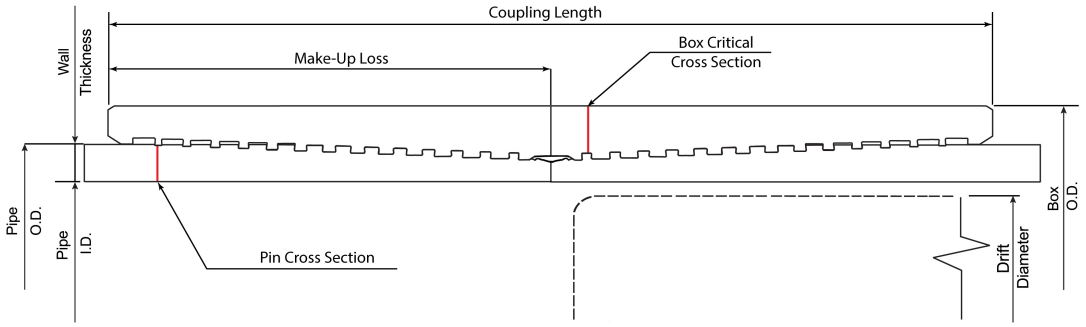
TUBULAR PARAMETERS	
Nominal OD, (inch)	5.000
Wall Thickness, (inch)	0.437
Pipe Grade	P110 CYHP
Coupling	Regular
Coupling Grade	P110 CYHP
Drift	Standard

CONNECTION PARAMETERS	
Connection OD (inch)	5.800
Connection ID, (inch)	4.126
Make-Up Loss, (inch)	4.284
Connection Critical Area, (sq inch)	8.106
Yield Strength in Tension, (klbs)	783
Yeld Strength in Compression, (klbs)	783
Tension Efficiency	100%
Compression Efficiency	100%
Min. Internal Yield Pressure, (psi)	19 120
Collapse Pressure, (psi)	19 860
Uniaxial Bending (deg/100ft)	114.7

MAKE-UP TORQUES	
Minimum Make-Up Torque, (ft-lb)	13 000
Optimum Make-Up Torque, (ft-lb)	14 500
Maximum Make-Up Torque, (ft-lb)	16 000
Operating Torque, (ft-lb)	32 000
Yield Torque, (ft-lb)	40 000

PIPE BODY PROPERTIES	
PE Weight, (lbs/ft)	21.32
Nominal Weight, (lbs/ft)	21.40
Nominal ID, (inch)	4.126
Drift Diameter, (inch)	4.001
Nominal Pipe Body Area, (sq inch)	6.264
Yield Strength in Tension, (klbs)	783
Min. Internal Yield Pressure, (psi)	19 120
Collapse Pressure, (psi)	19 860
Minimum Yield Strength, (psi)	125 000
Minimum Tensile Strength, (psi)	135 000





NOTE: The content of this Technical Data Sheet is for general information only and does not guarantee performance or imply fitness for a particular purpose, which only a competent drilling professional can determine considering the specific installation and operation parameters. This information supersede all prior versions for this connection. Information that is printed or downloaded is no longer controlled by TMK and might not be the latest information. Anyone using the information herein does so at their own risk. To verify that you have the latest technical information, please contact PAO "TMK" Technical Sales in Russia (Tel: +7 (495) 775-76-00, Email: techsales@tmk-group.com) and TMK IPSCO in North America (Tel: +1 (281)949-1044, Email: techsales@tmk-ipsco.com).

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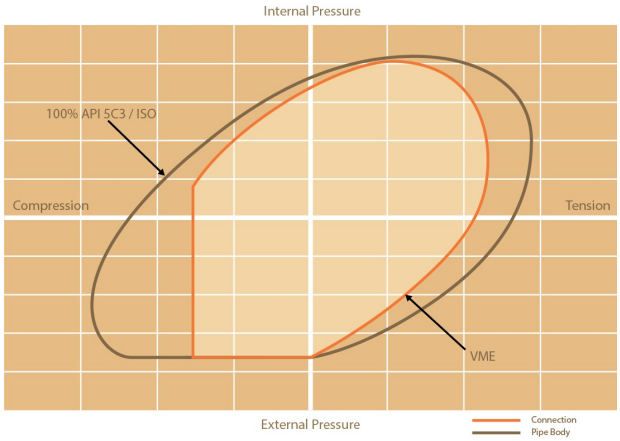
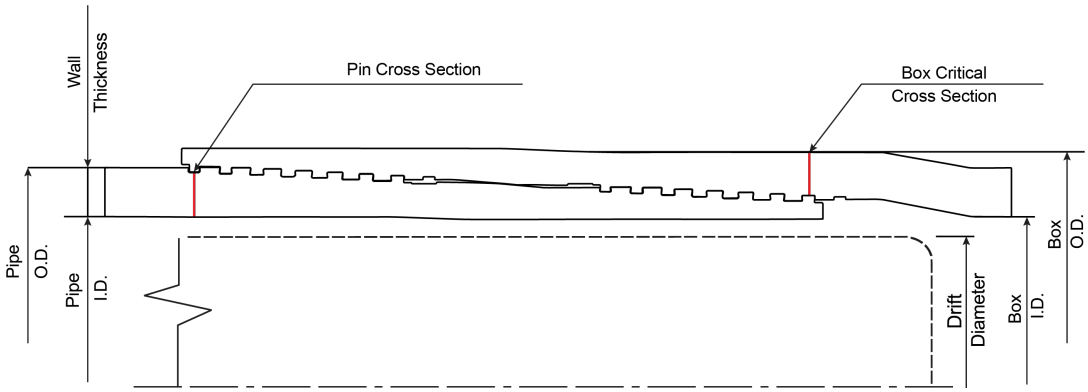
TUBULAR PARAMETERS	
Nominal OD, (inch)	5.500
Wall Thickness, (inch)	0.476
Pipe Grade	P110 CYHP
Coupling	Regular
Coupling Grade	P110 CYHP
Drift	Standard

CONNECTION PARAMETERS	
Connection OD (inch)	5.858
Connection ID, (inch)	4.504
Make-Up Loss, (inch)	5.660
Connection Critical Area, (sq inch)	6.906
Yield Strength in Tension, (klbs)	845
Yeld Strength in Compression, (klbs)	845
Tension Efficiency	90%
Compression Efficiency	90%
Min. Internal Yield Pressure, (psi)	18 930
Collapse Pressure, (psi)	20 420
Uniaxial Bending (deg/100ft)	93.8

MAKE-UP TORQUES	
Minimum Make-Up Torque, (ft-lb)	17 500
Optimum Make-Up Torque, (ft-lb)	25 000
Maximum Make-Up Torque, (ft-lb)	27 500
Operating Torque, (ft-lb)	39 000
Yield Torque, (ft-lb)	48 000

PIPE BODY PROPERTIES	
PE Weight, (lbs/ft)	25.56
Nominal Weight, (lbs/ft)	26.00
Nominal ID, (inch)	4.548
Drift Diameter, (inch)	4.423
Nominal Pipe Body Area, (sq inch)	7.513
Yield Strength in Tension, (klbs)	939
Min. Internal Yield Pressure, (psi)	18 930
Collapse Pressure, (psi)	20 420
Minimum Yield Strength, (psi)	125 000
Minimum Tensile Strength, (psi)	135 000





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Oxy Well Control Plan

A. Component and Preventer Compatibility Table

The table below, which covers the drilling and casing of the >5M MASP portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

