Ra	U.S. Department of the Interior BUREAU OF LAND MANAGEMENT		Sundry Print Reports
$\left(\right)$	Well Name: OXBOW CC 17-8 FEDERAL COM	Well Location: T24S / R29E / SEC 20 / NWNW / 32.209032 / -104.0119877	County or Parish/State: EDDY / NM
	Well Number: 42H	Type of Well: OIL WELL	Allottee or Tribe Name:
	Lease Number: NMNM17224	Unit or CA Name:	Unit or CA Number:
	US Well Number: 3001548208	Operator: OXY USA INCORPORATED	

Notice of Intent

Sundry ID: 2782797

Type of Submission: Notice of Intent

Date Sundry Submitted: 04/01/2024

Date proposed operation will begin: 06/01/2024

Type of Action: APD Change Time Sundry Submitted: 07:14

Procedure Description: OXY respectfully requests approval to amend the subject well AAPD to change the SHL, pad, the BHL, the pool from Purple Sage; Wolfcamp (Gas) to the Bone Spring, and amend the casing to our 3-string slim design. See the attached APD sundry change overview worksheet along with the updated well plat and drilling documents. The surface hole location is moving to an existing pad. The SHL is moving 80' to the south and 115' to the west..

NOI Attachments

Procedure Description

OXBOWCC17_8FEDCOM42H_ProdCsgAnnClearanceVariance_20240425132825.pdf

OXBOWCC17_8FEDCOM42H_OfflineCementVariance_20240425132817.pdf

OXBOWCC17_8FEDCOM42H_BradenheadCBLVariance_20240425132809.pdf

OXBOWCC17_8FEDCOM42H_BOPBreakTestingVariance_20240425132801.pdf

OXBOWCC17_8FEDCOM42H_13inADAPT_10.75in_7.625in_10x10_20240425132746.pdf

OXBOWCC17_8FEDCOM42H_C102_20240425132736.pdf

OxbowCC17_8FedCom42H_DirectPlan_20240425132411.pdf

OXBOWCC17_8FEDCOM42H_DrillPlan_20240425132400.pdf

OXBOWCC17_8FEDCOM42H_OXY_APD_CHANGE_SUNDRY_LIST_20240425132344.pdf

Well Location: T24S / R29E / SEC 20 / NWNW / 32.209032 / -104.0119877	County or Parish/State: EDBy 7 of NM
Type of Well: OIL WELL	Allottee or Tribe Name:
Unit or CA Name:	Unit or CA Number:
Operator: OXY USA INCORPORATED	
vol)
	Well Location: T24S / R29E / SEC 20 / NWNW / 32.209032 / -104.0119877 Type of Well: OIL WELL Unit or CA Name: Operator: OXY USA INCORPORATED

Operator

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

Operator Electronic Signature: LESLIE REEVES

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 Name: Street Address: City: Phone: Email address:

State:

BLM Point of Contact

BLM POC Name: KEITH P IMMATTY BLM POC Phone: 5759884722 Disposition: Approved Signature: Chris Walls BLM POC Title: ENGINEER

Zip:

BLM POC Email Address: KIMMATTY@BLM.GOV

Signed on: APR 25, 2024 01:28 PM

Disposition Date: 05/01/2024

Received by OCD: 5/3/2024 7:51:23 AM

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Form 3160-5 (June 2019)	DEI BUR	UNITED STATE PARTMENT OF THE I EAU OF LAND MAN	ES NTERIOR AGEMENT		FORM APPROVED OMB No. 1004-0137 Expires: October 31, 2021 5. Lease Serial No.		
Do no abando	SUNDRY N t use this a oned well.	IOTICES AND REPO form for proposals t Use Form 3160-3 (A	6. If Indian, Allottee or	Tribe Name			
1 T CXV II	SUBMIT IN	TRIPLICATE - Other instru	uctions on page 2		7. If Unit of CA/Agree	ment, Name and/or No.	
Oil Well	Gas V	Vell Other			8. Well Name and No.		
2. Name of Operator					9. API Well No.		
3a. Address			3b. Phone No. <i>(include area code)</i>		10. Field and Pool or Exploratory Area		
4. Location of Well (Foo	otage, Sec., T.,I	R.,M., or Survey Description))		11. Country or Parish, State		
	12. CHE	CK THE APPROPRIATE B	OX(ES) TO INDICATE NATURI	E OF NOT	ICE, REPORT OR OTH	ER DATA	
TYPE OF SUBM	ISSION		ТҮ	PE OF AC	TION		
Notice of Intent		Acidize	Deepen Hydraulic Fracturing	Proc	luction (Start/Resume) lamation	Water Shut-Off Well Integrity	
Subsequent Report Casing Repair		New Construction	Reco	Recomplete Other			
Final Abandonment Notice			Plug Back	Wat	Water Disposal		
 Describe Proposed of the proposal is to de the Bond under whit completion of the in completed. Final Ab is ready for final ins 	or Completed C epen directiona ch the work wi volved operationandonment No pection.)	peration: Clearly state all pe illy or recomplete horizontal ll be perfonned or provide th ons. If the operation results in tices must be filed only after	rtinent details, including estimate ly, give subsurface locations and r e Bond No. on file with BLM/BL/ n a multiple completion or recomp all requirements, including reclar	ed starting c measured a A. Requirec pletion in a mation, hay	late of any proposed wor nd true vertical depths of l subsequent reports mus new interval, a Form 31 re been completed and th	k and approximate duration thereof. If f all pertinent markers and zones. Attach t be filed within 30 days following 60-4 must be filed once testing has been the operator has detennined that the site	

14. I hereby certify that the foregoing is true and correct. Name (<i>Printed/Typed</i>)					
Ti	tle				
Signatura	ata				
THE SPACE FOR FEDER	AL OR STATE OF	CE USE			
Approved by					
	Title	Date			
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.					
Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any p any false, fictitious or fraudulent statements or representations as to any matter within it	person knowingly and willfuts jurisdiction.	lly to make to any department of	r agency of the United States		

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: NWNW / 478 FNL / 966 FWL / TWSP: 24S / RANGE: 29E / SECTION: 20 / LAT: 32.209032 / LONG: -104.0119877 (TVD: 0 feet, MD: 0 feet) PPP: NENW / 1326 FNL / 1705 FWL / TWSP: 24S / RANGE: 29E / SECTION: 17 / LAT: 32.221287 / LONG: -104.009638 (TVD: 10950 feet, MD: 15204 feet) PPP: SENW / 2655 FNL / 1703 FWL / TWSP: 24S / RANGE: 29E / SECTION: 8 / LAT: 32.232233 / LONG: -104.00967 (TVD: 10950 feet, MD: 19164 feet) PPP: NESW / 1328 FSL / 1705 FWL / TWSP: 24S / RANGE: 29E / SECTION: 8 / LAT: 32.228584 / LONG: -104.009659 (TVD: 10950 feet, MD: 17844 feet) PPP: SESW / 100 FSL / 1700 FWL / TWSP: 24S / RANGE: 29E / SECTION: 17 / LAT: 32.210608 / LONG: -104.009608 (TVD: 10950 feet, MD: 11342 feet) PPP: SESW / 100 FSL / 1707 FWL / TWSP: 24S / RANGE: 29E / SECTION: 8 / LAT: 32.224935 / LONG: -104.009649 (TVD: 10950 feet, MD: 11342 feet) PPP: SESW / 1 FSL / 1707 FWL / TWSP: 24S / RANGE: 29E / SECTION: 8 / LAT: 32.224935 / LONG: -104.009649 (TVD: 10950 feet, MD: 116524 feet) BHL: NENW / 20 FNL / 1700 FWL / TWSP: 24S / RANGE: 29E / SECTION: 8 / LAT: 32.234784 / LONG: -104.0096905 (TVD: 10950 feet, MD: 21845 feet)

