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Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM021640

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☑ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
PRECIOUS 30-18 FEDERAL COM
42H 326189

2. Name of Operator
OXY USA INCORPORATED

9. API Well No.
30-015-46609

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
5 Greenway Plaza, Suite 110 Houston TX 77046	(713)366-5716	WILDCAT WOLFCAMP / WOLFCAMP 98236

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface NWNW / 570 FNL / 1215 FWL / LAT 32.266608 / LONG -103.82171

At proposed prod. zone SWNW / 2620 FSL / 1330 FWL / LAT 32.30442 / LONG -103.821324

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 31 / T23S / R31E / NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
8 miles	EDDY	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
20 feet	323.59	800

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
35 feet	12494 feet / 25795 feet	FED: ESB000226

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3348 feet	01/01/2020	20 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Sarah Chapman / Ph: (713)350-4997	03/08/2019

Title
Regulatory Specialist

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Christopher Walls / Ph: (575)234-2234	01/06/2020

Title	Office
Petroleum Engineer	CARLSBAD

Application approval 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.
Conditions of approval, if any, are attached.

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.

APPROVED WITH CONDITIONS

Approval Date: 01/06/2020

(Continued on page 2)

*(Instructions on page 2)

01/17/2020

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws 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, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: 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 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., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. 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 Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

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Additional Operator Remarks

Location of Well

1. SHL: NWNW / 570 FNL / 1215 FWL / TWSP: 23S / RANGE: 31E / SECTION: 31 / LAT: 32.266608 / LONG: -103.82171 (TVD: 0 feet, MD: 0 feet)
   PPP: SWSW / 100 FSL / 1330 FWL / TWSP: 23S / RANGE: 31E / SECTION: 30 / LAT: 32.268448 / LONG: -103.821338 (TVD: 12374 feet, MD: 12704 feet)
   PPP: SWNW / 2640 FSL / 1330 FWL / TWSP: 23S / RANGE: 31E / SECTION: 30 / LAT: 32.275431 / LONG: -103.821335 (TVD: 12398 feet, MD: 15300 feet)
   PPP: NWSW / 1322 FSL / 1331 FWL / TWSP: 23S / RANGE: 31E / SECTION: 19 / LAT: 32.286327 / LONG: -103.821331 (TVD: 12433 feet, MD: 19200 feet)
   PPP: NWSW / 1325 FSL / 1330 FWL / TWSP: 23S / RANGE: 31E / SECTION: 18 / LAT: 32.300856 / LONG: -103.821326 (TVD: 12482 feet, MD: 24500 feet)
   BHL: SWNW / 2620 FSL / 1330 FWL / TWSP: 23S / RANGE: 31E / SECTION: 18 / LAT: 32.30442 / LONG: -103.821324 (TVD: 12494 feet, MD: 25795 feet)

BLM Point of Contact

Name: Deborah Ham
Title: Legal Landlaw Examiner
Phone: 5752345965
Email: dham@blm.gov

Approval Date: 01/06/2020

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Oxy USA Incorporated
LEASE NO.:	NMNM021640
WELL NAME & NO.:	Precious 30-18 Federal Com 42H
SURFACE HOLE FOOTAGE:	570'/N & 1215'/W
BOTTOM HOLE FOOTAGE	2620'/S & 1330'/W
LOCATION:	Section 31, T.23 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	○ Yes	○ No	
Potash	○ None	○ Secretary	◉ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
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

Primary Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **402** 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 **24 hours in the Potash Area** 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 **9-5/8** inch intermediate casing shall be set at approximately **4079** feet. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

2nd Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

3. The minimum required fill of cement behind the **7-5/8** inch 2nd intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

c. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

d. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Operator has proposed to pump down 9-5/8" X 7-5/8" annulus. Operator must run a CBL or ECHO-METER from TD of the 7-5/8" casing to surface. Submit results to BLM. Excess calculates to 8% - additional cement might be required.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

- Cement should tie-back **500 feet** into the previous casing. Operator shall provide method of verification. **Excess calculates to 20% - additional cement might be required.**

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 **3000 (3M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.

c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 2nd 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 Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, 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.

BOP Break Testing Variance

- BOP break testing is not permitted on this well pending submittion of break testing sundry.

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: 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.

NMK11282019

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Oxy USA Incorporated
WELL NAME & NO.:	Precious 30-18 Federal Com 42H
SURFACE HOLE FOOTAGE:	570'/N & 1215'/W
BOTTOM HOLE FOOTAGE	2620'/S & 1330'/W
LOCATION:	Section 31, T.23 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Cattleguards
Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement
Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement
Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action

Potash Minerals
Measures to minimize impacts to potash mineral reserves have been considered during the BLM's planning process by establishment of the Twin Wells Drill Island. No additional special mitigation or requirements have been identified by the BLM.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

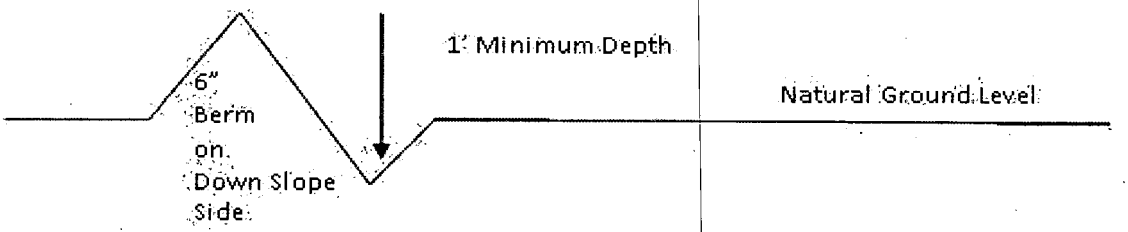
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

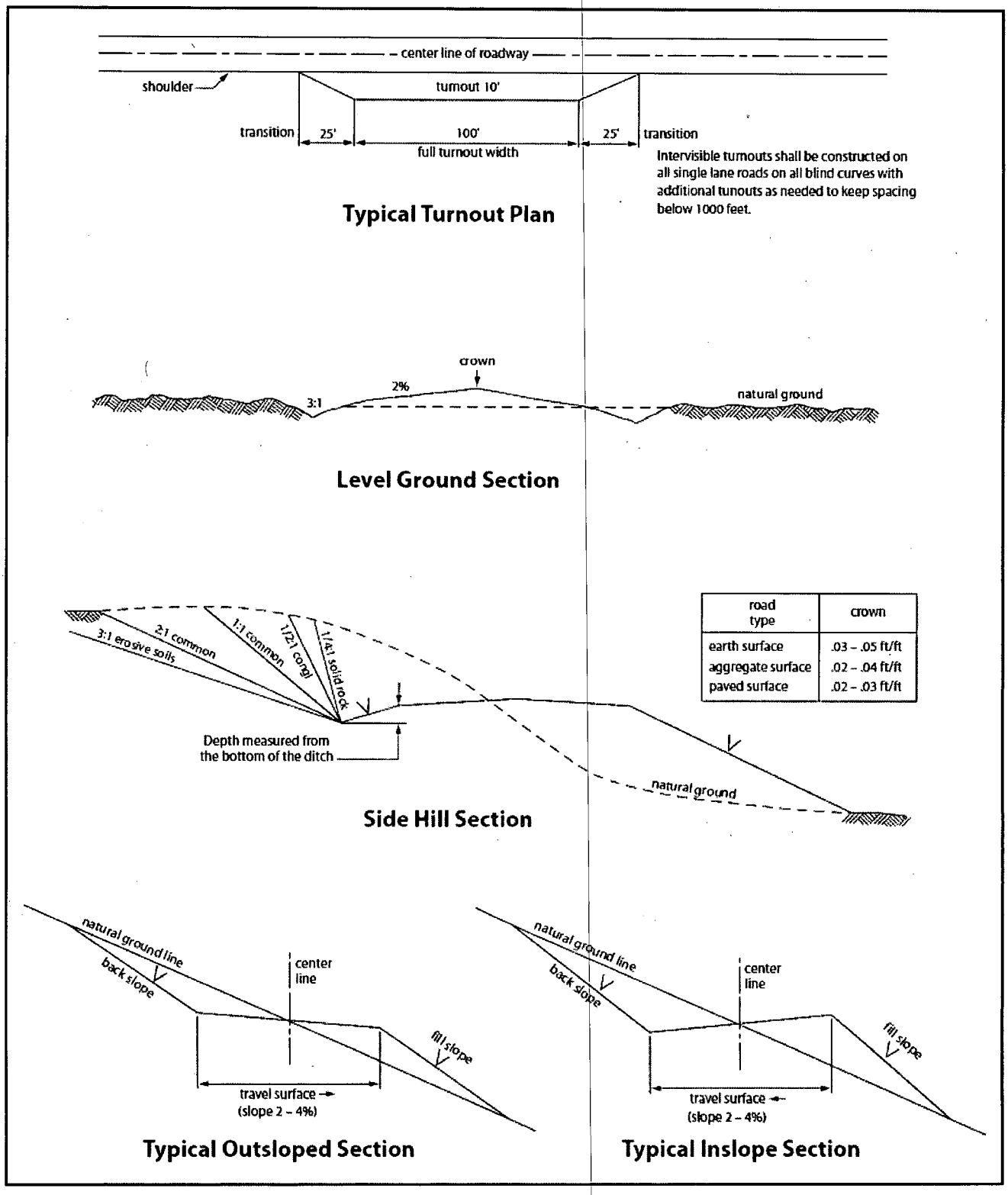


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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Operator Certification Data Report