Pilot hole and Lateral sections, 10M requirement

Component	OD	Preventer	RWP
Drillpipe	4-1/2"-5"	Lower 3-1/2 - 5-1/2" VBR Upper 3-1/2 - 5-1/2" VBR	10M
HWDP	4-1/2"-5"	Lower 3-1/2 - 5-1/2" VBR Upper 3-1/2 - 5-1/2" VBR	10M
Drill collars and MWD tools	4-3/4" – 5-1/2"	Lower 3-1/2 - 5-1/2" VBR Upper 3-1/2 - 5-1/2" VBR	10M
Mud Motor	4-3/4"	Lower 3-1/2 - 5-1/2" VBR Upper 3-1/2 - 5-1/2" VBR	10M
Production casing	5-1/2"	Lower 3-1/2 - 5-1/2" VBR Upper 3-1/2 - 5-1/2" VBR	10M
ALL	0" - 13-5/8"	Annular	5M
Open-hole	6-3/4"	Blind Rams	10M

VBR = Variable Bore Ram. Compatible range listed in chart.
HWDP = Heavy Weight Drill Pipe
MWD = Measurement While Drilling

B. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the Bottom Hole Assembly (BHA) through the Blowout Preventers (BOP). The pressure at which control is swapped from the annular to another compatible ram will occur when the anticipated pressure is approaching or envisioned to exceed 70% of the 5M annular Rated Working Pressure (RWP) or 3500 PSI.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in Well (uppermost applicable BOP, typically annular preventer first. The Hydraulic Control Remote (HCR) valve and choke will already be in the closed position).
5. Confirm shut-in
6. Notify tool pusher/company representative

7. Read and record the following:
    a. SIDPP and SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or expected to reach 70% of the annular RWP during kill operations, crew will reconfirm spacing and swap to the upper pipe ram

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full opening safety valve and close
3. Space out drill string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. The HCR and choke will already be in the closed position)
5. Confirm shut-in
6. Notify tool pusher/company representative
7. Read and record the following
    a. SIDPP and SICP
    b. Pit gain
    c. Time
    d. Regroup and identify forward plan
    e. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram

General Procedure While Running Casing

1. Sound alarm (alert crew)
2. Stab crossover and full opening safety valve and close
3. Space out string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. The HCR and choke will already be in the closed position).
5. Confirm shut-in
6. Notify tool pusher/company representative
7. Read and record the following:
    a. SIDPP and SICP
    b. Pit gain
    c. Time
    d. Regroup and identify forward plan.
    e. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to compatible pipe ram.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams or BSR. (The HCR and choke will already be in the closed position)
3. Confirm shut-in
4. Notify tool pusher/company representative

5. Read and record the following:
    a. SICP
    b. Pit gain
    c. Time
6. Regroup and identify forward plan

General Procedures While Pulling BHA thru Stack

1. PRIOR to pulling last joint of drill pipe thru the stack.
    a. Perform flow check, if flowing:
    b. Sound alarm (alert crew)
    c. Stab full opening safety valve and close
    d. Space out drill string with tool joint just beneath the upper pipe ram
    e. Shut-in using upper pipe ram. (The HCR and choke will already be in the closed position)
    f. Confirm shut-in
    g. Notify tool pusher/company representative
    h. Read and record the following:
        i. SIDPP and SICP
        ii. Pit gain
        iii. Time
        iv. Regroup and identify forward plan

2. With BHA in the stack and compatible ram preventer and pipe combo immediately available.
    a. Sound alarm (alert crew)
    b. Stab crossover and full opening safety valve and close
    c. Space out drill string with upset just beneath the compatible pipe ram
    d. Shut-in using compatible pipe ram. (The HCR and choke will already be in the closed position.)
    e. Confirm shut-in
    f. Notify tool pusher/company representative
    g. Read and record the following:
        i. SIDPP and SICP
        ii. Pit gain
        iii. Time
        iv. Regroup and identify forward plan

3. With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
    a. Sound alarm (alert crew)
    b. If possible to pick up high enough, pull string clear of the stack and follow “Open Hole” scenario
    c. If impossible to pick up high enough to pull the string clear of the stack
    d. Stab crossover, make up one joint/stand of drill pipe, and full opening safety valve and close
    e. Space out drill string with tool joint just beneath the upper pipe ram

f. Shut-in using upper pipe ram. (The HCR and choke will already be in the closed position)
g. Confirm shut-in
h. Notify tool pusher/company representative
i. Read and record the following:
    i. SIDPP and SICP
    ii. Pit gain
    iii. Time

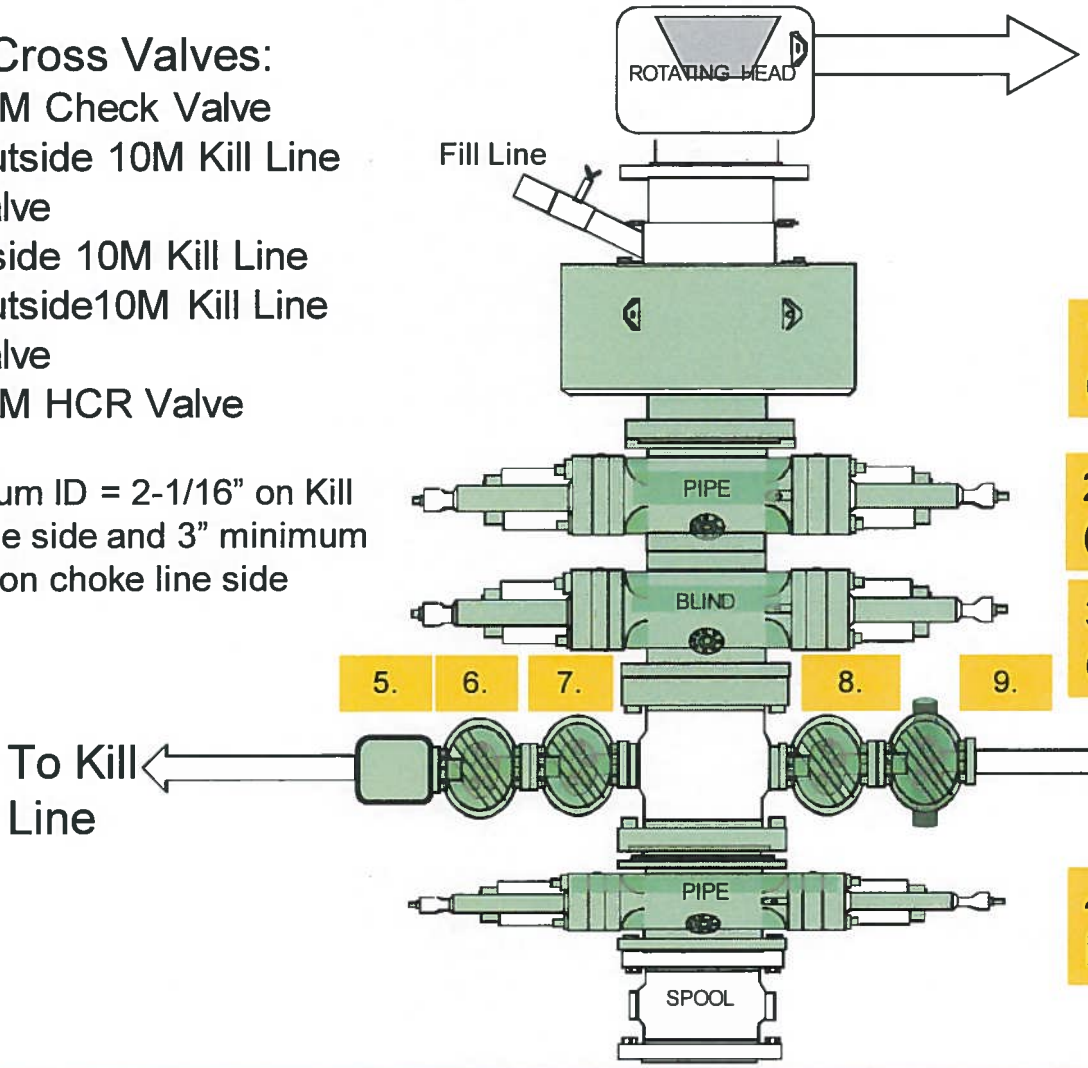
j. Regroup and identify forward plan

5/10M BOP Stack

Mud Cross Valves:

5. 10M Check Valve
6. Outside 10M Kill Line Valve
7. Inside 10M Kill Line
8. Outside10M Kill Line Valve
9. 10M HCR Valve

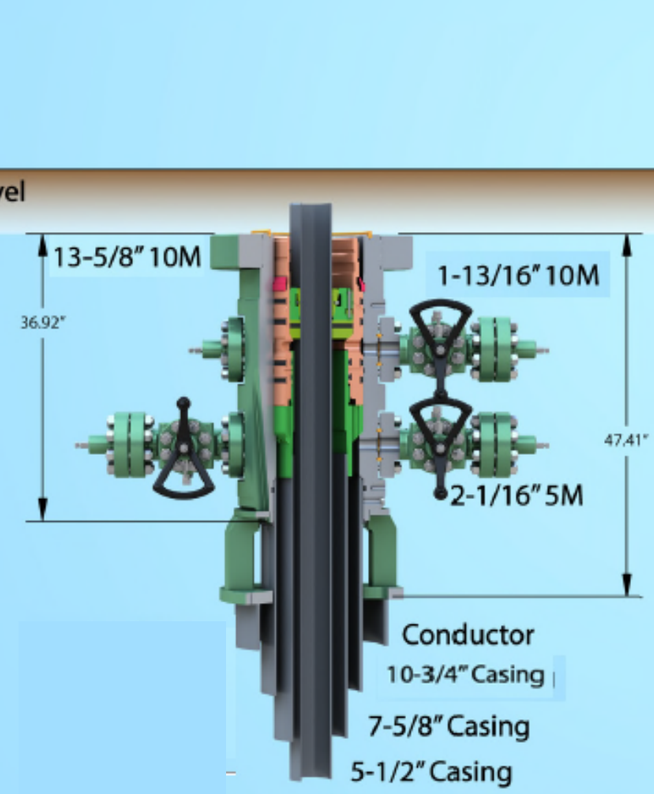
*Minimum ID = 2-1/16" on Kill Line side and 3" minimum ID on choke line side



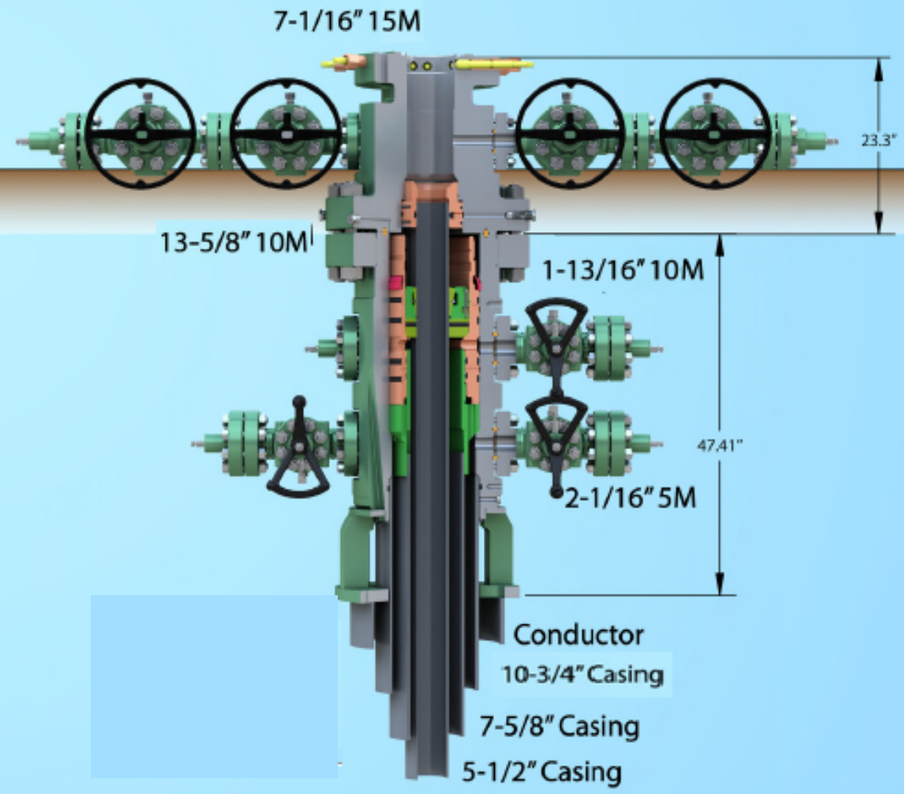
1. 5,000 psi Annular (13-5/8" ID)
2. 10,000 psi Upper Pipe Ram (13-5/8" ID)
3. 10,000 psi Blind Ram (13-5/8" ID)
4. 10,000 psi Lower Pipe Ram (13-5/8" ID)

CAMERON
A Schlumberger Company

13-5/8" 10M MN-DS Wellhead System
Slips



NOTE: All dimensions on this drawing are estimated measurements determined by master quote and may vary by components used in the field.



NOTE: All dimensions on this drawing are estimated measurements determined by master quote and may vary by components used in the field.

OXY

2017-192-01 Rev02

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: Depth CC 6-7
Well: Depth CC 6_7 Federal Com 41H
Wellbore: Wellbore #2
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

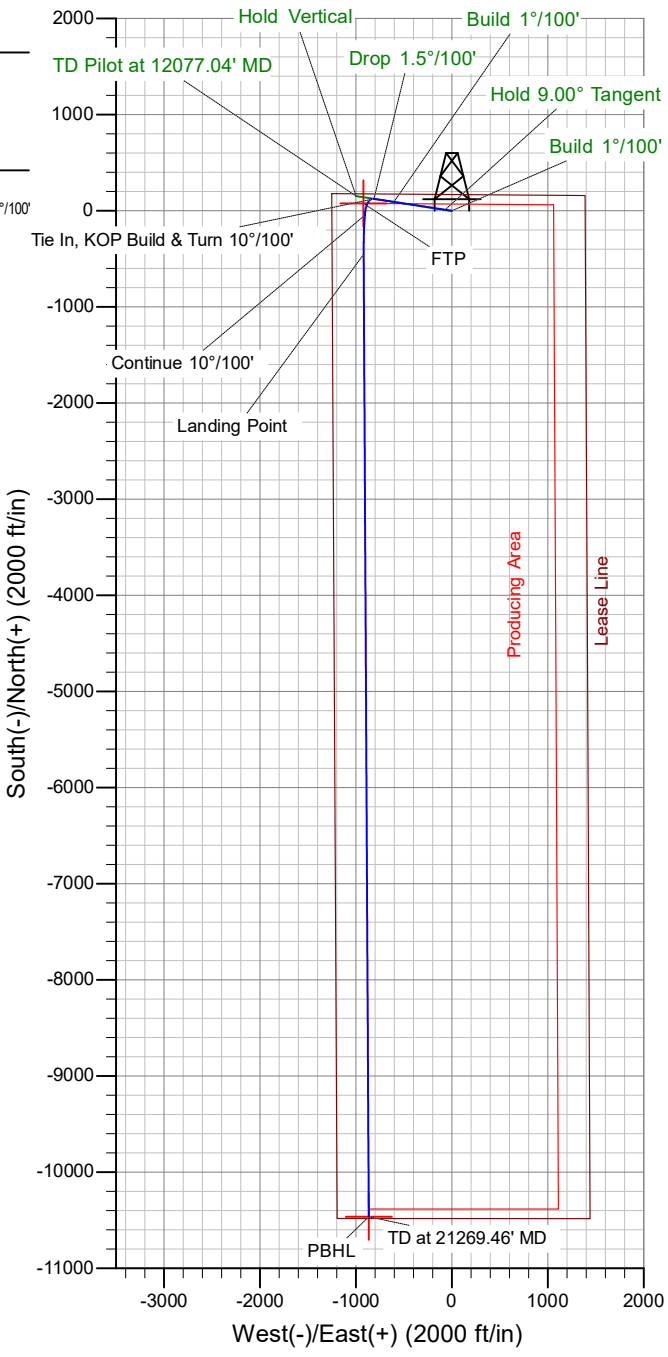
WELL DETAILS: Depth CC 6_7 Federal Com 41H