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

COUNTY: Eddy County, New Mexico					
LOCATION	Section 17 T 24 S R 29 F				
BOTTOM HOLE FOOTAGE	20'/N & 2200'/W				
SURFACE HOLE FOOTAGE:	558'/S & 851'/W				
WELL NAME & NO.:	OXBOW CC 17 8 FEDERAL COM / 42H				
OPERATOR'S NAME:	OXY USA INCORPORATED				

H2S	• Yes	O No	
Potash	None	Secretary	© R-111-P
Cave/Karst Potential	• Low	O Medium	O High
Cave/Karst Potential	© Critical		
Variance	O None	• Flex Hose	O Other
Wellhead	Conventional	• Multibowl	O Both
Wellhead Variance	O Diverter		
Other	□4 String	Capitan Reef	WIPP
Other	Fluid Filled	Pilot Hole	Open Annulus
Cementing	□ Contingency	EchoMeter	Primary Cement
	Cement Squeeze		Squeeze
Special Requirements	🗆 Water Disposal	COM	🗆 Unit
Special Requirements	□ Batch Sundry		
Special Requirements	Break Testing	✓ Offline	Casing
Variance	-	Cementing	Clearance



A. CASING

Alternate Casing Design A:

- 1. The **10-3/4** inch surface casing shall be set at approximately **571** 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 <u>8</u>
 <u>hours</u> 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.
- 2. The **7-5/8** inch intermediate casing shall be set at approximately **8575** feet **TVD**. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Operator has proposed to pump down 7-5/8" X 10-3/4" annulus. <u>Operator must top</u> <u>out cement after the bradenhead squeeze and verify cement to surface. Operator</u> <u>can also check TOC with Echo-meter. CBL must be run from TD of the 7-5/8"</u> <u>casing to surface if confidence is lacking on the quality of the bradenhead squeeze</u> <u>cement job. Submit results to BLM.</u>

- 3. The **5-1/2** inch production casing shall be set at approximately **20,025** feet. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back **200 feet** into the previous casing. Operator shall provide method of verification.

(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system) BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- 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 (**575-706-2779**) 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. (200' TVD tolerance between intermediate shoes is allowable).
- 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.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Offline Cementing

Approved for surface and intermediate intervals. Notify the BLM prior to the commencement of any offline cementing procedure.

Casing Clearance:

- Overlap clearance OK for production casing

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) 689-5981

- 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.
- 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 <u>24</u> <u>hours</u>. 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. <u>Wait on cement (WOC) for Water Basin:</u> 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 <u>8 hours</u>. 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 cement), 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. 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.

KPI – 04/30/2024

Production Casing 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 43 CFR part 3170 Subpart 3172 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.

Offline Cementing Variance Request

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.

1. Cement Program

No changes to the cement program will take place for offline cementing.

2. Offline Cementing Procedure

The 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 with mandrel
- 3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
- 4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi

Annular packoff with both external and internal seals



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Wellhead diagram during skidding operations

5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.

a. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50 psi compressive strength if cannot be verified.

- 6. Skid rig to next well on pad.
- 7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nippling up for further remediation.
 - a. Well Control Plan
 - i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
 - ii. Rig pumps or a 3^{rd} party pump will be tied into the upper casing valve to pump down the casing ID
 - iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
 - iv. Once influx is circulated out of the hole, kill weight mud will be circulated
 - v. Well will be confirmed static
 - vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
- 8. Install offline cement tool
- 9. Rig up cement equipment



Wellhead diagram during offline cementing operations

- 10. Circulate bottoms up with cement truck
 - a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
 - b. Max anticipated time before circulating with cement truck is 6 hrs
- 11. Perform cement job taking returns from the annulus wellhead valve
- 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.

Bradenhead Cement CBL Variance Request

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

Four string wells:

- CBL is not required
- 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

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.
- 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

See supporting information below:

Subject: Request for a Variance Allowing Break Testing of a Blowout Preventer Stack

OXY USA Inc. (OXY) requests a variance to allow break testing of the Blowout Preventer (BOP) stack when skidding a drilling rig between wells on multi-well pads. This practice entails retesting only the connections of the **BOP** stack that have been disconnected during this operation and not a complete **BOP** test.

Background

43 CFR part 3170 Subpart 3172 states that a **BOP** test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) is this requires a complete **BOP** test and not just a test of the affected component. 43 CFR part 3170 Subpart 3172, Section I.D.2. states, "Some situations may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this Order. This situation can be resolved by requesting a variance...". OXY feels the practice of break testing the **BOP** stack is such a situation. Therefore, as per 43 CFR part 3170 Subpart 3172, Section IV., OXY submits this request for the variance.

Supporting Rationale

43 CFR part 3170 Subpart 3172 became effective on December 19, 1988, and has remained the standard for regulating BLM onshore drilling operations for almost 30 years. During this time there have been significant changes in drilling technology. **BLM** continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR part 3170 Subpart 3172 was originally released. The drilling rig fleet OXY utilizes in New Mexico was built with many modern upgrades. One of which allows the rigs to skid between wells on multi-well pads. A part of this rig package is a hydraulic winch system which safely installs and removes the BOP from the wellhead and carries it during skidding operations. This technology has made break testing a safe and reliable procldure.

American Petroleum Institute (API) standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry. 43 CFR part 3170 Subpart 3172 recognized API Recommended Practices (RP) 53 in its original development. API Standard 53,

Blowout Prevention Equipment Systems for Drilling Wells (Fourth Edition, November 2012, Addendum 1, July 2016) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 6.5.3.4.1.b states "Pressure tests on the well control equipment shall be conducted after the disconnection or repair of any pressure containment seal in the **BOP** stack, choke line, kill line, choke manifold, or wellhead assembly but limited to the affected component."

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specifications and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations. BSEE issued new offshore regulations under 30 CFR Part 250, *Oil and Gas and Sulphur Operations in the Outer Continental Shelf - Blowout Preventer Systems and Well Control*, which became effective on July 28, 2016. Section 250.737(d.1) states "Follow the testing requirements of API Standard 53". In addition, Section 250.737(d.8) has adopted language from **API** Standard 53 as it states "Pressure test affected **BOP** components following the disconnection or repair of any well-pressure containment seal in the wellhead or **BOP** stack assembly".

Break testing has been approved by the BLM in the past. See the Appendix for a Sundry Notice that was approved in 2015 by the Farmington Field Office. This approval granted permission for the operator to break test when skidding its Aztec 1000 rig on multi-well pads.