01/07/2020

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Sarah Chapman

Signed on: 03/08/2019

Title: Regulatory Specialist

Street Address:

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

Phone: (713)350-4997

Email address: sarah_chapman@oxy.com

Field Representative

Representative Name:

Street Address: 6001 Deauville

City: Midland **State:** TX **Zip:** 79706

Phone: (575)631-2442

Email address: jim_wilson@oxy.com

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

Application Data Report

01/07/2020

APD ID: 10400039803 **Submission Date:** 03/08/2019

Operator Name: OXY USA INCORPORATED

Well Name: PRECIOUS 30-18 FEDERAL COM **Well Number:** 42H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400039803 **Tie to previous NOS?** **Submission Date:** 03/08/2019

BLM Office: CARLSBAD **User:** Sarah Chapman **Title:** Regulatory Specialist

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM021640 **Lease Acres:** 323.59

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO **APD Operator:** OXY USA INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: OXY USA INCORPORATED

Operator Address: 5 Greenway Plaza, Suite 110 **Zip:** 77046

Operator PO Box:

Operator City: Houston **State:** TX

Operator Phone: (713)366-5716

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: PRECIOUS 30-18 FEDERAL COM **Well Number:** 42H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WILDCAT WOLFCAMP **Pool Name:** WOLFCAMP

Is the proposed well in an area containing other mineral resources? POTASH

Operator Name: OXY USA INCORPORATED

Well Name: PRECIOUS 30-18 FEDERAL COM **Well Number:** 42H

Is the proposed well in an area containing other mineral resources? POTASH

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** PRECIOUS 30-18 FED COM **Number:** 1H

Well Class: HORIZONTAL **Number of Legs:**

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 8 Miles **Distance to nearest well:** 35 FT **Distance to lease line:** 20 FT

Reservoir well spacing assigned acres Measurement: 800 Acres

Well plat: Precious30_18FdCom42H_c_102Supplemental_20190828162451.pdf

Precious30_18FdCom42H_SitePlan_20190828162452.pdf

Well work start Date: 01/01/2020 **Duration:** 20 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 17777 **Reference Datum:**

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	570	FNL	1215	FWL	23S	31E	31	Aliquot NWNW	32.266608	-103.82171	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0546732A	3348	0	0	
KOP Leg #1	50	FSL	1330	FWL	23S	31E	30	Aliquot SWSW	32.268311	-103.821338	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 021640	-8067	11422	11415	

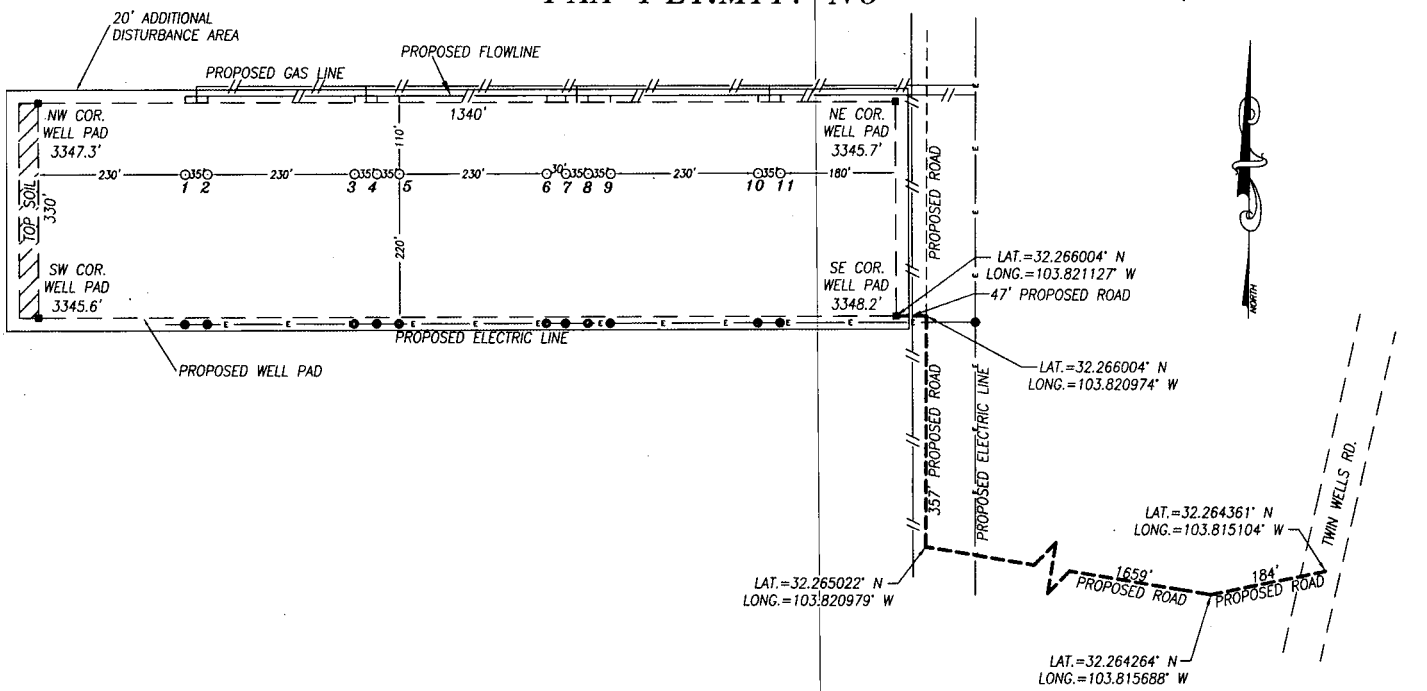
Operator Name: OXY USA INCORPORATED

Well Name: PRECIOUS 30-18 FEDERAL COM **Well Number:** 42H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-1	1325	FSL	1330	FWL	23S	31E	18	Aliquot NWSW	32.300856	-103.821326	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0546732	-9134	24500	12482	
PPP Leg #1-2	1322	FSL	1331	FWL	23S	31E	19	Aliquot NWSW	32.286327	-103.821331	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 021639	-9085	19200	12433	
PPP Leg #1-3	2640	FSL	1330	FWL	23S	31E	30	Aliquot SWNW	32.275431	-103.821335	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0533177	-9050	15300	12398	
PPP Leg #1-4	100	FSL	1330	FWL	23S	31E	30	Aliquot SWSW	32.268448	-103.821338	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 021640	-9026	12704	12374	
EXIT Leg #1	2540	FSL	1330	FWL	23S	31E	18	Aliquot SWNW	32.3042	-103.821324	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0546732	-9145	25723	12493	
BHL Leg #1	2620	FSL	1330	FWL	23S	31E	18	Aliquot SWNW	32.30442	-103.821324	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0546732	-9146	25795	12494	

OXY USA INC.

SITE PLAN
SNDDNS 3103
FAA PERMIT: NO



NO.	WELL	FOOTAGE	LAT.	LONG.	ELEV.	ID#
1	PRECIOUS 30_18 FED COM #21H	570' FNL & 285' FWL	32.266606° N	103.824719° W	3344.8'	N/A
2	PRECIOUS 30_18 FED COM #22H	570' FNL & 320' FWL	32.266606° N	103.824606° W	3346.2'	IP-SMS-2419
3	PRECIOUS 30_18 FED COM #1H	570' FNL & 550' FWL	32.266607° N	103.823862° W	3346.8'	N/A
4	PRECIOUS 30_18 FED COM #2H	570' FNL & 585' FWL	32.266607° N	103.823748° W	3347.7'	IP-SMS-2422
5	PRECIOUS 30_18 FED COM #7H	570' FNL & 620' FWL	32.266607° N	103.823635° W	3347.9'	IP-SMS-2431
6	PRECIOUS 30_18 FED COM #31H	570' FNL & 850' FWL	32.266608° N	103.822891° W	3351.3'	IP-SMS-2433
7	PRECIOUS 30_18 FED COM #171H	570' FNL & 880' FWL	32.266608° N	103.822794° W	3350.8'	IP-SMS-2417
8	PRECIOUS 30_18 FED COM #172H	570' FNL & 915' FWL	32.266608° N	103.822681° W	3349.5'	IP-SMS-2418
9	PRECIOUS 30_18 FED COM #32H	570' FNL & 950' FWL	32.266608° N	103.822568° W	3349.2'	IP-SMS-2434
10	PRECIOUS 30_18 FED COM #41H	570' FNL & 1180' FWL	32.266608° N	103.821824° W	3346.3'	IP-SMS-2424
11	PRECIOUS 30_18 FED COM #42H	570' FNL & 1215' FWL	32.266608° N	103.821710° W	3348.0'	IP-SMS-2425

NOTES:

1) LATS & LONGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.

2) DISTANCES ARE GRID VALUES.