Ground Level: 2958.90

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	456207.27	635631.76	32° 15' 13.755199 N	104° 1' 41.894108 W

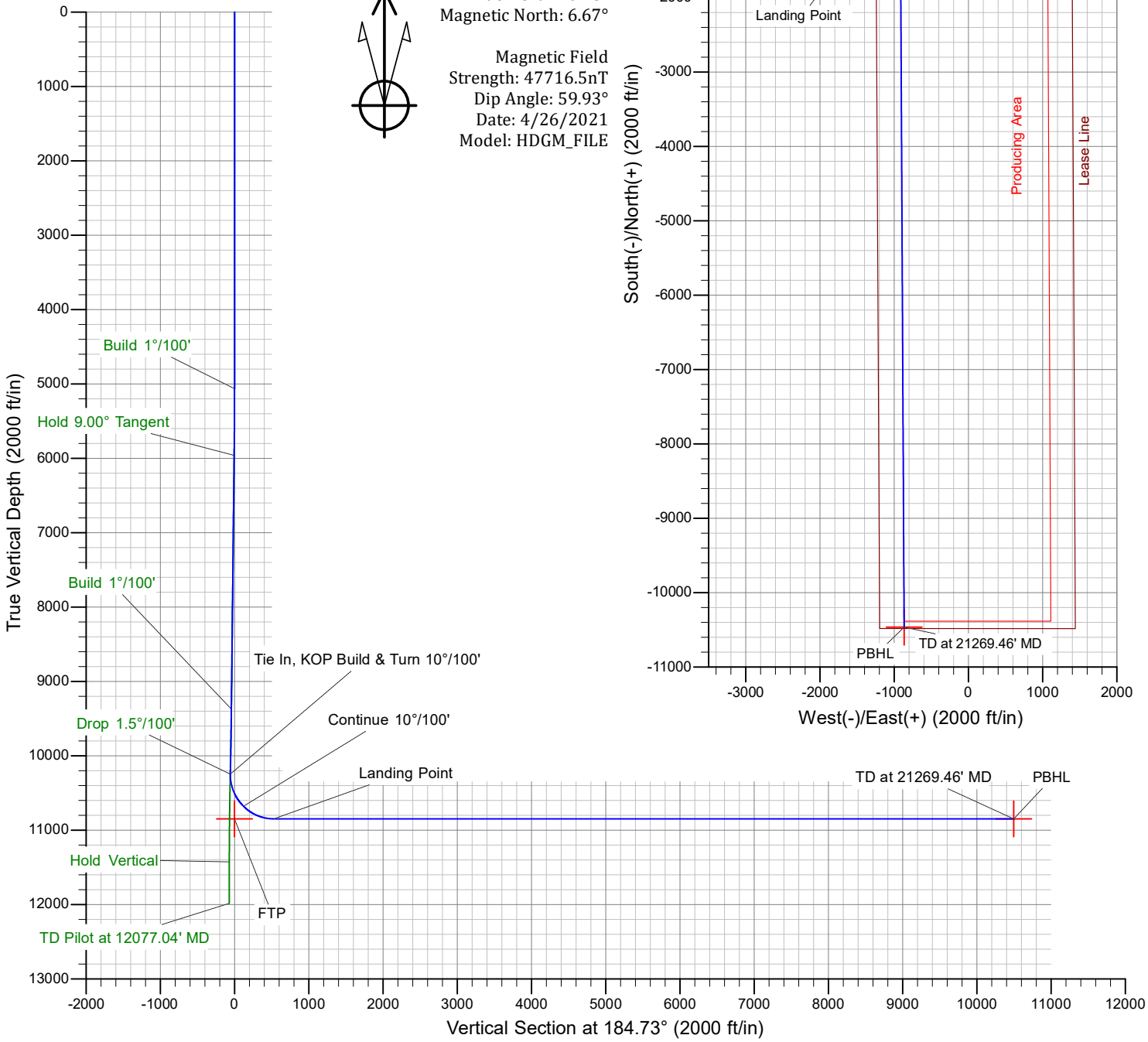
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSect	Annotation
10319.59	18.00	278.72	10247.60	124.44	-811.35	0.00	0.00	-57.13	Tie In, KOP Build & Turn 10°/100'
10808.71	45.00	184.71	10679.68	-46.98	-906.08	10.00	-110.63	121.52	Continue 10°/100'
11260.90	90.00	179.70	10848.40	-453.74	-918.66	10.00	-7.07	527.93	Landing Point
21269.46	90.00	179.70	10848.40	-10462.17	-865.43	0.00	0.00	10497.90	TD at 21269.46' MD



Azimuths to Grid North
True North: -0.16°
Magnetic North: 6.67°

Magnetic Field
Strength: 47716.5nT
Dip Angle: 59.93°
Date: 4/26/2021
Model: HDGM_FILE



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PRD NM DIRECTIONAL PLANS (NAD 1983)
Depth CC 6-7
Depth CC 6_7 Federal Com 41H

Wellbore #2

Plan: Permitting Plan

Standard Planning Report

26 April, 2021

Oxy Inc.
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Depth CC 6_7 Federal Com 41H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 2985.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 2985.40ft
Site:	Depth CC 6-7	**North Reference:**	Grid
Well:	Depth CC 6_7 Federal Com 41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #2		
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 Depth CC 6-7

Site Position:		**Northing:**	456,207.91 usft	**Latitude:**	32° 15' 13.763924 N
From:	Map	**Easting:**	635,546.67 usft	**Longitude:**	104° 1' 42.884992 W
Position Uncertainty:	2.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.16 °

Well Depth CC 6_7 Federal Com 41H

Well Position	**+N/-S**	-0.64 ft	**Northing:**	456,207.27 usft	**Latitude:**	32° 15' 13.755199 N
	+E/-W	85.10 ft	**Easting:**	635,631.76 usft	**Longitude:**	104° 1' 41.894108 W
Position Uncertainty		1.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	2,958.90 ft

Wellbore Wellbore #2

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	4/26/2021	6.83	59.93	47,716.50000000