Oxy feels break testing and our current procedures meet the intent of 43 CFR part 3170 Subpart 3172 and often exceed it. We have not seen any evidence that break testing results in more components failing tests than seen on full BOP tests. As skidding operations take place within the 30-day full BOPE test window, the BOP shell and components such as the pipe rams and check valve get tested to the full rated working pressure more often. Therefore, there are more opportunities to ensure components are in good working order. Also, Oxy's standard requires complete BOP tests more often than that of 43 CFR part 3170 Subpart 3172. In addition to function testing the annular at least weekly and the pipe and blind rams on each trip, Oxy also performs a choke drill prior to drilling out every casing shoe. As a crew's training is a vital part of well control, this procedure to simulate step one of the Driller's Method exceeds the requirements of 43 CFR part 3170 Subpart 3172.

Procedures

- 1) OXY to submit the break testing plan in the APD or Sundry Notice (SN) and receive approval prior to implementing (See Appendix for examples)
- 2) OXY would perform BOP break testing on multi-well pads where multiple intermediate sections can be drilled and cased within the 30-day BOP test window
- 3) After performing a complete BOP test on the first well and drilling and casing the hole section, three breaks would be made on the BOP.
 - Between the check valve and the kill line
 - > Between the HCR valve and the co-flex hose or the co-flex hose and the manifold
 - Between the BOP flange and the wellhead
- 4) The BOP is then lifted and removed from the wellhead by the hydraulic winch system
- 5) After skidding to the next well, the BOP is moved to the wellhead by the hydraulic winch system and installed
- 6) The choke line and kill line are reconnected
- 7) A test plug is installed in the wellhead with a joint of drill pipe and the internal parts of the check valve are removed
- 8) A shell teit is performed against the upper pipe rams testing all thl-ee breaks
- 9) The internal parts of the check valve are reinstalled and the HCR valve is closed. A second test is performed on them
- 10) These tests consist of a 250 psi low test and a high test to the value submitted in the APD or SN (e.g., 5000 psi)
- 11) Perform a function test of components not pressure tested to include the lower pipe rams, the blind rams and the annular
- 12) If this were a three well pad, the same three breaks on the BOP would be made and steps 4 through 11 would be repeated
- 13) A second break test would only be done if the third hole section could be completed within the 30-day BOP test window
- 14) If a second break test is performed, additional components that were not tested on the initial break test will be tested on this break test

Notes:

- a. If any parts of the BOP are changed out or any additional breaks are made during the skidding operation, these affected components would also be tested as in step 10.
- b. As the choke manifold remains stationary during the skidding operation and the only break to the manifold is tested in step 8 above, no further testing of the manifold is done until the next full BOP test.

Summary

OXY requests a variance to allow break testing of the BOP stack when skidding drilling rigs between wells on multi-well pads. API standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry and the BLM. API Standard 53 recognizes break testing as an acceptable practice and BSEE adopted language from this standard into its newly created 30 CFR Part 250 which also supports break testing. Due to this, OXY feels this request meets the intent of 43 CFR part 3170

REQUEST FOR A VARIANCE TO BREAK TEST THE BOP

Permian Resources New Mexico



Occidental Petroleum Corporation

Received by OCD: 5/3/2024 7:51:23 AM

Request for Variance

Released to Imaging: 5/14/2024 2:09:05 PM

OXY USA Inc. (OXY) requests a variance to allow break testing of the Blowout Preventer (BOP) stack when skidding a drilling rig between wells on multi-well pads

- This practice entails retesting only the connections of the BOP stack that have been disconnected during this operation and not a complete BOP test.
- As the choke manifold remains stationary during the skidding operation and the only break to the manifold is tested, no further testing of the manifold is done until the next full BOP test.
- This request is being made as per Section IV of the Onshore Oil and Gas Order (OOGO) No. 2



American Petroleum Institute (API) standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry

- (Fourth Edition, November 2012, Addendum 1, July 2016) recognizes break API Standard 53, Blowout Prevention Equipment Systems for Drilling Wells testing as an acceptable practice. Ī
- Specifically, API Standard 53, Section 6.5.3.4.1.b states "Pressure tests on the well control equipment shall be conducted after the disconnection or repair of any pressure containment seal in the BOP stack, choke line, kill line, choke manifold, or wellhead assembly but limited to the affected component." I

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Interior, has also utilized the API standards, specifications and best practices in the The Bureau of Safety and Environmental Enforcement (BSEE), Department of development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

- BSEE issued new offshore regulations in July 2016 under 30 CFR Part 250, Oil Preventer Systems and Well Control. Within these regulations is language and Gas and Sulphur Operations in the Outer Continental Shelf - Blowout adopted from API Standard 53 which also supports break testing. 1
- components following the disconnection or repair of any well-pressure Specifically, Section 250.737(d.8) states "Pressure test affected BOP containment seal in the wellhead or BOP stack assembly." Т

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Break testing has been approved by the BLM in the past

- The Farmington Field Office approved a Sundry Notice (SN) to allow break testing in 2015 T
- This SN granted permission for the operator to break test when skidding its Aztec 1000 rig on multi-well pads I

Oxy feels break testing and our current procedures meet or exceed the intent of OOGO No. 2

- BOP shell and components such as the pipe rams and check valve get tested to As skidding operations take place within the 30-day full BOPE test window, the the full rated working pressure more often I
- Oxy's standard requires complete BOP tests more often than that of OOGO No. 2
- training is a vital part of well control, this procedure to simulate step one of the - Oxy performs a choke drill prior to drilling out every casing shoe. As a crew's Driller's Method exceeds the requirements of OOGO No. 2



break lesting Procedures	1) OXY to submit the break testing plan in the APD or Sundry Notice (SN) and receive approval prior to implementing	OXY would perform BOP break testing on multi-well pads where multiple intermediate sections can be drilled and cased within the full BOP test window	 3) After performing a complete BOP test on the first well and drilling and casing the hole section, three breaks would be made on the BOP. - Between the check valve and the kill line - Between the HCR valve and the co-flex hose or the co-flex hose and the manifold - Between the BOP flange and the wellhead 	4) The BOP is then lifted and removed from the wellhead by the hydraulic winch system	5) After skidding to the next well, the BOP is moved to the wellhead by the hydraulic winch system and installed	6) The choke line and kill line are reconnected	 A test plug is installed in the wellhead with a joint of drill pipe and the internal parts of the check valve are removed 	

- 8) A shell test is performed against the upper pipe rams testing all three breaks
- The internal parts of the check valve are reinstalled and the HCR valve is closed. A second test is performed on them
- 10)These tests consist of a 250 psi low test and a high test to the value submitted in the APD or SN (e.g., 5000 psi)
- 11) Perform a function test of components not pressure tested to include the lower pipe rams, the blind rams and the annular
- 12) If this were a three well pad, the same three breaks on the BOP would be made and steps 4 through 11 would be repeated
- 13) A second break test would only be done if the third hole section could be completed within the 30-day BOP test window
- 14) If a second break test is performed, additional components that were not tested on the first break test will be tested

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complete BOP test on the first well, the BOP is removed, the rig is skidded and the BOP is installed on the second well 1. After performing a

the wellhead on drill pipe and the inner components of the 2. A test plug is installed in check valve are removed **Outside Kill** Line Valve