3) ALL FEATURES ARE EXISTING UNLESS OTHERWISE NOTED

CERTIFICATION
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

CHAD HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow — 7/25/19

CHAD HARCROW N.M.P.S. NO. 17777 — DATE

HARCROW SURVEYING, LLC
2316 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158
c.harcrow@harcrowsurveying.com

300 0 300 600 Feet

Scale: 1"=300'

OXY USA INC.	
SURVEY DATE: JULY 10, 2019	SITE PLAN
DRAFTING DATE: JULY 23, 2019	PAGE: 1 OF 1
APPROVED BY: CH / DRAWN BY: AM	FILE: 19-1289

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

Drilling Plan Data Report

01/07/2020

APD ID: 10400039803

Submission Date: 03/08/2019

Operator Name: OXY USA INCORPORATED

Well Name: PRECIOUS 30-18 FEDERAL COM

Well Number: 42H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
414309	RUSTLER	3348	352	352	ANHYDRITE, DOLOMITE, SHALE	USEABLE WATER	N
414310	SALADO	2680	668	668	ANHYDRITE, DOLOMITE, HALITE, SHALE	OTHER : SALT	N
414307	CASTILE	751	2597	2597	ANHYDRITE	OTHER : SALT	N
414311	LAMAR	-681	4029	4029	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
414312	BELL CANYON	-714	4062	4062	SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER, USEABLE WATER : BRINE	N
414313	CHERRY CANYON	-1613	4961	4961	SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
414314	BRUSHY CANYON	-2903	6251	6251	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
414308	BONE SPRING	-4585	7933	7933	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	N
414304	BONE SPRING 1ST	-5616	8964	8964	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
414315	BONE SPRING 2ND	-6258	9606	9606	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
414316	BONE SPRING 3RD	-7471	10819	10900	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
414317	WOLFCAMP	-7940	11288	11300	LIMESTONE, SANDSTONE, SILTSTONE	CO2, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 8771

Equipment: 13-5/8" 5M Annular w/ 10M BOPE stack, Blind Ram, Double Ram

Requesting Variance? YES

Variance request: Request for the use of a flexible choke line from the BOP to Choke Manifold.

Testing Procedure: 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

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. A multibowl wellhead 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 will be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. As per the agreement reached in the Oxy/BLM meeting on September 5, 2019 Oxy requests permission to allow BOP Break Testing under the following conditions: 1. After a full BOP test is conducted is conducted. 2. When skidding to drill an intermediate section where ICP is set into the 3rd Bone Spring or shallower. 3. When skidding to drill a production section that does not penetrate into the 3rd Bone or deeper. If kill line is broken prior to skid, two test 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

Choke Diagram Attachment:

Precious30_18FdCom42H_ChkManifold_20190308073758.pdf

BOP Diagram Attachment:

Precious30_18FdCom42H_FlexHoseCert_20190308073816.pdf

Precious30_18FdCom42H_WellControlPlan_20190308073823.pdf

Precious30_18FdCom42H_BOP_10M__20190923071422.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	402	0	402			402	J-55	54.5	BUTT	1.125	1.2	BUOY	1.4	BUOY	1.4
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4079	0	4079			4079	L-80	40	BUTT	1.125	1.2	BUOY	1.4	BUOY	1.4
3	INTERMEDIATE	8.75	7.625	NEW	API	N	0	11814	0	11814			11814	HCL-80	26.4	OTHER - SF/FJ	1.125	1.2	BUOY	1.4	BUOY	1.4
4	PRODUCTION	6.75	5.5	NEW	API	N	0	25795	0	12494			25795	P-110	20	OTHER - DQX/SFTORQ	1.125	1.2	BUOY	1.4	BUOY	1.4

Casing Attachments

Operator Name: OXY USA INCORPORATED

Well Name: PRECIOUS 30-18 FEDERAL COM **Well Number:** 42H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Precious30_18FdCom42H_CsgCriteria_20190308073919.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Precious30_18FdCom42H_CsgCriteria_20190308073941.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Precious30_18FdCom42H_7.625_26.4_HCL80_TMKUPFJ_20190308074006.pdf

Precious30_18FdCom42H_7.625_26.4_HCL80_TMKUPSF_20190308074012.pdf

Precious30_18FdCom42H_CsgCriteria_20190308074018.pdf

Operator Name: OXY USA INCORPORATED

Well Name: PRECIOUS 30-18 FEDERAL COM **Well Number:** 42H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Precious30_18FdCom42H_CsgCriteria_20190308074056.pdf

Precious30_18FdCom42H_5.5_20_P110_DQX_20190308074102.pdf

Precious30_18FdCom42H_5.5_20_P110HC_TMKUPSFTORQ_20190308074109.pdf

Precious30_18FdCom42H_5.5_20_P110CY_TMKUPDQWTORQ_20190828163312.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	402	431	1.33	14.8	573	100	Cl C	Accelerator
INTERMEDIATE	Lead		0	3579	872	1.88	12.9	1639	100	POZZOLAN	RETARDER
INTERMEDIATE	Tail		3579	4079	155	1.33	14.8	206	20	Cl C	ACCELERATOR
INTERMEDIATE	Lead		6501	11814	340	1.65	13.2	561	5	CL C	RETARDER, DISPERSANT SALT
INTERMEDIATE	Tail		0	6501	396	1.92	12.9	772	25	CL C	ACCELERATOR
PRODUCTION	Lead		11314	25795	1060	1.38	13.2	1463	20	Cl H	RETARDER, DISPERSANT, SALT

Operator Name: OXY USA INCORPORATED

Well Name: PRECIOUS 30-18 FEDERAL COM **Well Number:** 42H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements. 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.

Describe the mud monitoring system utilized: PVT/MD Totco/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
11814	25795	OTHER : Water-Based and/or Oil-Based Mud	9.5	13.5							
402	4079	OTHER : Saturated Brine Based Mud	9.8	10							
4079	11814	OTHER : Water-Based and/or Oil-Based Mud	8	9.6							
0	402	WATER-BASED MUD	8.6	8.8							

Operator Name: OXY USA INCORPORATED

Well Name: PRECIOUS 30-18 FEDERAL COM **Well Number:** 42H

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

GR from TD to surface (horizontal well – vertical portion of hole). Mud Log from intermediate shoe to TD.

List of open and cased hole logs run in the well:

GR,MUDLOG

Coring operation description for the well:

No coring is planned at this time.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8771 **Anticipated Surface Pressure:** 6022.32

Anticipated Bottom Hole Temperature(F): 180

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Precious30_18FdCom42H_EmergencyContactList_20190308074438.pdf
Precious30_18FdCom42H_H2S1_20190308074446.pdf
Precious30_18FdCom42H_H2S2_20190308074452.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Precious30_18FdCom42H_DirectPlan_20190828163615.pdf
Precious30_18FdCom42H_DirectPlot_20190828163615.pdf

Other proposed operations facets description:

OXY respectfully requests a variance to cement the 9-5/8" and/or 7-5/8" intermediate casing strings offline.

*The 3rd Bone Spring Geologic Formation Top that was provided was the 3rd Bone Spring Lime Formation Top as required by the Potash operator's agreement. The only selection under Section 1 Geologic Formations was the Bone Spring 3rd.

OXY requests the option to set casing shallower yet still below the salts if losses or hole conditions require this. Cement volumes may be adjusted if casing is set shallower and a DV tool will be run in case a contingency second stage is required for cement to reach surface. If cement circulated to surface during first stage we will drop a cancelation cone and not pump the second stage.

*Oxy requests the option to run production casing with DQX, SF TORQ, and/or DQW TORQ connections to

Operator Name: OXY USA INCORPORATED

Well Name: PRECIOUS 30-18 FEDERAL COM **Well Number:** 42H

OXY requests to pump a two stage cement job on the intermediate II casing string with the first stage being pumped conventionally with the calculated TOC @ the Bone Spring and the second stage performed as a bradenhead squeeze with planned cement from the Bone Spring to surface.

Annular Clearance Variance Request - As per the agreement reached in the Oxy/BLM 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.

Well will be drilled with a walking/skidding operation. Plan to drill the multiple 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.

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.

Other proposed operations facets attachment:

Precious30_18FdCom42H_SpudRigData_20190308074542.pdf
Precious30_18FdCom42H_GasCapPlan_20190828163714.pdf
Precious30_18FdCom42H_StakeForm_20190828163715.pdf
Precious30_18FdCom42H_DrillPlan_20190930142602.pdf

Other Variance attachment:

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
Precious 30-18 Federal Com 42H

Open drill site. No homes or buildings are near the proposed location.