Design Permitting Plan

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	10,319.59

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	184.73

Plan Survey Tool Program **Date** 4/26/2021

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	10,319.59	21,269.46	Permitting Plan (Wellbore #2)	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
10,319.59	18.00	278.72	10,247.60	124.44	-811.35	0.00	0.00	0.00	0.00	
10,808.71	45.00	184.71	10,679.68	-46.98	-906.08	10.00	5.52	-19.22	-110.63	
11,260.90	90.00	179.70	10,848.40	-453.74	-918.66	10.00	9.95	-1.11	-7.07	
21,269.46	90.00	179.70	10,848.40	-10,462.17	-865.43	0.00	0.00	0.00	0.00	PBHL (Depth CC

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Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 2985.40ft
Site:	Depth CC 6-7	**North Reference:**	Grid
Well:	Depth CC 6_7 Federal Com 41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #2		
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)
10,319.59	18.00	278.72	10,247.60	124.44	-811.35	-57.13	0.00	0.00	0.00
10,400.00	16.88	251.92	10,324.43	122.70	-834.77	-53.47	10.00	-1.40	-33.34
10,500.00	20.28	221.97	10,419.42	105.27	-860.22	-33.99	10.00	3.40	-29.94
10,600.00	27.05	203.40	10,511.08	71.43	-880.89	1.43	10.00	6.77	-18.58
10,700.00	35.30	192.38	10,596.64	22.21	-896.16	51.74	10.00	8.25	-11.02
10,800.00	44.21	185.22	10,673.48	-40.89	-905.55	115.40	10.00	8.90	-7.16
10,808.71	45.00	184.71	10,679.68	-46.98	-906.08	121.52	10.00	9.11	-5.87
10,900.00	54.07	183.33	10,738.87	-116.19	-910.88	190.89	10.00	9.93	-1.51
11,000.00	64.02	182.14	10,790.24	-201.74	-914.92	276.48	10.00	9.95	-1.19
11,100.00	73.97	181.13	10,826.04	-294.94	-917.55	369.58	10.00	9.96	-1.00
11,200.00	83.93	180.23	10,845.18	-392.96	-918.70	467.36	10.00	9.96	-0.91
11,260.90	90.00	179.70	10,848.40	-453.74	-918.66	527.93	10.00	9.96	-0.87
11,300.00	90.00	179.70	10,848.40	-492.84	-918.45	566.88	0.00	0.00	0.00
11,400.00	90.00	179.70	10,848.40	-592.84	-917.92	666.50	0.00	0.00	0.00
11,500.00	90.00	179.70	10,848.40	-692.84	-917.39	766.11	0.00	0.00	0.00
11,600.00	90.00	179.70	10,848.40	-792.84	-916.86	865.73	0.00	0.00	0.00
11,700.00	90.00	179.70	10,848.40	-892.84	-916.33	965.34	0.00	0.00	0.00
11,800.00	90.00	179.70	10,848.40	-992.84	-915.80	1,064.95	0.00	0.00	0.00
11,900.00	90.00	179.70	10,848.40	-1,092.84	-915.26	1,164.57	0.00	0.00	0.00
12,000.00	90.00	179.70	10,848.40	-1,192.83	-914.73	1,264.18	0.00	0.00	0.00
12,100.00	90.00	179.70	10,848.40	-1,292.83	-914.20	1,363.80	0.00	0.00	0.00
12,200.00	90.00	179.70	10,848.40	-1,392.83	-913.67	1,463.41	0.00	0.00	0.00
12,300.00	90.00	179.70	10,848.40	-1,492.83	-913.14	1,563.03	0.00	0.00	0.00
12,400.00	90.00	179.70	10,848.40	-1,592.83	-912.60	1,662.64	0.00	0.00	0.00
12,500.00	90.00	179.70	10,848.40	-1,692.83	-912.07	1,762.26	0.00	0.00	0.00
12,600.00	90.00	179.70	10,848.40	-1,792.83	-911.54	1,861.87	0.00	0.00	0.00
12,700.00	90.00	179.70	10,848.40	-1,892.82	-911.01	1,961.48	0.00	0.00	0.00
12,800.00	90.00	179.70	10,848.40	-1,992.82	-910.48	2,061.10	0.00	0.00	0.00
12,900.00	90.00	179.70	10,848.40	-2,092.82	-909.94	2,160.71	0.00	0.00	0.00
13,000.00	90.00	179.70	10,848.40	-2,192.82	-909.41	2,260.33	0.00	0.00	0.00
13,100.00	90.00	179.70	10,848.40	-2,292.82	-908.88	2,359.94	0.00	0.00	0.00
13,200.00	90.00	179.70	10,848.40	-2,392.82	-908.35	2,459.56	0.00	0.00	0.00
13,300.00	90.00	179.70	10,848.40	-2,492.82	-907.82	2,559.17	0.00	0.00	0.00
13,400.00	90.00	179.70	10,848.40	-2,592.81	-907.29	2,658.78	0.00	0.00	0.00
13,500.00	90.00	179.70	10,848.40	-2,692.81	-906.75	2,758.40	0.00	0.00	0.00
13,600.00	90.00	179.70	10,848.40	-2,792.81	-906.22	2,858.01	0.00	0.00	0.00
13,700.00	90.00	179.70	10,848.40	-2,892.81	-905.69	2,957.63	0.00	0.00	0.00
13,800.00	90.00	179.70	10,848.40	-2,992.81	-905.16	3,057.24	0.00	0.00	0.00
13,900.00	90.00	179.70	10,848.40	-3,092.81	-904.63	3,156.86	0.00	0.00	0.00
14,000.00	90.00	179.70	10,848.40	-3,192.81	-904.09	3,256.47	0.00	0.00	0.00
14,100.00	90.00	179.70	10,848.40	-3,292.80	-903.56	3,356.09	0.00	0.00	0.00
14,200.00	90.00	179.70	10,848.40	-3,392.80	-903.03	3,455.70	0.00	0.00	0.00
14,300.00	90.00	179.70	10,848.40	-3,492.80	-902.50	3,555.31	0.00	0.00	0.00
14,400.00	90.00	179.70	10,848.40	-3,592.80	-901.97	3,654.93	0.00	0.00	0.00
14,500.00	90.00	179.70	10,848.40	-3,692.80	-901.44	3,754.54	0.00	0.00	0.00
14,600.00	90.00	179.70	10,848.40	-3,792.80	-900.90	3,854.16	0.00	0.00	0.00
14,700.00	90.00	179.70	10,848.40	-3,892.80	-900.37	3,953.77	0.00	0.00	0.00
14,800.00	90.00	179.70	10,848.40	-3,992.80	-899.84	4,053.39	0.00	0.00	0.00
14,900.00	90.00	179.70	10,848.40	-4,092.79	-899.31	4,153.00	0.00	0.00	0.00
15,000.00	90.00	179.70	10,848.40	-4,192.79	-898.78	4,252.61	0.00	0.00	0.00
15,100.00	90.00	179.70	10,848.40	-4,292.79	-898.24	4,352.23	0.00	0.00	0.00
15,200.00	90.00	179.70	10,848.40	-4,392.79	-897.71	4,451.84	0.00	0.00	0.00
15,300.00	90.00	179.70	10,848.40	-4,492.79	-897.18	4,551.46	0.00	0.00	0.00
15,400.00	90.00	179.70	10,848.40	-4,592.79	-896.65	4,651.07	0.00	0.00	0.00