Kill Line

Test #1 Pressure from Test Truck

Released to Imaging: 5/14/2024 2:09:05 PM



R

- Items in green are in the open position

- Items in blue are the breaks

Wellhead Flange

BOP Flange-

Line Valve

Check Valve Test Plug

Items in yellow were previously tested







moves the BOP from its carrier to the wellhead Hydraulic winch system which



BOP Handling System

 Ummary for Variance Reques API standards, specifications and recomment API standards <i>- OOGO No. 2</i> recognized API Recommend <i>- OOGO No. 2</i> recognized API Recommend <i>- OOGO No. 2</i> recognized break testing <i>- API Standard 53 recognizes break testing</i> <i>- The Bureau of Safety and Environmental</i> standards, specifications and best practice 	ummary for Variance Request for Break Testing	 API standards, specifications and recommended practices are considered industry standards <i>OOGO No. 2</i> recognized API Recommended Practices (RP) 53 in its original development API Standard 53 recognizes break testing as an acceptable practice 	 The Bureau of Safety and Environmental Enforcement has utilized API standards, specifications and best practices in the development of its offshore oil and gas regulations
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- API Standard 53 recognizes break testing as an acceptable practice I
- OXY feels break testing meets the intent of OOGO No. 2 to protect public health and safety and the environment •

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Page 36 of 56

eceived by OCD: 5/3/2024 7:51:23 AM

Released to Imaging: 5/14/2024 2:09:05 PM

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983) Oxbow CC 17-08 Federal Com Oxbow CC 17_8 Fed Com 42H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

25 April, 2024

Database: Company: Project: Site: Well: Wellbore: Design:	HOPSPP ENGINEE PRD NM E Oxbow CC Oxbow CC Wellbore # Permitting	RING DES DIRECTION C 17-08 Fed C 17_8 Fed #1 Plan	IGNS VAL PLANS (Jeral Com Com 42H	NAD 1983)	Local Co- TVD Refe MD Refer North Ref Survey Ca	ordinate Refe rence: ence: 'erence: alculation Me	erence: thod:	Well Oxbow C(RKB=25' @ 29 RKB=25' @ 29 Grid Minimum Curva	C 17_8 Fed Com 91.70ft 91.70ft ature	42H
Project	PRD NM D	IRECTION	AL PLANS (N	IAD 1983)						
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Site	Oxbow CC	17-08 Fede	eral Com							
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Well	Oxbow CC	17 8 Fed C	Com 42H							
Well Position Position Uncertaint Grid Convergence:	+N/-S +E/-W y	0.00 0.00 0.89 0.17)ft No)ft Ea)ft We	orthing: sting: ellhead Elev	ation:	439,850.03 640,611.82 0.00	usf Lat usf Lor ft Gro	itude: ngitude: bund Level:		32.208817 -104.012353 2,966.70 ft
Wellbore	Wellbore #	1								
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	HDO	GM_FILE		12/4/2019		6.92		59.92	47,853.2	2000000
Design	Permitting [Plan								
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Version:			Phase	e:	PROTOTYPE	Tie	On Depth:		0.00	
Vertical Section:		Dej	pth From (T\ (ft)	/D)	+N/-S (ft)	+E/ (f	/-W t)	Dir	ection (°)	
			0.00		0.00	0.0	00	6	6.59	
Plan Survey Tool P Depth From (ft)	rogram Depth To (ft)	Date Survey (3/21/2024 (Wellbore)		Tool Name		Remarks			
1 0.00	20,024.60) Permittin	ng Plan (Welli	oore #1)	B001Mc_MWI MWD+HRGM	D+HRGM_R5				
Plan Sections										
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20,024.60	90.00	359.67	9,200.00	11,154.65	1,289.26	0.00	0.00	0.00	0.00 PB	HL (Oxbow CC

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Database:	HOPSPP	Local Co-ordinate Reference:	Well Oxbow CC 17_8 Fed Com 42H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 2991.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 2991.70ft
Site:	Oxbow CC 17-08 Federal Com	North Reference:	Grid
Well:	Oxbow CC 17_8 Fed Com 42H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

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
319.70	0.00	0.00	319.70	0.00	0.00	0.00	0.00	0.00	0.00
RUSILER									
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
630.70	0.00	0.00	630.70	0.00	0.00	0.00	0.00	0.00	0.00
SALADO	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
000.00	0.00	0.00	000.00	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
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
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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
2,600.00	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
2,700.00	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
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BELL CAN	YON		,						
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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
3,287.00	0.00	0.00	3,287.00	0.00	0.00	0.00	0.00	0.00	0.00
Build 1°/10	יי								
3,300.00	0.13	78.06	3,300.00	0.00	0.01	0.00	1.00	1.00	0.00
3,400.00	1.13	78.06	3,399.99	0.23	1.09	0.35	1.00	1.00	0.00
3,500.00	2.13	78.06	3,499.95	0.82	3.87	1.26	1.00	1.00	0.00
3,600.00	3.13	78.06	3,599.84	1.77	8.36	2.72	1.00	1.00	0.00
3,700.00	4.13	78.06	3,699.64	3.08	14.56	4.73	1.00	1.00	0.00
3,758.23	4./1	78.06	3,757.70	4.01	18.95	6.16	1.00	1.00	0.00
CHERKY C									
3,800.00	5.13	78.06	3,799.31	4.75	22.45	7.30	1.00	1.00	0.00
 3,900.00	6.13	/8.06	3,898.83	6.78	32.05	10.41	1.00	1.00	0.00

Database:	HOPSPP	Local Co-ordinate Reference:	Well Oxbow CC 17_8 Fed Com 42H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 2991.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 2991.70ft
Site:	Oxbow CC 17-08 Federal Com	North Reference:	Grid
Well:	Oxbow CC 17_8 Fed Com 42H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