1. Escape

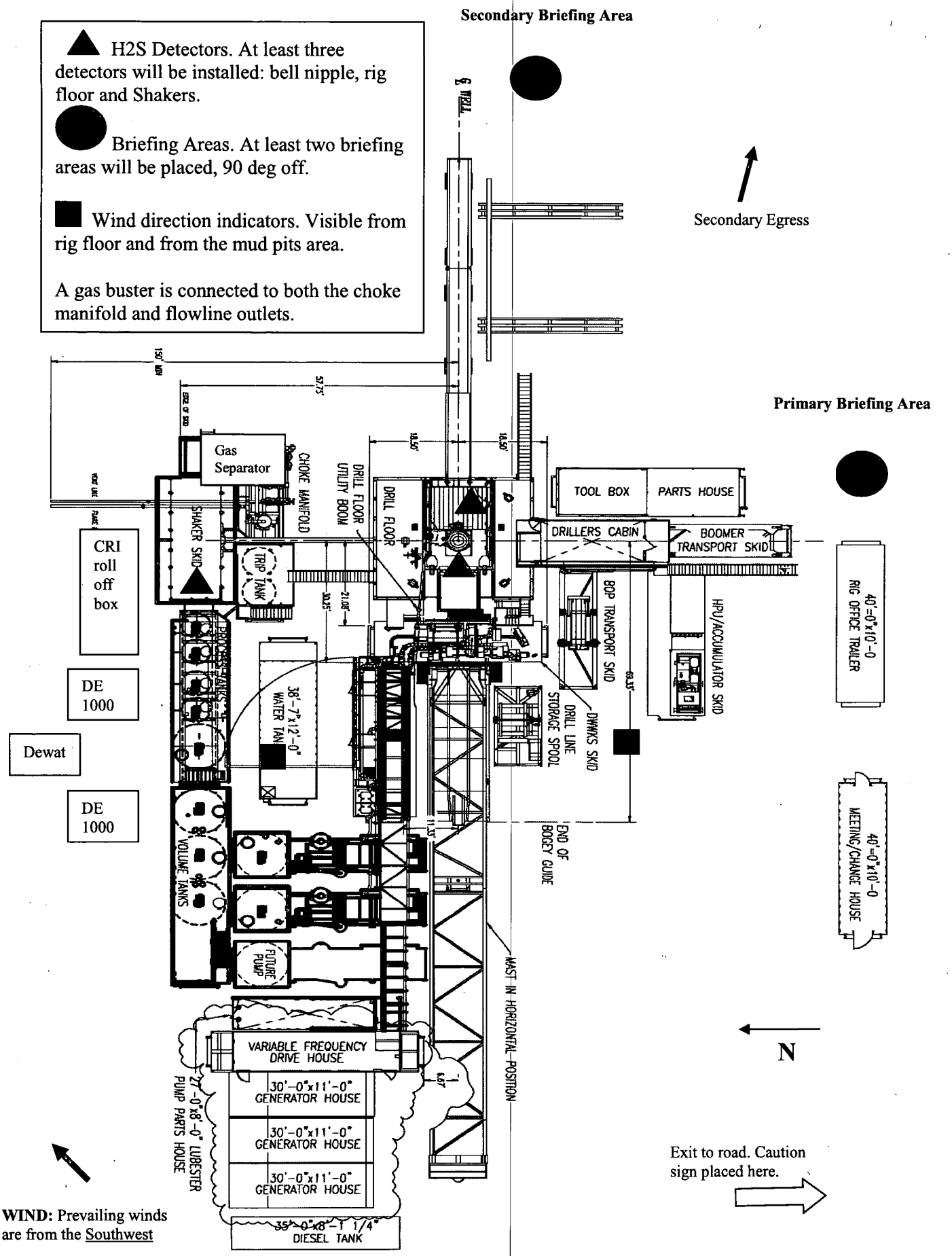
   Personnel shall escape upwind of wellbore in the event of an emergency gas release. Escape can take place through the lease road on the Southeast side of the location. Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction, then a secondary egress route should be taken.

▲ H2S Detectors. At least three detectors will be installed: bell nipple, rig floor and Shakers.

● Briefing Areas. At least two briefing areas will be placed, 90 deg off.

■ Wind direction indicators. Visible from rig floor and from the mud pits area.

A gas buster is connected to both the choke manifold and flowline outlets.



WIND: Prevailing winds are from the Southwest

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
New Mexico

Scope

This contingency plan establishes guidelines for the public, all company employees, and contract employees who's work activities may involve exposure to hydrogen sulfide (H2S) gas.
While drilling this well, it is possible to encounter H2S bearing formations. At all times, the first barrier to control H2S emissions will be the drilling fluid, which will have a density high enough to control influx.

Objective

1. Provide an immediate and predetermined response plan to any condition when H2S is detected. All H2S detections in excess of 10 parts per million (ppm) concentration are considered an Emergency.

2. Prevent any and all accidents, and prevent the uncontrolled release of hydrogen sulfide into the atmosphere.

3. Provide proper evacuation procedures to cope with emergencies.

4. Provide immediate and adequate medical attention should an injury occur.

Discussion

Implementation:	This plan with all details is to be fully implemented before drilling to commence.
Emergency response Procedure:	This section outlines the conditions and denotes steps to be taken in the event of an emergency.
Emergency equipment Procedure:	This section outlines the safety and emergency equipment that will be required for the drilling of this well.
Training provisions:	This section outlines the training provisions that must be adhered to prior to drilling.
Drilling emergency call lists:	Included are the telephone numbers of all persons to be contacted should an emergency exist.
Briefing:	This section deals with the briefing of all people involved in the drilling operation.
Public safety:	Public safety personnel will be made aware of any potential evacuation and any additional support needed.
Check lists:	Status check lists and procedural check lists have been included to insure adherence to the plan.
General information:	A general information section has been included to supply support information.

Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on the well:

1. The hazards and characteristics of H2S.
2. Proper use and maintenance of personal protective equipment and life support systems.
3. H2S detection.
4. Proper use of H2S detectors, alarms, warning systems, briefing areas, evacuation procedures and prevailing winds.
5. Proper techniques for first aid and rescue procedures.
6. Physical effects of hydrogen sulfide on the human body.
7. Toxicity of hydrogen sulfide and sulfur dioxide.
8. Use of SCBA and supplied air equipment.
9. First aid and artificial respiration.
10. Emergency rescue.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile strength tubular is to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling a well, blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan.

H2S training refresher must have been taken within one year prior to drilling the well. Specifics on the well to be drilled will be discussed during the pre-spud meeting. H2S and well control (choke) drills will be performed while drilling the well, at least on a weekly basis. This plan shall be available in the well site. All personnel will be required to carry the documentation proving that the H2S training has been taken.

Service company and visiting personnel

A. Each service company that will be on this well will be notified if the zone contains H2S.

B. Each service company must provide for the training and equipment of their employees before they arrive at the well site.

C. Each service company will be expected to attend a well site briefing

Emergency Equipment Requirements

1. Well control equipment

The well shall have hydraulic BOP equipment for the anticipated pressures. Equipment is to be tested on installation and follow Oxy Well Control standard, as well as BLM Onshore Order #2.

Special control equipment:

A. Hydraulic BOP equipment with remote control on ground. Remotely operated choke.
B. Rotating head
C. Gas buster equipment shall be installed before drilling out of surface pipe.

2. Protective equipment for personnel

A. Four (4) 30-minute positive pressure air packs (2 at each briefing area) on location.

B. Adequate fire extinguishers shall be located at strategic locations.

C. Radio / cell telephone communication will be available at the rig.

- Rig floor and trailers.
- Vehicle.

3. Hydrogen sulfide sensors and alarms

A. H2S sensor with alarms will be located on the rig floor, at the bell nipple, and at the flow line. These monitors will be set to alarm at 10 ppm with strobe light, and audible alarm.
B. Hand operated detectors with tubes.
C. H2S monitor tester (to be provided by contract Safety Company.)
D. There shall be one combustible gas detector on location at all times.

4. Visual Warning Systems

A. One sign located at each location entrance with the following language:

Caution – potential poison gas
Hydrogen sulfide
No admittance without authorization

Wind sock – wind streamers:

A. One 36" (in length) wind sock located at protection center, at height visible from rig floor.
B. One 36" (in length) wind sock located at height visible from pit areas.

Condition flags

A. One each condition flag to be displayed to denote conditions.

green – normal conditions
yellow – potential danger
red – danger, H2S present

B. Condition flag shall be posted at each location sign entrance.

5. Mud Program

The mud program is designed to minimize the risk of having H2S and other formation fluids at surface. Proper mud weight and safe drilling practices will be applied. H2S scavengers will be used to minimize the hazards while drilling. Below is a summary of the drilling program.

Mud inspection devices:

Garrett gas train or hatch tester for inspection of sulfide concentration in mud system.

6. Metallurgy

A. Drill string, casing, tubing, wellhead, blowout preventers, drilling spools or adapters, kill lines, choke manifold, lines and valves shall be suitable for the H2S service.
B. All the elastomers, packing, seals and ring gaskets shall be suitable for H2S service.

7. Well Testing

No drill stem test will be performed on this well.

8. Evacuation plan

Evacuation routes should be established prior to well spud for each well and discussed with all rig personnel.

9. Designated area

A. Parking and visitor area: all vehicles are to be parked at a predetermined safe distance from the wellhead.
B. There will be a designated smoking area.
C. Two briefing areas on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds perpendicularly, or at a 45-degree angle if wind direction tends to shift in the area.

Emergency procedures

A. In the event of any evidence of H2S level above 10 ppm, take the following steps:

1. The Driller will pick up off bottom, shut down the pumps, slow down the pipe rotation.

2. Secure and don escape breathing equipment, report to the upwind designated safe briefing / muster area.

3. All personnel on location will be accounted for and emergency search should begin for any missing, the Buddy System will be implemented.

4. Order non-essential personnel to leave the well site, order all essential personnel out of the danger zone and upwind to the nearest designated safe briefing / muster area.

5. Entrance to the location will be secured to a higher level than our usual "Meet and Greet" requirement, and the proper condition flag will be displayed at the entrance to the location.

6. Take steps to determine if the H2S level can be corrected or suppressed and, if so, proceed as required.

B. If uncontrollable conditions occur:

1. Take steps to protect and/or remove any public in the down-wind area from the rig – partial evacuation and isolation. Notify necessary public safety personnel and appropriate regulatory entities (i.e. BLM) of the situation.

2. Remove all personnel to the nearest upwind designated safe briefing / muster area or off location.

3. Notify public safety personnel of safe briefing / muster area.

4. An assigned crew member will blockade the entrance to the location. No unauthorized personnel will be allowed entry to the location.