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Wellbore:	Wellbore #2		
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)
15,500.00	90.00	179.70	10,848.40	-4,692.79	-896.12	4,750.69	0.00	0.00	0.00
15,600.00	90.00	179.70	10,848.40	-4,792.78	-895.58	4,850.30	0.00	0.00	0.00
15,700.00	90.00	179.70	10,848.40	-4,892.78	-895.05	4,949.91	0.00	0.00	0.00
15,800.00	90.00	179.70	10,848.40	-4,992.78	-894.52	5,049.53	0.00	0.00	0.00
15,900.00	90.00	179.70	10,848.40	-5,092.78	-893.99	5,149.14	0.00	0.00	0.00
16,000.00	90.00	179.70	10,848.40	-5,192.78	-893.46	5,248.76	0.00	0.00	0.00
16,100.00	90.00	179.70	10,848.40	-5,292.78	-892.93	5,348.37	0.00	0.00	0.00
16,200.00	90.00	179.70	10,848.40	-5,392.78	-892.39	5,447.99	0.00	0.00	0.00
16,300.00	90.00	179.70	10,848.40	-5,492.77	-891.86	5,547.60	0.00	0.00	0.00
16,400.00	90.00	179.70	10,848.40	-5,592.77	-891.33	5,647.22	0.00	0.00	0.00
16,500.00	90.00	179.70	10,848.40	-5,692.77	-890.80	5,746.83	0.00	0.00	0.00
16,600.00	90.00	179.70	10,848.40	-5,792.77	-890.27	5,846.44	0.00	0.00	0.00
16,700.00	90.00	179.70	10,848.40	-5,892.77	-889.73	5,946.06	0.00	0.00	0.00
16,800.00	90.00	179.70	10,848.40	-5,992.77	-889.20	6,045.67	0.00	0.00	0.00
16,900.00	90.00	179.70	10,848.40	-6,092.77	-888.67	6,145.29	0.00	0.00	0.00
17,000.00	90.00	179.70	10,848.40	-6,192.76	-888.14	6,244.90	0.00	0.00	0.00
17,100.00	90.00	179.70	10,848.40	-6,292.76	-887.61	6,344.52	0.00	0.00	0.00
17,200.00	90.00	179.70	10,848.40	-6,392.76	-887.08	6,444.13	0.00	0.00	0.00
17,300.00	90.00	179.70	10,848.40	-6,492.76	-886.54	6,543.74	0.00	0.00	0.00
17,400.00	90.00	179.70	10,848.40	-6,592.76	-886.01	6,643.36	0.00	0.00	0.00
17,500.00	90.00	179.70	10,848.40	-6,692.76	-885.48	6,742.97	0.00	0.00	0.00
17,600.00	90.00	179.70	10,848.40	-6,792.76	-884.95	6,842.59	0.00	0.00	0.00
17,700.00	90.00	179.70	10,848.40	-6,892.75	-884.42	6,942.20	0.00	0.00	0.00
17,800.00	90.00	179.70	10,848.40	-6,992.75	-883.88	7,041.82	0.00	0.00	0.00
17,900.00	90.00	179.70	10,848.40	-7,092.75	-883.35	7,141.43	0.00	0.00	0.00
18,000.00	90.00	179.70	10,848.40	-7,192.75	-882.82	7,241.05	0.00	0.00	0.00
18,100.00	90.00	179.70	10,848.40	-7,292.75	-882.29	7,340.66	0.00	0.00	0.00
18,200.00	90.00	179.70	10,848.40	-7,392.75	-881.76	7,440.27	0.00	0.00	0.00
18,300.00	90.00	179.70	10,848.40	-7,492.75	-881.22	7,539.89	0.00	0.00	0.00
18,400.00	90.00	179.70	10,848.40	-7,592.74	-880.69	7,639.50	0.00	0.00	0.00
18,500.00	90.00	179.70	10,848.40	-7,692.74	-880.16	7,739.12	0.00	0.00	0.00
18,600.00	90.00	179.70	10,848.40	-7,792.74	-879.63	7,838.73	0.00	0.00	0.00
18,700.00	90.00	179.70	10,848.40	-7,892.74	-879.10	7,938.35	0.00	0.00	0.00
18,800.00	90.00	179.70	10,848.40	-7,992.74	-878.57	8,037.96	0.00	0.00	0.00
18,900.00	90.00	179.70	10,848.40	-8,092.74	-878.03	8,137.57	0.00	0.00	0.00
19,000.00	90.00	179.70	10,848.40	-8,192.74	-877.50	8,237.19	0.00	0.00	0.00
19,100.00	90.00	179.70	10,848.40	-8,292.73	-876.97	8,336.80	0.00	0.00	0.00
19,200.00	90.00	179.70	10,848.40	-8,392.73	-876.44	8,436.42	0.00	0.00	0.00
19,300.00	90.00	179.70	10,848.40	-8,492.73	-875.91	8,536.03	0.00	0.00	0.00
19,400.00	90.00	179.70	10,848.40	-8,592.73	-875.37	8,635.65	0.00	0.00	0.00
19,500.00	90.00	179.70	10,848.40	-8,692.73	-874.84	8,735.26	0.00	0.00	0.00
19,600.00	90.00	179.70	10,848.40	-8,792.73	-874.31	8,834.88	0.00	0.00	0.00
19,700.00	90.00	179.70	10,848.40	-8,892.73	-873.78	8,934.49	0.00	0.00	0.00
19,800.00	90.00	179.70	10,848.40	-8,992.72	-873.25	9,034.10	0.00	0.00	0.00
19,900.00	90.00	179.70	10,848.40	-9,092.72	-872.72	9,133.72	0.00	0.00	0.00
20,000.00	90.00	179.70	10,848.40	-9,192.72	-872.18	9,233.33	0.00	0.00	0.00
20,100.00	90.00	179.70	10,848.40	-9,292.72	-871.65	9,332.95	0.00	0.00	0.00
20,200.00	90.00	179.70	10,848.40	-9,392.72	-871.12	9,432.56	0.00	0.00	0.00
20,300.00	90.00	179.70	10,848.40	-9,492.72	-870.59	9,532.18	0.00	0.00	0.00
20,400.00	90.00	179.70	10,848.40	-9,592.72	-870.06	9,631.79	0.00	0.00	0.00
20,500.00	90.00	179.70	10,848.40	-9,692.71	-869.52	9,731.40	0.00	0.00	0.00
20,600.00	90.00	179.70	10,848.40	-9,792.71	-868.99	9,831.02	0.00	0.00	0.00
20,700.00	90.00	179.70	10,848.40	-9,892.71	-868.46	9,930.63	0.00	0.00	0.00
20,800.00	90.00	179.70	10,848.40	-9,992.71	-867.93	10,030.25	0.00	0.00	0.00