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)	
4,000.00 4,100.00 4,200.00	7.13 8.13 9.13	78.06 78.06 78.06	3,998.16 4,097.27 4,196.14	9.17 11.92 15.02	43.35 56.34 71.02	14.08 18.30 23.07	1.00 1.00 1.00	1.00 1.00 1.00	0.00 0.00 0.00	
4,300.00 4,400.00 4,500.00 4,600.00	10.13 11.13 12.13 13.13	78.06 78.06 78.06 78.06	4,294.73 4,393.01 4,490.96 4,588.54	18.48 22.30 26.47 30.99	87.38 105.43 125.15 146.55	28.39 34.26 40.66 47.61	1.00 1.00 1.00 1.00	1.00 1.00 1.00 1.00	0.00 0.00 0.00 0.00	
4,786.78	14.13 15.00	78.06	4,085.72	40.38	190.95	62.04	1.00	1.00	0.00	
Hold 15° Ta	ingent									
4,800.00 4,900.00 5,000.00 5,031.09	15.00 15.00 15.00 15.00	78.06 78.06 78.06 78.06	4,782.48 4,879.07 4,975.67 5,005.70	41.09 46.45 51.80 53.47	194.30 219.62 244.93 252.80	63.13 71.35 79.58 82.14	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	
BRUSHY C	ANYON									
5,100.00 5,200.00 5,300.00 5,400.00 5,500.00	15.00 15.00 15.00 15.00 15.00	78.06 78.06 78.06 78.06 78.06	5,072.26 5,168.86 5,265.45 5,362.04 5,458.64	57.16 62.51 67.87 73.22 78.58	270.25 295.57 320.89 346.21 371.52	87.81 96.03 104.26 112.48 120.71	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	
5,600.00 5,700.00 5,800.00 5,900.00 6,000.00	15.00 15.00 15.00 15.00 15.00	78.06 78.06 78.06 78.06 78.06	5,555.23 5,651.82 5,748.42 5,845.01 5,941.60	83.93 89.28 94.64 99.99 105.35	396.84 422.16 447.48 472.80 498.11	128.94 137.16 145.39 153.61 161.84	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	
6,100.00 6,200.00 6,300.00 6,400.00 6,500.00 6,600.00	15.00 15.00 15.00 15.00 15.00 15.00	78.06 78.06 78.06 78.06 78.06 78.06	6,038.20 6,134.79 6,231.38 6,327.98 6,424.57 6,521.17	110.70 116.06 121.41 126.77 132.12 137.48	523.43 548.75 574.07 599.39 624.71 650.02	170.07 178.29 186.52 194.74 202.97 211.20	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	
6,681.30	15.00	78.06	6,599.70	141.83	670.61	217.88	0.00	0.00	0.00	
BONE SPR	ING									
6,700.00 6,800.00 6,900.00	15.00 15.00 15.00	78.06 78.06 78.06	6,617.76 6,714.35 6,810.95	142.83 148.19 153.54	675.34 700.66 725.98	219.42 227.65 235.87	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
7,000.00 7,100.00 7,200.00 7,300.00 7,400.00	15.00 15.00 15.00 15.00 15.00	78.06 78.06 78.06 78.06 78.06	6,907.54 7,004.13 7,100.73 7,197.32 7,293.91	158.89 164.25 169.60 174.96 180.31	751.30 776.61 801.93 827.25 852.57	244.10 252.33 260.55 268.78 277.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	
7,500.00 7,600.00 7,660.67	15.00 15.00 15.00	78.06 78.06 78.06	7,390.51 7,487.10 7,545.70	185.67 191.02 194.27	877.89 903.20 918.56	285.23 293.46 298.45	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
7 700 00	15.00	78.06	7 583 70	196 38	928 52	301.68	0.00	0.00	0.00	
7,800.00	15.00	78.06	7,680.29	201.73	953.84	309.91	0.00	0.00	0.00	
7,900.00 8,000.00 8,100.00 8,200.00 8,300.00	15.00 15.00 15.00 15.00 15.00	78.06 78.06 78.06 78.06 78.06	7,776.88 7,873.48 7,970.07 8,066.66 8,163.26	207.09 212.44 217.80 223.15 228.50	979.16 1,004.48 1,029.80 1,055.11 1,080.43	318.13 326.36 334.59 342.81 351.04	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	
8,400.00 8,500.00 8,511.65	15.00 15.00 15.00	78.06 78.06 78.06	8,259.85 8,356.44 8,367.70	233.86 239.21 239.84	1,105.75 1,131.07 1,134.02	359.26 367.49 368.45	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	

Database:	HOPSPP	Local Co-ordinate Reference:	Well Oxbow CC 17_8 Fed Com 42H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 2991.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 2991.70ft
Site:	Oxbow CC 17-08 Federal Com	North Reference:	Grid
Well:	Oxbow CC 17_8 Fed Com 42H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

N	leasured 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)	
	BONE SPRI	NG 2ND									
	8,600.00 8,700.00	15.00 15.00	78.06 78.06	8,453.04 8,549.63	244.57 249.92	1,156.39 1,181.70	375.72 383.94	0.00 0.00	0.00 0.00	0.00 0.00	
	8,800.00 8,829.45	15.00 15.00	78.06 78.06	8,646.22 8,674.67	255.28 256.85	1,207.02 1,214.48	392.17 394.59	0.00 0.00	0.00 0.00	0.00 0.00	
	KOP, Build	& Turn 10°/100	•								
	8,900.00 9,000.00 9,100.00	17.74 24.68 33.14	54.77 34.50 23.37	8,742.43 8,835.72 8,923.24	264.95 291.01 333.42	1,232.21 1,256.55 1,279.27	404.67 433.35 478.08	10.00 10.00 10.00	3.89 6.93 8.47	-33.01 -20.27 -11.13	
	9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	42.22 51.60 61.12 70.72 80.37	16.48 11.68 7.99 4.94 2.22	9,002.34 9,070.60 9,125.95 9,166.71 9,191.65	390.88 461.65 543.59 634.19 730.72	1,299.69 1,317.20 1,331.25 1,341.42 1,347.41	537.51 609.83 692.83 784.01 880.58	10.00 10.00 10.00 10.00 10.00	9.08 9.37 9.52 9.60 9.65	-6.89 -4.80 -3.68 -3.06 -2.71	
	9,699.60	90.00	359.67	9,200.00	829.82	1,349.02	979.22	10.00	9.67	-2.56	
	Landing Po	int									
	9,700.00 9,800.00 9,900.00 10,000.00	90.00 90.00 90.00 90.00	359.67 359.67 359.67 359.67	9,200.00 9,200.00 9,200.00 9,200.00	830.23 930.23 1,030.22 1,130.22	1,349.02 1,348.44 1,347.86 1,347.29	979.62 1,078.89 1,178.16 1,277.43	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	
	10,100.00 10,200.00 10,300.00	90.00 90.00 90.00	359.67 359.67 359.67	9,200.00 9,200.00 9,200.00	1,230.22 1,330.22 1,430.22	1,346.71 1,346.13 1,345.55	1,376.70 1,475.97 1,575.24	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
	10,400.00 10,500.00	90.00 90.00	359.67 359.67	9,200.00 9,200.00	1,530.22 1,630.21	1,344.97 1,344.39	1,674.51 1,773.78	0.00 0.00	0.00 0.00	0.00 0.00	
	10,600.00 10,700.00 10,800.00	90.00 90.00 90.00	359.67 359.67 359.67	9,200.00 9,200.00 9,200.00	1,730.21 1,830.21 1,930.21	1,343.81 1,343.23 1,342.65	1,873.05 1,972.32 2,071.60	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
	10,900.00 11,000.00	90.00 90.00	359.67 359.67	9,200.00 9,200.00	2,030.21 2,130.21	1,342.08 1,341.50	2,170.87 2,270.14	0.00 0.00	0.00 0.00	0.00	
	11,100.00 11,200.00 11,300.00	90.00 90.00 90.00	359.67 359.67 359.67	9,200.00 9,200.00 9,200.00	2,230.20 2,330.20 2,430.20	1,340.92 1,340.34 1,339.76	2,369.41 2,468.68 2,567.95	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
	11,400.00 11,500.00	90.00 90.00	359.67 359.67	9,200.00 9,200.00	2,530.20 2,630.20	1,339.18 1,338.60	2,667.22 2,766.49	0.00 0.00	0.00 0.00	0.00 0.00	
	11,600.00 11,700.00 11 800 00	90.00 90.00 90.00	359.67 359.67 359.67	9,200.00 9,200.00 9,200.00	2,730.20 2,830.19 2 930 19	1,338.02 1,337.44 1 336 87	2,865.76 2,965.03 3 064 30	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
	11,900.00 12,000.00	90.00 90.00	359.67 359.67	9,200.00 9,200.00	3,030.19 3,130.19	1,336.29 1,335.71	3,163.57 3,262.84	0.00	0.00	0.00	
	12,100.00 12,200.00 12,300.00	90.00 90.00 90.00	359.67 359.67 359.67	9,200.00 9,200.00 9,200.00	3,230.19 3,330.19 3,430.18	1,335.13 1,334.55 1,333.97	3,362.11 3,461.38 3,560.65	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
	12,400.00 12,500.00	90.00 90.00	359.67 359.67	9,200.00 9,200.00	3,530.18 3,630.18	1,333.39 1,332.81	3,659.93 3,759.20	0.00 0.00	0.00 0.00	0.00 0.00	
	12,600.00 12,700.00 12,800.00	90.00 90.00 90.00	359.67 359.67 359.67	9,200.00 9,200.00 9,200.00	3,730.18 3,830.18 3,930.18	1,332.23 1,331.66 1,331.08	3,858.47 3,957.74 4,057.01	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
	12,900.00 13,000.00	90.00 90.00	359.67 359.67	9,200.00 9,200.00	4,030.17 4,130.17	1,330.50 1,329.92	4,156.28 4,255.55	0.00	0.00 0.00	0.00 0.00	
	13,100.00 13,200.00 13,300.00	90.00 90.00 90.00	359.67 359.67 359.67	9,200.00 9,200.00 9,200.00	4,230.17 4,330.17 4,430.17	1,329.34 1,328.76 1,328.18	4,354.82 4,454.09 4,553.36	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
	13,400.00 13,500.00	90.00 90.00	359.67 359.67	9,200.00 9,200.00	4,530.17 4,630.16	1,327.60 1,327.02	4,652.63 4,751.90	0.00 0.00	0.00 0.00	0.00 0.00	