5. Proceed with best plan (at the time) to regain control of the well. Maintain tight security and safety procedures.

C. Responsibility:

1. Designated personnel.

a. Shall be responsible for the total implementation of this plan.
b. Shall be in complete command during any emergency.
c. Shall designate a back-up.

All personnel:

1. On alarm, don escape unit and report to the nearest upwind designated safe briefing / muster area upw
2. Check status of personnel (buddy system).
3. Secure breathing equipment.
4. Await orders from supervisor.

Drill site manager:

1. Don escape unit if necessary and report to nearest upwind designated safe briefing / muster area.
2. Coordinate preparations of individuals to return to point of release with tool pusher and driller (using the buddy system).
3. Determine H2S concentrations.
4. Assess situation and take control measures.

Tool pusher:

1. Don escape unit Report to up nearest upwind designated safe briefing / muster area.
2. Coordinate preparation of individuals to return to point of release with tool pusher drill site manager (using the buddy system).
3. Determine H2S concentration.
4. Assess situation and take control measures.

Driller:

1. Don escape unit, shut down pumps, continue

		rotating DP.
	2.	Check monitor for point of release.
	3.	Report to nearest upwind designated safe briefing / muster area.
	4.	Check status of personnel (in an attempt to rescue, use the buddy system).
	5.	Assigns least essential person to notify Drill Site Manager and tool pusher by quickest means in case of their absence.
	6.	Assumes the responsibilities of the Drill Site Manager and tool pusher until they arrive should they be absent.
Derrick man Floor man #1 Floor man #2	1.	Will remain in briefing / muster area until instructed by supervisor.
Mud engineer:	1.	Report to nearest upwind designated safe briefing / muster area.
	2.	When instructed, begin check of mud for ph and H2S level. (Garett gas train.)
Safety personnel:	1.	Mask up and check status of all personnel and secure operations as instructed by drill site manager.

Taking a kick

When taking a kick during an H2S emergency, all personnel will follow standard Well control procedures after reporting to briefing area and masking up.

Open-hole logging

All unnecessary personnel off floor. Drill Site Manager and safety personnel should monitor condition, advise status and determine need for use of air equipment.

Running casing or plugging

Following the same "tripping" procedure as above. Drill Site Manager and safety personnel should determine if all personnel have access to protective equipment.

Ignition procedures

The decision to ignite the well is the responsibility of the operator (Oxy Drilling Management). The decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope controlling the blowout under the prevailing conditions at the well.

Instructions for igniting the well

1. Two people are required for the actual igniting operation. They must wear self-contained breathing units and have a safety rope attached. One man (tool pusher or safety engineer) will check the atmosphere for explosive gases with the gas monitor. The other man is responsible for igniting the well.
2. Primary method to ignite: 25 mm flare gun with range of approximately 500 feet.
3. Ignite upwind and do not approach any closer than is warranted.
4. Select the ignition site best for protection, and which offers an easy escape route.
5. Before firing, check for presence of combustible gas.
6. After lighting, continue emergency action and procedure as before.
7. All unassigned personnel will remain in briefing area until instructed by supervisor or directed by the Drill Site Manager.

Remember: After well is ignited, burning hydrogen sulfide will convert to sulfur dioxide, which is also highly toxic. **Do not assume the area is safe after the well is ignited.**

Status check list

Note: All items on this list must be completed before drilling to production casing point.

1. H2S sign at location entrance.
2. Two (2) wind socks located as required.
3. Four (4) 30-minute positive pressure air packs (2 at each Briefing area) on location for all rig personnel and mud loggers.
4. Air packs inspected and ready for use.
5. Cascade system and hose line hook-up as needed.
6. Cascade system for refilling air bottles as needed.
7. Condition flag on location and ready for use.
8. H2S detection system hooked up and tested.
9. H2S alarm system hooked up and tested.
10. Hand operated H2S detector with tubes on location.
11. 1 – 100' length of nylon rope on location.
12. All rig crew and supervisors trained as required.
13. All outside service contractors advised of potential H2S hazard on well.
14. No smoking sign posted and a designated smoking area identified.
15. Calibration of all H2S equipment shall be noted on the IADC report.

Checked by:_____ Date:_____

Procedural check list during H2S events

Perform each tour:

1. Check fire extinguishers to see that they have the proper charge.

2. Check breathing equipment to ensure that it in proper working order.

3. Make sure all the H2S detection system is operative.

Perform each week:

1. Check each piece of breathing equipment to make sure that demand or forced air regulator is working. This requires that the bottle be opened and the mask assembly be put on tight enough so that when you inhale, you receive air or feel air flow.

2. BOP skills (well control drills).

3. Check supply pressure on BOP accumulator stand by source.

4. Check breathing equipment mask assembly to see that straps are loosened and turned back, ready to put on.

5. Check pressure on breathing equipment air bottles to make sure they are charged to full volume. (Air quality checked for proper air grade "D" before bringing to location)

6. Confirm pressure on all supply air bottles.

7. Perform breathing equipment drills with on-site personnel.

8. Check the following supplies for availability.

   A. Emergency telephone list.
   B. Hand operated H2S detectors and tubes.

General evacuation plan

1. When the company approved supervisor (Drill Site Manager, consultant, rig pusher, or driller) determines the H2S gas cannot be limited to the well location and the public will be involved, he will activate the evacuation plan.

2. Drill Site Manager or designee will notify local government agency that a hazardous condition exists and evacuation needs to be implemented.

3. Company or contractor safety personnel that have been trained in the use of H2S detection equipment and self-contained breathing equipment will monitor H2S concentrations, wind directions, and area of exposure. They will delineate the outer perimeter of the hazardous gas area. Extension to the evacuation area will be determined from information gathered.

4. Law enforcement personnel (state police, police dept., fire dept., and sheriff's dept.) Will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

5. After the discharge of gas has been controlled, company safety personnel will determine when the area is safe for re-entry.

Important: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

Emergency actions

Well blowout – if emergency

1. Evacuate all personnel to "Safe Briefing / Muster Areas" or off location if needed.

2. If sour gas – evacuate rig personnel.

3. If sour gas – evacuate public within 3000 ft radius of exposure.

4. Don SCBA and shut well in if possible using the buddy system.

5. Notify Drilling Superintendent and call 911 for emergency help (fire dept and ambulance) if needed.

6. Implement the Blowout Contingency Plan, and Drilling Emergency Action Plan.

6. Give first aid as needed.

Person down location/facility

1. If immediately possible, contact 911. Give location and wait for confirmation.

2. Don SCBA and perform rescue operation using buddy system.

Toxic effects of hydrogen sulfide

Hydrogen sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 ppm, which is .001% by volume. Hydrogen sulfide is heavier than air (specific gravity – 1.192) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. Hydrogen sulfide is almost as toxic as hydrogen cyanide and is between five and six times more toxic than carbon monoxide. Toxicity data for hydrogen sulfide and various other gases are compared in table i. Physical effects at various hydrogen sulfide exposure levels are shown in table ii.

Table i
Toxicity of various gases

Common name	Chemical formula	Specific gravity (sc=1)	Threshold limit (1)	Hazardous limit (2)	Lethal concentration (3)
Hydrogen Cyanide	Hcn	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H2S	1.18	10 ppm	250 ppm/hr	600 ppm
Sulfur Dioxide	So2	2.21	5 ppm	-	1000 ppm
Chlorine	Cl2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	Co	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	Co2	1.52	5000 ppm	5%	10%
Methane	Ch4	0.55	90,000 ppm	Combustible above 5% in air	

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

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

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

Toxic effects of hydrogen sulfide

Table ii
Physical effects of hydrogen sulfide

Percent (%)	Ppm	Concentration Grains 100 std. Ft3*	Physical effects
0.001	<10	00.65	Obvious and unpleasant odor.

0.002	10	01.30	Safe for 8 hours of exposure.
0.010	100	06.48	Kill smell in 3 – 15 minutes. May sting eyes and throat.
0.020	200	12.96	Kills smell shortly; stings eyes and throat.
0.050	500	32.96	Dizziness; breathing ceases in a few minutes; needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; death will result if not rescued promptly.
0.100	1000	64.30	Unconscious at once; followed by death within minutes.

*at 15.00 psia and 60'f.

Use of self-contained breathing equipment (SCBA)

1. Written procedures shall be prepared covering safe use of SCBA's in dangerous atmosphere, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available SCBA.

2 SCBA's shall be inspected frequently at random to insure that they are properly used, cleaned, and maintained.

3. Anyone who may use the SCBA's shall be trained in how to insure proper face-piece to face seal. They shall wear SCBA's in normal air and then wear them in a test atmosphere. (note: such items as facial hair {beard or sideburns} and eyeglasses will not allow proper seal.) Anyone that may be reasonably expected to wear SCBA's should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses or contact lenses.

4. Maintenance and care of SCBA's:

   a. A program for maintenance and care of SCBA's shall include the following:
      1. Inspection for defects, including leak checks.
      2. Cleaning and disinfecting.
      3. Repair.
      4. Storage.

   b. Inspection, self-contained breathing apparatus for emergency use shall be inspected monthly.
      1. Fully charged cylinders.
      2. Regulator and warning device operation.
      3. Condition of face piece and connections.
      4. Rubber parts shall be maintained to keep them pliable and prevent deterioration.

   c. Routinely used SCBA's shall be collected, cleaned and disinfected as frequently as necessary to insure proper protection is provided.