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Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 2985.40ft
Site:	Depth CC 6-7	**North Reference:**	Grid
Well:	Depth CC 6_7 Federal Com 41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #2		
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)
20,900.00	90.00	179.70	10,848.40	-10,092.71	-867.40	10,129.86	0.00	0.00	0.00
21,000.00	90.00	179.70	10,848.40	-10,192.71	-866.86	10,229.48	0.00	0.00	0.00
21,100.00	90.00	179.70	10,848.40	-10,292.71	-866.33	10,329.09	0.00	0.00	0.00
21,200.00	90.00	179.70	10,848.40	-10,392.70	-865.80	10,428.70	0.00	0.00	0.00
21,269.46	90.00	179.70	10,848.40	-10,462.17	-865.43	10,497.90	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
FTP (Depth CC 6_7	0.00	0.00	10,848.40	76.68	-920.48	456,283.94	634,711.36	32° 15' 14.539668 N	104° 1' 52.610006
- plan misses target center by 207.96ft at 10825.14ft MD (10691.13 TVD, -58.73 N, -907.02 E)									
- Point									
PBHL (Depth CC 6_7	0.00	0.00	10,848.40	-10,462.17	-865.43	445,745.97	634,766.40	32° 13' 30.255410 N	104° 1' 52.314263
- plan hits target center									
- Point									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
102.40	102.40	RUSTLER			
515.40	515.40	SALADO			
1,263.40	1,263.40	CASTILE			
2,729.40	2,729.40	DELAWARE			
2,778.40	2,778.40	BELL CANYON			
3,629.40	3,629.40	CHERRY CANYON			
4,868.40	4,868.40	BRUSHY CANYON			
6,469.31	6,459.40	BONE SPRING			
7,454.43	7,432.40	BONE SPRING 1ST			
8,246.18	8,214.40	BONE SPRING 2ND			
9,348.76	9,303.40	BONE SPRING 3RD			
9,714.58	9,663.40	WOLFCAMP			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
10,319.59	10,247.60	124.44	-811.35	Tie In, KOP Build & Turn 10°/100'
10,808.71	10,679.68	-46.98	-906.08	Continue 10°/100'
11,260.90	10,848.40	-453.74	-918.66	Landing Point
21,269.46	10,848.40	-10,462.17	-865.43	TD at 21269.46' MD

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Depth CC 6-7
Depth CC 6_7 Federal Com 41H

Wellbore #1

Plan: Pilot Permitting Plan

Standard Planning Report

26 April, 2021

Oxy Inc.

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Depth CC 6_7 Federal Com 41H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 2985.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 2985.40ft
Site:	Depth CC 6-7	**North Reference:**	Grid
Well:	Depth CC 6_7 Federal Com 41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot 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 Depth CC 6-7

Site Position:		**Northing:**	456,207.91 usft	**Latitude:**	32° 15' 13.763924 N
From:	Map	**Easting:**	635,546.67 usft	**Longitude:**	104° 1' 42.884992 W
Position Uncertainty:	2.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.16 °

Well Depth CC 6_7 Federal Com 41H

Well Position	**+N/-S**	-0.64 ft	**Northing:**	456,207.27 usft	**Latitude:**	32° 15' 13.755199 N
	+E/-W	85.10 ft	**Easting:**	635,631.76 usft	**Longitude:**	104° 1' 41.894108 W
Position Uncertainty		1.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	2,958.90 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/8/2019	7.03	59.98	47,896.20000000

Design Pilot 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	184.73

Plan Survey Tool Program **Date** 4/26/2021

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	12,077.04	Pilot Permitting Plan (Wellbore #1	B001Mb_MWD+HRGM	
				OWSG MWD + HRGM	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,065.00	0.00	0.00	5,065.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,965.00	9.00	278.72	5,961.30	10.69	-69.73	1.00	1.00	0.00	278.72	
9,419.59	9.00	278.72	9,373.36	92.62	-603.90	0.00	0.00	0.00	0.00	
10,319.59	18.00	278.72	10,247.60	124.44	-811.35	1.00	1.00	0.00	0.00	
11,519.59	0.00	0.00	11,427.95	152.79	-996.14	1.50	-1.50	0.00	180.00	
12,077.04	0.00	0.00	11,985.40	152.79	-996.14	0.00	0.00	0.00	0.00	

Oxy Inc.

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Depth CC 6_7 Federal Com 41H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 2985.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 2985.40ft
Site:	Depth CC 6-7	**North Reference:**	Grid
Well:	Depth CC 6_7 Federal Com 41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot 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
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,065.00	0.00	0.00	5,065.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.35	278.72	5,100.00	0.02	-0.11	-0.01	1.00	1.00	0.00
5,200.00	1.35	278.72	5,199.99	0.24	-1.57	-0.11	1.00	1.00	0.00

Oxy Inc.

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Depth CC 6_7 Federal Com 41H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 2985.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 2985.40ft
Site:	Depth CC 6-7	**North Reference:**	Grid
Well:	Depth CC 6_7 Federal Com 41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot 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	2.35	278.72	5,299.93	0.73	-4.76	-0.34	1.00	1.00	0.00
5,400.00	3.35	278.72	5,399.81	1.48	-9.68	-0.68	1.00	1.00	0.00
5,500.00	4.35	278.72	5,499.58	2.50	-16.31	-1.15	1.00	1.00	0.00
5,600.00	5.35	278.72	5,599.22	3.78	-24.67	-1.74	1.00	1.00	0.00
5,700.00	6.35	278.72	5,698.70	5.33	-34.75	-2.45	1.00	1.00	0.00
5,800.00	7.35	278.72	5,797.99	7.14	-46.53	-3.28	1.00	1.00	0.00
5,900.00	8.35	278.72	5,897.05	9.21	-60.03	-4.23	1.00	1.00	0.00
5,965.00	9.00	278.72	5,961.30	10.69	-69.73	-4.91	1.00	1.00	0.00
6,000.00	9.00	278.72	5,995.87	11.52	-75.14	-5.29	0.00	0.00	0.00
6,100.00	9.00	278.72	6,094.64	13.90	-90.60	-6.38	0.00	0.00	0.00
6,200.00	9.00	278.72	6,193.41	16.27	-106.06	-7.47	0.00	0.00	0.00
6,300.00	9.00	278.72	6,292.18	18.64	-121.53	-8.56	0.00	0.00	0.00
6,400.00	9.00	278.72	6,390.95	21.01	-136.99	-9.65	0.00	0.00	0.00
6,500.00	9.00	278.72	6,489.72	23.38	-152.45	-10.73	0.00	0.00	0.00
6,600.00	9.00	278.72	6,588.49	25.75	-167.91	-11.82	0.00	0.00	0.00
6,700.00	9.00	278.72	6,687.25	28.13	-183.38	-12.91	0.00	0.00	0.00
6,800.00	9.00	278.72	6,786.02	30.50	-198.84	-14.00	0.00	0.00	0.00
6,900.00	9.00	278.72	6,884.79	32.87	-214.30	-15.09	0.00	0.00	0.00
7,000.00	9.00	278.72	6,983.56	35.24	-229.76	-16.18	0.00	0.00	0.00
7,100.00	9.00	278.72	7,082.33	37.61	-245.23	-17.27	0.00	0.00	0.00
7,200.00	9.00	278.72	7,181.10	39.98	-260.69	-18.36	0.00	0.00	0.00
7,300.00	9.00	278.72	7,279.87	42.36	-276.15	-19.45	0.00	0.00	0.00
7,400.00	9.00	278.72	7,378.64	44.73	-291.61	-20.53	0.00	0.00	0.00
7,500.00	9.00	278.72	7,477.41	47.10	-307.08	-21.62	0.00	0.00	0.00
7,600.00	9.00	278.72	7,576.17	49.47	-322.54	-22.71	0.00	0.00	0.00
7,700.00	9.00	278.72	7,674.94	51.84	-338.00	-23.80	0.00	0.00	0.00
7,800.00	9.00	278.72	7,773.71	54.21	-353.46	-24.89	0.00	0.00	0.00
7,900.00	9.00	278.72	7,872.48	56.59	-368.93	-25.98	0.00	0.00	0.00
8,000.00	9.00	278.72	7,971.25	58.96	-384.39	-27.07	0.00	0.00	0.00
8,100.00	9.00	278.72	8,070.02	61.33	-399.85	-28.16	0.00	0.00	0.00
8,200.00	9.00	278.72	8,168.79	63.70	-415.31	-29.24	0.00	0.00	0.00
8,300.00	9.00	278.72	8,267.56	66.07	-430.78	-30.33	0.00	0.00	0.00
8,400.00	9.00	278.72	8,366.32	68.44	-446.24	-31.42	0.00	0.00	0.00
8,500.00	9.00	278.72	8,465.09	70.82	-461.70	-32.51	0.00	0.00	0.00
8,600.00	9.00	278.72	8,563.86	73.19	-477.17	-33.60	0.00	0.00	0.00
8,700.00	9.00	278.72	8,662.63	75.56	-492.63	-34.69	0.00	0.00	0.00
8,800.00	9.00	278.72	8,761.40	77.93	-508.09	-35.78	0.00	0.00	0.00
8,900.00	9.00	278.72	8,860.17	80.30	-523.55	-36.87	0.00	0.00	0.00
9,000.00	9.00	278.72	8,958.94	82.67	-539.02	-37.96	0.00	0.00	0.00
9,100.00	9.00	278.72	9,057.71	85.05	-554.48	-39.04	0.00	0.00	0.00
9,200.00	9.00	278.72	9,156.48	87.42	-569.94	-40.13	0.00	0.00	0.00
9,300.00	9.00	278.72	9,255.24	89.79	-585.40	-41.22	0.00	0.00	0.00
9,400.00	9.00	278.72	9,354.01	92.16	-600.87	-42.31	0.00	0.00	0.00
9,419.59	9.00	278.72	9,373.36	92.62	-603.90	-42.52	0.00	0.00	0.00
9,500.00	9.80	278.72	9,452.69	94.62	-616.88	-43.44	1.00	1.00	0.00
9,600.00	10.80	278.72	9,551.08	97.33	-634.56	-44.68	1.00	1.00	0.00
9,700.00	11.80	278.72	9,649.14	100.30	-653.93	-46.05	1.00	1.00	0.00
9,800.00	12.80	278.72	9,746.84	103.53	-675.00	-47.53	1.00	1.00	0.00
9,900.00	13.80	278.72	9,844.15	107.02	-697.74	-49.13	1.00	1.00	0.00
10,000.00	14.80	278.72	9,941.05	110.76	-722.16	-50.85	1.00	1.00	0.00
10,100.00	15.80	278.72	10,037.50	114.77	-748.25	-52.69	1.00	1.00	0.00
10,200.00	16.80	278.72	10,133.48	119.02	-776.00	-54.64	1.00	1.00	0.00
10,300.00	17.80	278.72	10,228.95	123.53	-805.40	-56.71	1.00	1.00	0.00
10,319.59	18.00	278.72	10,247.60	124.44	-811.35	-57.13	1.00	1.00	0.00