Database:	HOPSPP	Local Co-ordinate Reference:	Well Oxbow CC 17_8 Fed Com 42H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 2991.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 2991.70ft
Site:	Oxbow CC 17-08 Federal Com	North Reference:	Grid
Well:	Oxbow CC 17_8 Fed Com 42H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

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)	
12 600 00	00.00	250.67	0.200.00	4 720 16	1 226 45	4 951 17	0.00	0.00	0.00	
13,000.00	90.00	359.07	9,200.00	4,730.10	1,520.45	4,001.17	0.00	0.00	0.00	
13,700.00	90.00	359.07	9,200.00	4,830.10	1,325.87	4,950.44	0.00	0.00	0.00	
13,800.00	90.00	359.67	9,200.00	4,930.16	1,325.29	5,049.71	0.00	0.00	0.00	
13,900.00	90.00	359.67	9,200.00	5,030.16	1,324.71	5,148.98	0.00	0.00	0.00	
14,000.00	90.00	359.67	9,200.00	5,130.16	1,324.13	5,248.26	0.00	0.00	0.00	
14,100.00	90.00	359.67	9,200.00	5,230.15	1,323.55	5,347.53	0.00	0.00	0.00	
14,200.00	90.00	359.67	9,200.00	5,330.15	1,322.97	5,446.80	0.00	0.00	0.00	
14,300.00	90.00	359.67	9,200.00	5,430.15	1,322.39	5,546.07	0.00	0.00	0.00	
14,400.00	90.00	359.67	9,200.00	5,530.15	1,321.81	5,645.34	0.00	0.00	0.00	
14,500.00	90.00	359.67	9,200.00	5,630.15	1,321.24	5,744.61	0.00	0.00	0.00	
14,600.00	90.00	359.67	9,200.00	5,730.15	1,320.66	5,843.88	0.00	0.00	0.00	
14,700.00	90.00	359.67	9,200.00	5,830.14	1,320.08	5,943.15	0.00	0.00	0.00	
14,800.00	90.00	359.67	9,200.00	5,930.14	1,319.50	6,042.42	0.00	0.00	0.00	
14,900.00	90.00	359.67	9,200.00	6,030.14	1,318.92	6,141.69	0.00	0.00	0.00	
15,000.00	90.00	359.67	9,200.00	6,130.14	1,318.34	6,240.96	0.00	0.00	0.00	
15,100.00	90.00	359.67	9,200.00	6,230.14	1,317.76	6,340.23	0.00	0.00	0.00	
15,200.00	90.00	359.67	9,200.00	6,330.14	1,317.18	6,439.50	0.00	0.00	0.00	
15.300.00	90.00	359.67	9,200.00	6.430.13	1.316.61	6.538.77	0.00	0.00	0.00	
15,400.00	90.00	359.67	9,200.00	6,530,13	1.316.03	6.638.04	0.00	0.00	0.00	
15,500.00	90.00	359.67	9,200.00	6,630.13	1,315.45	6,737.31	0.00	0.00	0.00	
15,600.00	90.00	359.67	9,200.00	6,730.13	1,314.87	6,836.59	0.00	0.00	0.00	
15,700.00	90.00	359.67	9,200.00	6,830.13	1,314.29	6,935.86	0.00	0.00	0.00	
15,800.00	90.00	359.67	9,200.00	6,930.13	1,313.71	7,035.13	0.00	0.00	0.00	
15,900.00	90.00	359.67	9,200.00	7.030.12	1.313.13	7,134,40	0.00	0.00	0.00	
16,000.00	90.00	359.67	9,200.00	7,130.12	1,312.55	7,233.67	0.00	0.00	0.00	
16,100.00	90.00	359.67	9,200.00	7,230.12	1,311.97	7,332.94	0.00	0.00	0.00	
16,200,00	90.00	359.67	9,200.00	7,330,12	1.311.40	7,432,21	0.00	0.00	0.00	
16.300.00	90.00	359.67	9,200.00	7,430,12	1.310.82	7.531.48	0.00	0.00	0.00	
16.400.00	90.00	359.67	9,200.00	7,530,12	1.310.24	7,630,75	0.00	0.00	0.00	
16,500.00	90.00	359.67	9,200.00	7,630.11	1,309.66	7,730.02	0.00	0.00	0.00	
16,600.00	90.00	359.67	9,200.00	7,730.11	1,309.08	7,829.29	0.00	0.00	0.00	
16,700.00	90.00	359.67	9,200.00	7,830.11	1,308.50	7,928.56	0.00	0.00	0.00	
16.800.00	90.00	359.67	9,200.00	7,930.11	1.307.92	8.027.83	0.00	0.00	0.00	
16,900.00	90.00	359.67	9,200.00	8,030,11	1,307.34	8,127,10	0.00	0.00	0.00	
17,000.00	90.00	359.67	9,200.00	8,130.11	1,306.76	8,226.37	0.00	0.00	0.00	
17,100.00	90.00	359.67	9,200.00	8,230.10	1,306.19	8,325.65	0.00	0.00	0.00	
17,200.00	90.00	359.67	9,200.00	8,330.10	1,305.61	8,424.92	0.00	0.00	0.00	
17,300.00	90.00	359.67	9,200.00	8,430.10	1,305.03	8,524.19	0.00	0.00	0.00	
17,400.00	90.00	359.67	9,200.00	8,530.10	1,304.45	8,623.46	0.00	0.00	0.00	
17,500.00	90.00	359.67	9,200.00	8,630.10	1,303.87	8,722.73	0.00	0.00	0.00	
17,600.00	90.00	359.67	9,200.00	8,730.10	1,303.29	8,822.00	0.00	0.00	0.00	
17,700.00	90.00	359.67	9,200.00	8.830.09	1,302.71	8.921.27	0.00	0.00	0.00	
17.800.00	90.00	359.67	9,200.00	8,930.09	1,302.13	9.020.54	0.00	0.00	0.00	
17,900.00	90.00	359.67	9,200.00	9.030.09	1,301,55	9,119,81	0.00	0.00	0.00	
18,000.00	90.00	359.67	9,200.00	9,130.09	1,300.98	9,219.08	0.00	0.00	0.00	
18,100.00	90.00	359.67	9,200.00	9,230.09	1,300.40	9,318.35	0.00	0.00	0.00	
18,200.00	90.00	359.67	9,200.00	9,330.09	1,299.82	9,417.62	0.00	0.00	0.00	
18,300.00	90.00	359.67	9,200.00	9,430.08	1,299.24	9,516.89	0.00	0.00	0.00	
18,400.00	90.00	359.67	9,200.00	9,530.08	1,298.66	9,616.16	0.00	0.00	0.00	
18,500.00	90.00	359.67	9,200.00	9,630.08	1,298.08	9,715.43	0.00	0.00	0.00	
18,600.00	90.00	359.67	9,200.00	9,730.08	1,297.50	9,814.70	0.00	0.00	0.00	
18,700.00	90.00	359.67	9,200.00	9,830.08	1,296.92	9,913.98	0.00	0.00	0.00	
18,800.00	90.00	359.67	9,200.00	9,930.08	1,296.34	10,013.25	0.00	0.00	0.00	
18,900.00	90.00	359.67	9,200.00	10,030.07	1,295.77	10,112.52	0.00	0.00	0.00	
19,000.00	90.00	359.67	9,200.00	10,130.07	1,295.19	10,211.79	0.00	0.00	0.00	