5. Persons assigned tasks that requires use of self-contained breathing equipment shall be certified physically fit (medically cleared) for breathing equipment usage at least annually.

6. SCBA's should be worn when:

   A. Any employee works near the top or on top of any tank unless test reveals less than 10 ppm of H2S.

B. When breaking out any line where H2S can reasonably be expected.

C. When sampling air in areas to determine if toxic concentrations of H2S exists.

D. When working in areas where over 10 ppm H2S has been detected.

E. At any time there is a doubt as to the H2S level in the area to be entered.

Rescue
First aid for H2S poisoning

Do not panic!

Remain calm – think!

1. Don SCBA breathing equipment.

2. Remove victim(s) utilizing buddy system to fresh air as quickly as possible. (go up-wind from source or at right angle to the wind. Not down wind.)

3. Briefly apply chest pressure – arm lift method of artificial respiration to clean the victim's lungs and to avoid inhaling any toxic gas directly from the victim's lungs.

4. Provide for prompt transportation to the hospital, and continue giving artificial respiration if needed.

5. Hospital(s) or medical facilities need to be informed, before-hand, of the possibility of H2S gas poisoning – no matter how remote the possibility is.

6. Notify emergency room personnel that the victim(s) has been exposed to H2S gas.

Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration.

Revised CM 6/27/2012

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Precious 30_18
Precious 30_18 Federal Com 42H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

23 August, 2019

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Precious 30_18 Federal Com 42H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3374.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3374.50ft
Site:	Precious 30_18	**North Reference:**	Grid
Well:	Precious 30_18 Federal Com 42H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
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 Precious 30_18

Site Position:		**Northing:**	461,098.38 usft	**Latitude:**	32° 15' 59.784416 N
From:	Map	**Easting:**	698,809.83 usft	**Longitude:**	103° 49' 25.902124 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.27 °

Well Precious 30_18 Federal Com 42H

Well Position	**+N/-S**	3.72 ft	**Northing:**	461,102.10 usft	**Latitude:**	32° 15' 59.789924 N
	+E/-W	665.01 ft	**Easting:**	699,474.80 usft	**Longitude:**	103° 49' 18.157202 W
Position Uncertainty		1.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,348.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	12/5/2018	6.87	59.98	48,011.40000000

Design Permitting Plan

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.22

Plan Survey Tool Program **Date** 8/23/2019

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	25,795.48	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	
10,649.75	0.00	0.00	10,649.75	0.00	0.00	0.00	0.00	0.00	0.00	
11,149.73	10.00	58.95	11,147.20	22.45	37.28	2.00	2.00	0.00	58.95	
11,422.00	10.00	58.95	11,415.33	46.84	77.78	0.00	0.00	0.00	0.00	
11,914.01	10.00	359.75	11,901.06	111.75	114.28	2.00	0.00	-12.03	-119.22	
12,708.76	89.47	359.75	12,374.50	670.74	111.81	10.00	10.00	0.00	0.00	FTP (Precious
25,795.48	89.47	359.75	12,494.50	13,756.78	53.70	0.00	0.00	0.00	0.00	PBHL (Precious