Oxy Inc.

Planning Report

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Well:	Depth CC 6_7 Federal Com 41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot 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)
10,400.00	16.79	278.72	10,324.33	128.09	-835.12	-58.81	1.50	-1.50	0.00
10,500.00	15.29	278.72	10,420.43	132.28	-862.43	-60.73	1.50	-1.50	0.00
10,600.00	13.79	278.72	10,517.22	136.09	-887.26	-62.48	1.50	-1.50	0.00
10,700.00	12.29	278.72	10,614.64	139.51	-909.56	-64.05	1.50	-1.50	0.00
10,800.00	10.79	278.72	10,712.61	142.54	-929.34	-65.44	1.50	-1.50	0.00
10,900.00	9.29	278.72	10,811.08	145.19	-946.58	-66.65	1.50	-1.50	0.00
11,000.00	7.79	278.72	10,909.96	147.44	-961.27	-67.69	1.50	-1.50	0.00
11,100.00	6.29	278.72	11,009.21	149.30	-973.39	-68.54	1.50	-1.50	0.00
11,200.00	4.79	278.72	11,108.74	150.76	-982.94	-69.21	1.50	-1.50	0.00
11,300.00	3.29	278.72	11,208.48	151.83	-989.91	-69.70	1.50	-1.50	0.00
11,400.00	1.79	278.72	11,308.38	152.50	-994.29	-70.01	1.50	-1.50	0.00
11,500.00	0.29	278.72	11,408.36	152.78	-996.09	-70.14	1.50	-1.50	0.00
11,519.59	0.00	0.00	11,427.95	152.79	-996.14	-70.14	1.50	-1.50	0.00
11,600.00	0.00	0.00	11,508.36	152.79	-996.14	-70.14	0.00	0.00	0.00
11,700.00	0.00	0.00	11,608.36	152.79	-996.14	-70.14	0.00	0.00	0.00
11,800.00	0.00	0.00	11,708.36	152.79	-996.14	-70.14	0.00	0.00	0.00
11,900.00	0.00	0.00	11,808.36	152.79	-996.14	-70.14	0.00	0.00	0.00
12,000.00	0.00	0.00	11,908.36	152.79	-996.14	-70.14	0.00	0.00	0.00
12,077.04	0.00	0.00	11,985.40	152.79	-996.14	-70.14	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
FTP (Depth CC 6_7	0.00	0.00	10,848.40	76.68	-920.48	456,283.94	634,711.36	32° 15' 14.539668 N	104° 1' 52.610006
- plan misses target center by 76.14ft at 10931.53ft MD (10842.22 TVD, 145.94 N, -951.49 E)									
- Point									
PBHL (Depth CC 6_7	0.00	0.00	10,848.40	-10,462.17	-865.43	445,745.97	634,766.40	32° 13' 30.255410 N	104° 1' 52.314263
- plan misses target center by 10603.08ft at 10468.22ft MD (10389.80 TVD, 130.99 N, -854.02 E)									
- Point									

Oxy Inc.
Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Depth CC 6_7 Federal Com 41H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 2985.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 2985.40ft
Site:	Depth CC 6-7	**North Reference:**	Grid
Well:	Depth CC 6_7 Federal Com 41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot Permitting Plan		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
102.40	102.40	RUSTLER			
515.40	515.40	SALADO			
1,263.40	1,263.40	CASTILE			
2,729.40	2,729.40	DELAWARE			
2,778.40	2,778.40	BELL CANYON			
3,629.40	3,629.40	CHERRY CANYON			
4,868.40	4,868.40	BRUSHY CANYON			
6,469.31	6,459.40	BONE SPRING			
7,454.43	7,432.40	BONE SPRING 1ST			
8,246.18	8,214.40	BONE SPRING 2ND			
9,348.76	9,303.40	BONE SPRING 3RD			
9,714.58	9,663.40	WOLFCAMP			
11,467.04	11,375.40	PENN		0.00	
11,877.04	11,785.40	STRAWN		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
5,065.00	5,065.00	0.00	0.00	Build 1°/100'
5,965.00	5,961.30	10.69	-69.73	Hold 9.00° Tangent
9,419.59	9,373.36	92.62	-603.90	Build 1°/100'
10,319.59	10,247.60	124.44	-811.35	Drop 1.5°/100'
11,519.59	11,427.95	152.79	-996.14	Hold Vertical
12,077.04	11,985.40	152.79	-996.14	TD Pilot at 12077.04' MD

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

COMMENTS

Action 55497

COMMENTS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 55497
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 10/13/2021	10/13/2021
jagarcia	Approved, John Garcia, Petroleum Engineer	10/28/2021

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CONDITIONS

Created By	Condition	Condition Date
jagarcia	None	10/28/2021