Database:	HOPSPP	Local Co-ordinate Reference:	Well Oxbow CC 17_8 Fed Com 42H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=25' @ 2991.70ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=25' @ 2991.70ft
Site:	Oxbow CC 17-08 Federal Com	North Reference:	Grid
Well:	Oxbow CC 17_8 Fed Com 42H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

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)
19,100.00	90.00	359.67	9,200.00	10,230.07	1,294.61	10,311.06	0.00	0.00	0.00
19,200.00	90.00	359.67	9,200.00	10,330.07	1,294.03	10,410.33	0.00	0.00	0.00
19,300.00	90.00	359.67	9,200.00	10,430.07	1,293.45	10,509.60	0.00	0.00	0.00
19,400.00	90.00	359.67	9,200.00	10,530.07	1,292.87	10,608.87	0.00	0.00	0.00
19,500.00	90.00	359.67	9,200.00	10,630.06	1,292.29	10,708.14	0.00	0.00	0.00
19,600.00	90.00	359.67	9,200.00	10,730.06	1,291.71	10,807.41	0.00	0.00	0.00
19,700.00	90.00	359.67	9,200.00	10,830.06	1,291.13	10,906.68	0.00	0.00	0.00
19,800.00	90.00	359.67	9,200.00	10,930.06	1,290.56	11,005.95	0.00	0.00	0.00
19,900.00	90.00	359.67	9,200.00	11,030.06	1,289.98	11,105.22	0.00	0.00	0.00
20,000.00	90.00	359.67	9,200.00	11,130.06	1,289.40	11,204.49	0.00	0.00	0.00
20,024.60	90.00	359.67	9,200.00	11,154.65	1,289.26	11,228.91	0.00	0.00	0.00
TD at 20024	.60' MD								

Design	Targets
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Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP (Oxbow CC - plan misses target - Point	0.00 center by 13	0.00 873.08ft at 0	0.00 0.00ft MD (0	252.71 .00 TVD, 0.00	1,349.62) N, 0.00 E)	440,102.72	641,961.33	32.209501	-104.007987
PBHL (Oxbow CC - plan hits target cer - Point	0.00 nter	0.00	9,200.00	11,154.65	1,289.26	451,003.77	641,900.97	32.239467	-104.008075
FTP (Oxbow CC - plan misses target - Point	0.00 center by 26	0.00 6.79ft at 952	9,200.00 26.71ft MD (652.66 9174.96 TVD	1,350.05 , 659.52 N, 13	440,502.64 343.44 E)	641,961.76	32.210600	-104.007982

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Li	ithology	Dip (°)	Dip Direction (°)	
319.70	319.70	RUSTLER					
630.70	630.70	SALADO					
1,272.70	1,272.70	CASTILE					
2,826.70	2,826.70	DELAWARE					
2,883.70	2,883.70	BELL CANYON					
3,758.23	3,757.70	CHERRY CANYON					
5,031.09	5,005.70	BRUSHY CANYON					
6,681.30	6,599.70	BONE SPRING					
7,660.67	7,545.70	BONE SPRING 1ST					
8,511.65	8,367.70	BONE SPRING 2ND					

Database: Company: Project: Site: Well: Wellbore: Design:	HOPS ENGII PRD I Oxbov Oxbov Wellb Permi	HOPSPP ENGINEERING DESIGNS PRD NM DIRECTIONAL PLANS (NAD 1983) Oxbow CC 17-08 Federal Com Oxbow CC 17_8 Fed Com 42H Wellbore #1 Permitting Plan			o-ordinate Reference: ference: eference: eference: Calculation Method:	Well Oxbow CC 17_8 Fed Com 42H RKB=25' @ 2991.70ft RKB=25' @ 2991.70ft Grid Minimum Curvature
Plan Annotatic	ons Measured Depth (ft)	Vertical Depth (ft)	Local Coord +N/-S (ft)	dinates +E/-W (ft)	Comment	
	3,287.00 4,786.78 8,829.45 9,699.60 20,024.60	3,287.00 4,769.71 8,674.67 9,200.00 9,200.00	0.00 40.38 256.85 829.82 11,154.65	0.00 190.95 1,214.48 1,349.02 1,289.26	Build 1°/100' Hold 15° Tangent KOP, Build & Turn 10°/1 Landing Point TD at 20024.60' MD	00'

Oxy USA Inc. - OXBOW CC 17_8 FED COM 42H Drill Plan

1. Geologic Formations

TVD of Target (ft):	9200	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	20025	Deepest Expected Fresh Water (ft):	320