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Precious 30_18 Federal Com 42H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3374.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3374.50ft
Site:	Precious 30_18	**North Reference:**	Grid
Well:	Precious 30_18 Federal Com 42H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
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
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Precious 30_18 Federal Com 42H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3374.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3374.50ft
Site:	Precious 30_18	**North Reference:**	Grid
Well:	Precious 30_18 Federal Com 42H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
10,100.00	0.00	0.00	10,100.00	0.00	0.00	0.00	0.00	0.00	0.00
10,200.00	0.00	0.00	10,200.00	0.00	0.00	0.00	0.00	0.00	0.00
10,300.00	0.00	0.00	10,300.00	0.00	0.00	0.00	0.00	0.00	0.00
10,400.00	0.00	0.00	10,400.00	0.00	0.00	0.00	0.00	0.00	0.00
10,500.00	0.00	0.00	10,500.00	0.00	0.00	0.00	0.00	0.00	0.00
10,600.00	0.00	0.00	10,600.00	0.00	0.00	0.00	0.00	0.00	0.00
10,649.75	0.00	0.00	10,649.75	0.00	0.00	0.00	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Precious 30_18 Federal Com 42H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3374.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3374.50ft
Site:	Precious 30_18	**North Reference:**	Grid
Well:	Precious 30_18 Federal Com 42H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
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)
10,700.00	1.01	58.95	10,700.00	0.23	0.38	0.23	2.00	2.00	0.00
10,800.00	3.01	58.95	10,799.93	2.03	3.37	2.05	2.00	2.00	0.00
10,900.00	5.01	58.95	10,899.68	5.63	9.36	5.67	2.00	2.00	0.00
11,000.00	7.01	58.95	10,999.13	11.03	18.32	11.10	2.00	2.00	0.00
11,100.00	9.01	58.95	11,098.15	18.21	30.25	18.33	2.00	2.00	0.00
11,149.73	10.00	58.95	11,147.20	22.45	37.28	22.59	2.00	2.00	0.00
11,200.00	10.00	58.95	11,196.70	26.95	44.76	27.13	0.00	0.00	0.00
11,300.00	10.00	58.95	11,295.18	35.91	59.64	36.14	0.00	0.00	0.00
11,400.00	10.00	58.95	11,393.66	44.87	74.51	45.16	0.00	0.00	0.00
11,422.00	10.00	58.95	11,415.33	46.84	77.78	47.14	0.00	0.00	0.00
11,500.00	9.34	50.53	11,492.23	54.35	88.47	54.70	2.00	-0.85	-10.80
11,600.00	8.82	38.25	11,590.98	65.53	99.48	65.92	2.00	-0.52	-12.27
11,700.00	8.74	25.13	11,689.82	78.43	107.46	78.85	2.00	-0.08	-13.12
11,800.00	9.10	12.43	11,788.62	93.04	112.38	93.48	2.00	0.36	-12.71
11,900.00	9.87	1.18	11,887.26	109.33	114.26	109.78	2.00	0.76	-11.25
11,914.01	10.00	359.75	11,901.06	111.75	114.28	112.19	2.00	0.96	-10.19
12,000.00	18.60	359.75	11,984.31	132.97	114.19	133.41	10.00	10.00	0.00
12,100.00	28.60	359.75	12,075.83	172.95	114.02	173.39	10.00	10.00	0.00
12,200.00	38.60	359.75	12,159.02	228.22	113.77	228.66	10.00	10.00	0.00
12,300.00	48.60	359.75	12,231.34	297.09	113.47	297.53	10.00	10.00	0.00
12,400.00	58.60	359.75	12,290.61	377.47	113.12	377.91	10.00	10.00	0.00
12,500.00	68.60	359.75	12,335.02	466.93	112.73	467.37	10.00	10.00	0.00
12,600.00	78.60	359.75	12,363.22	562.74	112.32	563.17	10.00	10.00	0.00
12,700.00	88.60	359.75	12,374.35	661.99	111.88	662.42	10.00	10.00	0.00
12,708.76	89.47	359.75	12,374.50	670.74	111.81	671.17	10.00	10.00	-0.05
12,800.00	89.47	359.75	12,375.34	761.98	111.40	762.41	0.00	0.00	0.00
12,900.00	89.47	359.75	12,376.25	861.98	110.96	862.40	0.00	0.00	0.00
13,000.00	89.47	359.75	12,377.17	961.97	110.51	962.40	0.00	0.00	0.00
13,100.00	89.47	359.75	12,378.09	1,061.97	110.07	1,062.39	0.00	0.00	0.00
13,200.00	89.47	359.75	12,379.00	1,161.96	109.63	1,162.38	0.00	0.00	0.00
13,300.00	89.47	359.75	12,379.92	1,261.96	109.18	1,262.37	0.00	0.00	0.00
13,400.00	89.47	359.75	12,380.84	1,361.95	108.74	1,362.37	0.00	0.00	0.00
13,500.00	89.47	359.75	12,381.76	1,461.95	108.29	1,462.36	0.00	0.00	0.00
13,600.00	89.47	359.75	12,382.67	1,561.94	107.85	1,562.35	0.00	0.00	0.00
13,700.00	89.47	359.75	12,383.59	1,661.94	107.41	1,662.34	0.00	0.00	0.00
13,800.00	89.47	359.75	12,384.51	1,761.93	106.96	1,762.33	0.00	0.00	0.00
13,900.00	89.47	359.75	12,385.42	1,861.93	106.52	1,862.33	0.00	0.00	0.00
14,000.00	89.47	359.75	12,386.34	1,961.92	106.07	1,962.32	0.00	0.00	0.00
14,100.00	89.47	359.75	12,387.26	2,061.91	105.63	2,062.31	0.00	0.00	0.00
14,200.00	89.47	359.75	12,388.17	2,161.91	105.19	2,162.30	0.00	0.00	0.00
14,300.00	89.47	359.75	12,389.09	2,261.90	104.74	2,262.30	0.00	0.00	0.00
14,400.00	89.47	359.75	12,390.01	2,361.90	104.30	2,362.29	0.00	0.00	0.00
14,500.00	89.47	359.75	12,390.93	2,461.89	103.85	2,462.28	0.00	0.00	0.00
14,600.00	89.47	359.75	12,391.84	2,561.89	103.41	2,562.27	0.00	0.00	0.00
14,700.00	89.47	359.75	12,392.76	2,661.88	102.97	2,662.27	0.00	0.00	0.00
14,800.00	89.47	359.75	12,393.68	2,761.88	102.52	2,762.26	0.00	0.00	0.00
14,900.00	89.47	359.75	12,394.59	2,861.87	102.08	2,862.25	0.00	0.00	0.00
15,000.00	89.47	359.75	12,395.51	2,961.87	101.63	2,962.24	0.00	0.00	0.00
15,100.00	89.47	359.75	12,396.43	3,061.86	101.19	3,062.23	0.00	0.00	0.00
15,200.00	89.47	359.75	12,397.34	3,161.86	100.75	3,162.23	0.00	0.00	0.00
15,300.00	89.47	359.75	12,398.26	3,261.85	100.30	3,262.22	0.00	0.00	0.00
15,400.00	89.47	359.75	12,399.18	3,361.85	99.86	3,362.21	0.00	0.00	0.00
15,500.00	89.47	359.75	12,400.09	3,461.84	99.41	3,462.20	0.00	0.00	0.00
15,600.00	89.47	359.75	12,401.01	3,561.84	98.97	3,562.20	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Precious 30_18 Federal Com 42H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3374.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3374.50ft
Site:	Precious 30_18	**North Reference:**	Grid
Well:	Precious 30_18 Federal Com 42H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
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)
15,700.00	89.47	359.75	12,401.93	3,661.83	98.53	3,662.19	0.00	0.00	0.00
15,800.00	89.47	359.75	12,402.85	3,761.83	98.08	3,762.18	0.00	0.00	0.00
15,900.00	89.47	359.75	12,403.76	3,861.82	97.64	3,862.17	0.00	0.00	0.00
16,000.00	89.47	359.75	12,404.68	3,961.82	97.19	3,962.17	0.00	0.00	0.00
16,100.00	89.47	359.75	12,405.60	4,061.81	96.75	4,062.16	0.00	0.00	0.00
16,200.00	89.47	359.75	12,406.51	4,161.81	96.31	4,162.15	0.00	0.00	0.00
16,300.00	89.47	359.75	12,407.43	4,261.80	95.86	4,262.14	0.00	0.00	0.00
16,400.00	89.47	359.75	12,408.35	4,361.80	95.42	4,362.13	0.00	0.00	0.00
16,500.00	89.47	359.75	12,409.26	4,461.79	94.97	4,462.13	0.00	0.00	0.00
16,600.00	89.47	359.75	12,410.18	4,561.79	94.53	4,562.12	0.00	0.00	0.00
16,700.00	89.47	359.75	12,411.10	4,661.78	94.09	4,662.11	0.00	0.00	0.00
16,800.00	89.47	359.75	12,412.02	4,761.77	93.64	4,762.10	0.00	0.00	0.00
16,900.00	89.47	359.75	12,412.93	4,861.77	93.20	4,862.10	0.00	0.00	0.00
17,000.00	89.47	359.75	12,413.85	4,961.76	92.75	4,962.09	0.00	0.00	0.00
17,100.00	89.47	359.75	12,414.77	5,061.76	92.31	5,062.08	0.00	0.00	0.00
17,200.00	89.47	359.75	12,415.68	5,161.75	91.87	5,162.07	0.00	0.00	0.00
17,300.00	89.47	359.75	12,416.60	5,261.75	91.42	5,262.07	0.00	0.00	0.00
17,400.00	89.47	359.75	12,417.52	5,361.74	90.98	5,362.06	0.00	0.00	0.00
17,500.00	89.47	359.75	12,418.43	5,461.74	90.53	5,462.05	0.00	0.00	0.00
17,600.00	89.47	359.75	12,419.35	5,561.73	90.09	5,562.04	0.00	0.00	0.00
17,700.00	89.47	359.75	12,420.27	5,661.73	89.65	5,662.03	0.00	0.00	0.00
17,800.00	89.47	359.75	12,421.18	5,761.72	89.20	5,762.03	0.00	0.00	0.00
17,900.00	89.47	359.75	12,422.10	5,861.72	88.76	5,862.02	0.00	0.00	0.00
18,000.00	89.47	359.75	12,423.02	5,961.71	88.31	5,962.01	0.00	0.00	0.00
18,100.00	89.47	359.75	12,423.94	6,061.71	87.87	6,062.00	0.00	0.00	0.00
18,200.00	89.47	359.75	12,424.85	6,161.70	87.43	6,162.00	0.00	0.00	0.00
18,300.00	89.47	359.75	12,425.77	6,261.70	86.98	6,261.99	0.00	0.00	0.00
18,400.00	89.47	359.75	12,426.69	6,361.69	86.54	6,361.98	0.00	0.00	0.00
18,500.00	89.47	359.75	12,427.60	6,461.69	86.09	6,461.97	0.00	0.00	0.00
18,600.00	89.47	359.75	12,428.52	6,561.68	85.65	6,561.97	0.00	0.00	0.00
18,700.00	89.47	359.75	12,429.44	6,661.68	85.21	6,661.96	0.00	0.00	0.00
18,800.00	89.47	359.75	12,430.35	6,761.67	84.76	6,761.95	0.00	0.00	0.00
18,900.00	89.47	359.75	12,431.27	6,861.67	84.32	6,861.94	0.00	0.00	0.00
19,000.00	89.47	359.75	12,432.19	6,961.66	83.87	6,961.94	0.00	0.00	0.00
19,100.00	89.47	359.75	12,433.11	7,061.66	83.43	7,061.93	0.00	0.00	0.00
19,200.00	89.47	359.75	12,434.02	7,161.65	82.99	7,161.92	0.00	0.00	0.00
19,300.00	89.47	359.75	12,434.94	7,261.65	82.54	7,261.91	0.00	0.00	0.00
19,400.00	89.47	359.75	12,435.86	7,361.64	82.10	7,361.90	0.00	0.00	0.00
19,500.00	89.47	359.75	12,436.77	7,461.63	81.65	7,461.90	0.00	0.00	0.00
19,600.00	89.47	359.75	12,437.69	7,561.63	81.21	7,561.89	0.00	0.00	0.00
19,700.00	89.47	359.75	12,438.61	7,661.62	80.77	7,661.88	0.00	0.00	0.00
19,800.00	89.47	359.75	12,439.52	7,761.62	80.32	7,761.87	0.00	0.00	0.00
19,900.00	89.47	359.75	12,440.44	7,861.61	79.88	7,861.87	0.00	0.00	0.00
20,000.00	89.47	359.75	12,441.36	7,961.61	79.43	7,961.86	0.00	0.00	0.00
20,100.00	89.47	359.75	12,442.28	8,061.60	78.99	8,061.85	0.00	0.00	0.00
20,200.00	89.47	359.75	12,443.19	8,161.60	78.55	8,161.84	0.00	0.00	0.00
20,300.00	89.47	359.75	12,444.11	8,261.59	78.10	8,261.84	0.00	0.00	0.00
20,400.00	89.47	359.75	12,445.03	8,361.59	77.66	8,361.83	0.00	0.00	0.00
20,500.00	89.47	359.75	12,445.94	8,461.58	77.21	8,461.82	0.00	0.00	0.00
20,600.00	89.47	359.75	12,446.86	8,561.58	76.77	8,561.81	0.00	0.00	0.00
20,700.00	89.47	359.75	12,447.78	8,661.57	76.33	8,661.80	0.00	0.00	0.00
20,800.00	89.47	359.75	12,448.69	8,761.57	75.88	8,761.80	0.00	0.00	0.00
20,900.00	89.47	359.75	12,449.61	8,861.56	75.44	8,861.79	0.00	0.00	0.00
21,000.00	89.47	359.75	12,450.53	8,961.56	74.99	8,961.78	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Precious 30_18 Federal Com 42H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3374.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3374.50ft
Site:	Precious 30_18	**North Reference:**	Grid
Well:	Precious 30_18 Federal Com 42H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
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)
21,100.00	89.47	359.75	12,451.44	9,061.55	74.55	9,061.77	0.00	0.00	0.00
21,200.00	89.47	359.75	12,452.36	9,161.55	74.11	9,161.77	0.00	0.00	0.00
21,300.00	89.47	359.75	12,453.28	9,261.54	73.66	9,261.76	0.00	0.00	0.00
21,400.00	89.47	359.75	12,454.20	9,361.54	73.22	9,361.75	0.00	0.00	0.00
21,500.00	89.47	359.75	12,455.11	9,461.53	72.77	9,461.74	0.00	0.00	0.00
21,600.00	89.47	359.75	12,456.03	9,561.53	72.33	9,561.74	0.00	0.00	0.00
21,700.00	89.47	359.75	12,456.95	9,661.52	71.89	9,661.73	0.00	0.00	0.00
21,800.00	89.47	359.75	12,457.86	9,761.52	71.44	9,761.72	0.00	0.00	0.00
21,900.00	89.47	359.75	12,458.78	9,861.51	71.00	9,861.71	0.00	0.00	0.00
22,000.00	89.47	359.75	12,459.70	9,961.51	70.55	9,961.70	0.00	0.00	0.00
22,100.00	89.47	359.75	12,460.61	10,061.50	70.11	10,061.70	0.00	0.00	0.00
22,200.00	89.47	359.75	12,461.53	10,161.49	69.67	10,161.69	0.00	0.00	0.00
22,300.00	89.47	359.75	12,462.45	10,261.49	69.22	10,261.68	0.00	0.00	0.00
22,400.00	89.47	359.75	12,463.37	10,361.48	68.78	10,361.67	0.00	0.00	0.00
22,500.00	89.47	359.75	12,464.28	10,461.48	68.34	10,461.67	0.00	0.00	0.00
22,600.00	89.47	359.75	12,465.20	10,561.47	67.89	10,561.66	0.00	0.00	0.00
22,700.00	89.47	359.75	12,466.12	10,661.47	67.45	10,661.65	0.00	0.00	0.00
22,800.00	89.47	359.75	12,467.03	10,761.46	67.00	10,761.64	0.00	0.00	0.00
22,900.00	89.47	359.75	12,467.95	10,861.46	66.56	10,861.64	0.00	0.00	0.00
23,000.00	89.47	359.75	12,468.87	10,961.45	66.12	10,961.63	0.00	0.00	0.00
23,100.00	89.47	359.75	12,469.78	11,061.45	65.67	11,061.62	0.00	0.00	0.00
23,200.00	89.47	359.75	12,470.70	11,161.44	65.23	11,161.61	0.00	0.00	0.00
23,300.00	89.47	359.75	12,471.62	11,261.44	64.78	11,261.60	0.00	0.00	0.00
23,400.00	89.47	359.75	12,472.53	11,361.43	64.34	11,361.60	0.00	0.00	0.00
23,500.00	89.47	359.75	12,473.45	11,461.43	63.90	11,461.59	0.00	0.00	0.00
23,600.00	89.47	359.75	12,474.37	11,561.42	63.45	11,561.58	0.00	0.00	0.00
23,700.00	89.47	359.75	12,475.29	11,661.42	63.01	11,661.57	0.00	0.00	0.00
23,800.00	89.47	359.75	12,476.20	11,761.41	62.56	11,761.57	0.00	0.00	0.00
23,900.00	89.47	359.75	12,477.12	11,861.41	62.12	11,861.56	0.00	0.00	0.00
24,000.00	89.47	359.75	12,478.04	11,961.40	61.68	11,961.55	0.00	0.00	0.00
24,100.00	89.47	359.75	12,478.95	12,061.40	61.23	12,061.54	0.00	0.00	0.00
24,200.00	89.47	359.75	12,479.87	12,161.39	60.79	12,161.54	0.00	0.00	0.00
24,300.00	89.47	359.75	12,480.79	12,261.39	60.34	12,261.53	0.00	0.00	0.00
24,400.00	89.47	359.75	12,481.70	12,361.38	59.90	12,361.52	0.00	0.00	0.00
24,500.00	89.47	359.75	12,482.62	12,461.38	59.46	12,461.51	0.00	0.00	0.00
24,600.00	89.47	359.75	12,483.54	12,561.37	59.01	12,561.50	0.00	0.00	0.00
24,700.00	89.47	359.75	12,484.46	12,661.37	58.57	12,661.50	0.00	0.00	0.00
24,800.00	89.47	359.75	12,485.37	12,761.36	58.12	12,761.49	0.00	0.00	0.00
24,900.00	89.47	359.75	12,486.29	12,861.35	57.68	12,861.48	0.00	0.00	0.00
25,000.00	89.47	359.75	12,487.21	12,961.35	57.24	12,961.47	0.00	0.00	0.00
25,100.00	89.47	359.75	12,488.12	13,061.34	56.79	13,061.47	0.00	0.00	0.00
25,200.00	89.47	359.75	12,489.04	13,161.34	56.35	13,161.46	0.00	0.00	0.00
25,300.00	89.47	359.75	12,489.96	13,261.33	55.90	13,261.45	0.00	0.00	0.00
25,400.00	89.47	359.75	12,490.87	13,361.33	55.46	13,361.44	0.00	0.00	0.00
25,500.00	89.47	359.75	12,491.79	13,461.32	55.02	13,461.44	0.00	0.00	0.00
25,600.00	89.47	359.75	12,492.71	13,561.32	54.57	13,561.43	0.00	0.00	0.00
25,700.00	89.47	359.75	12,493.62	13,661.31	54.13	13,661.42	0.00	0.00	0.00
25,795.48	89.47	359.75	12,494.50	13,756.78	53.70	13,756.89	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Precious 30_18 Federal Com 42H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3374.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3374.50ft
Site:	Precious 30_18	**North Reference:**	Grid
Well:	Precious 30_18 Federal Com 42H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