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	320	320	
Salado	631	631	Salt
Castile	1273	1273	Salt
Delaware	2827	2827	Oil/Gas/Brine
Bell Canyon	2884	2884	Oil/Gas/Brine
Cherry Canyon	3758	3758	Oil/Gas/Brine
Brushy Canyon	5031	5006	Losses
Bone Spring	6681	6600	Oil/Gas
Bone Spring 1st	7661	7546	Oil/Gas
Bone Spring 2nd	8512	8368	Oil/Gas
Bone Spring 3rd			Oil/Gas
Wolfcamp			Oil/Gas
Penn			Oil/Gas
Strawn			Oil/Gas

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

2. Casing Program

		N	MD		TVD				
	Hole	From	То	From	То	Csg.	Csg Wt.		
Section	Size (in)	(ft)	(ft)	(ft)	(ft)	OD (in)	(ppf)	Grade	Conn.
Surface	14.75	0	571	0	571	10.75	45.5	J-55	BTC
Intermediate	9.875	0	8729	0	8575	7.625	26.4	L-80 HC	BTC
Production	6.75	0	20025	0	9200	5.5	20	P-110	Wedge 461

All casing strings will be tested in accordance with 43 CFR part 3170 Subpart 3172

All Casing SF Values will meet or exceed						
those below						
SF SF Collapse Burst		Body SF	Joint SF			
		Tension	Tension			
1.00	1.100	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. Please see Annular Clearance Variance attachment for further details.

	Y or N				
Is casing new? If used, attach certification as required in 43 CFR 3160	Y				
Does casing meet API specifications? If no, attach casing specification sheet.					
Is premium or uncommon casing planned? If yes attach casing specification sheet.					
Does the above casing design meet or exceed BLM's minimum standards?	v				
If not provide justification (loading assumptions, casing design criteria).	I				
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching	v				
the collapse pressure rating of the casing?	I				
Is well located within Capitan Reef?	Ν				
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?	Ν				
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back					
500' into previous casing?					
Is well located in R-111-P and SOPA?	Ν				
If yes, are the first three strings cemented to surface?					
Is 2 nd string set 100' to 600' below the base of salt?					
Is well located in high Cave/Karst?	N				
If yes, are there two strings cemented to surface?					
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?					
Is well located in critical Cave/Karst?	N				
If yes, are there three strings cemented to surface?					

3. Cementing Program

Section	Stage	Slurry:	Sacks	Yield (ft^3/ft)	Density (Ib/gal)	Excess:	тос	Placement	Description
Surface	1	Surface - Tail	478	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.	1	Intermediate 1S - Tail	471	1.65	13.2	5%	5,281	Circulate	Class H+Accel., Disper., Salt
Int.	2	Intermediate 2S - Tail BH	817	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	668	1.84	13.3	25%	8,229	Circulate	Class C+Ret.

Offline Cementing Request

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. Please see Offline Cementing Variance attachment for further details.

Bradenhead CBL Request

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. Please see Bradenhead CBL Variance attachment for further details.

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP		Туре	~	Tested to:	Deepest TVD Depth (ft) per Section:							
		5M		Annular	~	70% of working pressure								
				Blind Ram	~									
9.875" Hole	13-5/8"	5M		Pipe Ram		250 psi / 5000 psi	8575							
		5101	Double Ram		~	200 psi / 5000 psi								
			Other*											
									5M		Annular	√	70% of working pressure	
6.75" Hole				Blind Ram	>									
	13-5/8"	514		Pipe Ram		250 poi / 5000 poi	9200							
		SIM		Double Ram		200 psi / 5000 psi								
			Other*											

*Specify if additional ram is utilized

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR part 3170 Subpart 3172 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.

	Forma	Formation integrity test will be performed per 43 CFR part 3170 Subpart 3172.					
	On Ex	On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a					
	pressi	pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43					
	CFR p	CFR part 3170 Subpart 3172.					
	A vari	ance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See					
	attach	ned 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						
A REAL AND A							

connection to the BOPE will meet all API 6A requirements. The BOP will be tested per 43 CFR part 3170 Subpart 3172 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. Please see BOP Break Testing Variance attachment for further details.

Oxy will use Cameron ADAPT wellhead system that uses an OEC top flange connection. This connection has been fully vetted and verified by API to Spec 6A and carries an API monogram.

5. Mud Program

Santian	Depth - MD		Depth - TVD		Trme	Weight	¥7.	Water
Section	From (ft)	To (ft)	From (ft)	To (ft)	гуре	(ppg)	viscosity	Loss
Surface	0	571	0	571	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	571	8729	571	8575	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	8729	20025	8575	9200	Water-Based or Oil- Based Mud	9.5 - 12.5	38-50	N/C

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

What will be used to monitor the	BVT/MD Totco/Visual Monitoring
loss or gain of fluid?	1 VI/WD Toteo/Visual Wonitoning

6. Logging and Testing Procedures

Loggi	ing, Coring and Tes	ting.					
Var	Will run GR from T	Will run GR from TD to surface (horizontal well – vertical portion of hole).					
res	Stated logs run will	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	Resistivity	
No	Density	
Yes	CBL	Production string
Yes	Mud log	Bone Spring – TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5980 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	154°F

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

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR part 3170 Subpart 3172. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

Ν	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 2 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		
 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. 		
Total Estimated Cuttings Volume: 1394 bbls		

OXY APD CHANGE SUNDRY LIST

DATE	4/25/2024	
WELL NAME	OXBOW CC 17-8 FEDERAL COM #042H	
API NUMBER	30-015-48208	

ITEM	PREVIOUS	UPDATE
NAME	NA	
NSL	NA	
SHL	478' FNL 966' FWL - D-20-T24S-R29E	558' FNL 851' FWL - D-20-T24S-29E
PAD	NA	YES - PAD 2001, BUILT
BHL	20' FNL 1700' FWL - C-8-T24S-R29E	20' FNL 200' FWL - C-8-T24S-R29E
HSU SIZE, ACRES	640	
POOL	WOLFCAMP	BONE SPRING
TARGET FORMATION	WOLFCAMP	2BS
TVD	7321'	9200'
SURFACE CASING	10.75" 40.5#	10.75" 45.5#
INTERMEDIATE CASING	7.625" L-80 HC, BTC	7.625" 26.4# HC L-80
INTERMEDIATE 2 CASING	NA	
PRODUCTION CASING	5.5" 20# P-110 DQX	5.5" 20# P-110 WDG 461 (string to surface)
LINER OR TIE BACK	NONE	
CEMENT	2STG INT CMT - PROD CMT TO 6080'	BH Int Cmt job - Prod Cl C Cmt - TOC @ 8229'
FACILITIES		
OTHER		

OTHER COMMENTS

THE SHL, PAD, BHL, POOL, TVD, SURFACE CSG, INT CSG, PROD CSG (LINER), INT & PROD CMT ARE CHANGING.

UPDATED VARIANCE REQUESTS FOR BOP BREAK TESTING, BRADENHEAD CBL, AND OFFLINE CEMENT ARE ATTACHED.



eceived by OCD: 5/3/2024 7:51:23 AM



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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

Operator:	OGRID:
OXY USA INC	16696
P.O. Box 4294	Action Number:
Houston, TX 772104294	340583
	Action Type:
	[C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	All original COA's still apply. Additionally, if cement is not circulated to surface during cementing operations, then a CBL is required.	5/14/2024

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CONDITIONS

Action 340583