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 (Precious 30_18 - plan hits target center - Point	0.00	0.00	12,374.50	670.74	111.81	461,772.80	699,586.60	32° 16' 6.421627 N	103° 49' 16.817832
PBHL (Precious 30_18 - plan hits target center - Point	0.00	0.00	12,494.50	13,756.78	53.70	474,858.00	699,528.50	32° 18' 15.909894 N	103° 49' 16.767035

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
10,649.75	10,649.75	0.00	0.00	Build 2.00°/100'
11,149.73	11,147.20	22.45	37.28	Hold 10.00° Tangent
11,422.00	11,415.33	46.84	77.78	Turn 2.00°/100'
11,914.01	11,901.06	111.75	114.28	KOP, Build 10.00°/100'
12,708.76	12,374.50	670.75	111.81	Landing Point
25,795.48	12,494.50	13,756.78	53.70	TD at 25795.48' MD

Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)
Site:	Precious 30_18
Well:	Precious 30_18 Federal Com 42H
Wellbore:	Wellbore #1
Design:	Permitting Plan

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

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

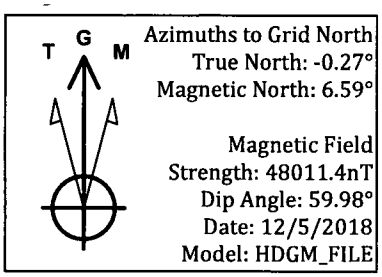
WELL DETAILS: Precious 30_18 Federal Com 42H

Ground Level: 3348.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	461102.10	699474.80	32° 15' 59.789924 N	103° 49' 18.157202 W

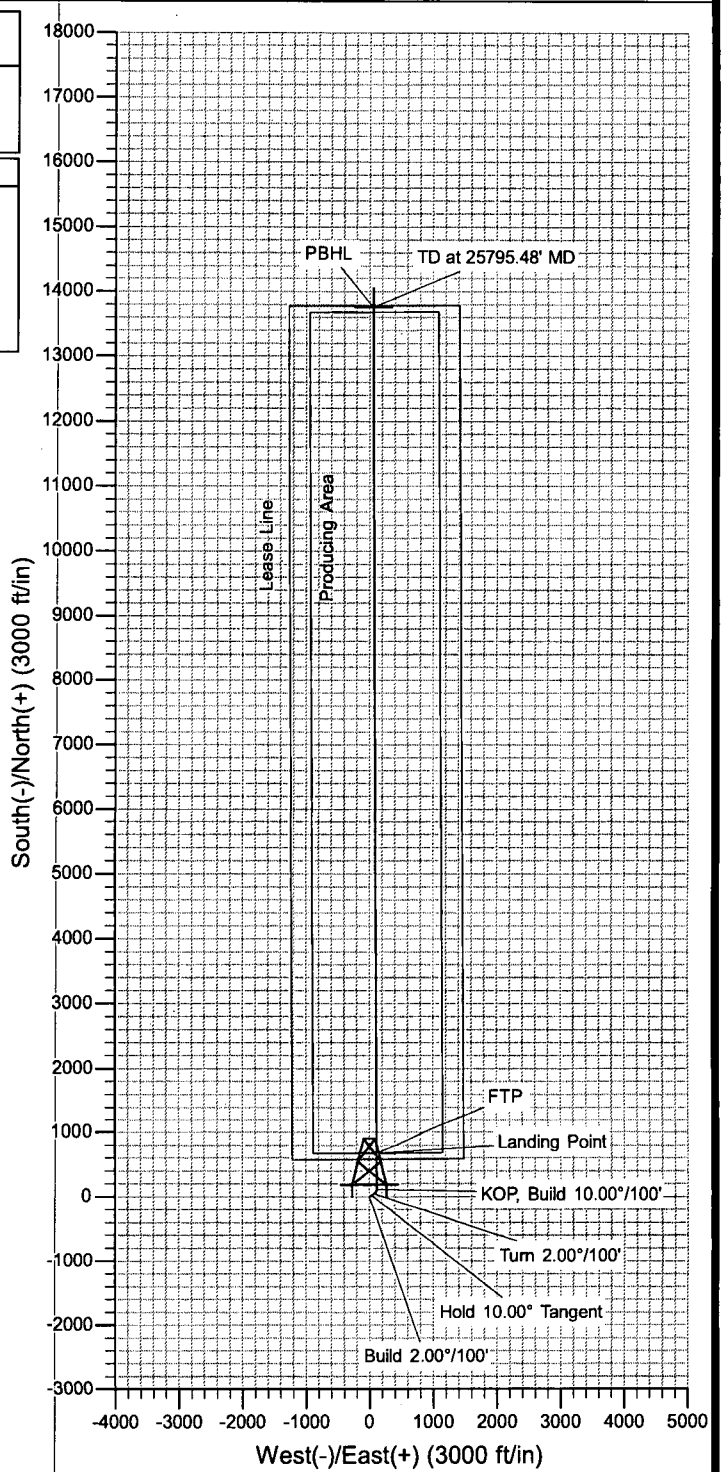
SECTION DETAILS

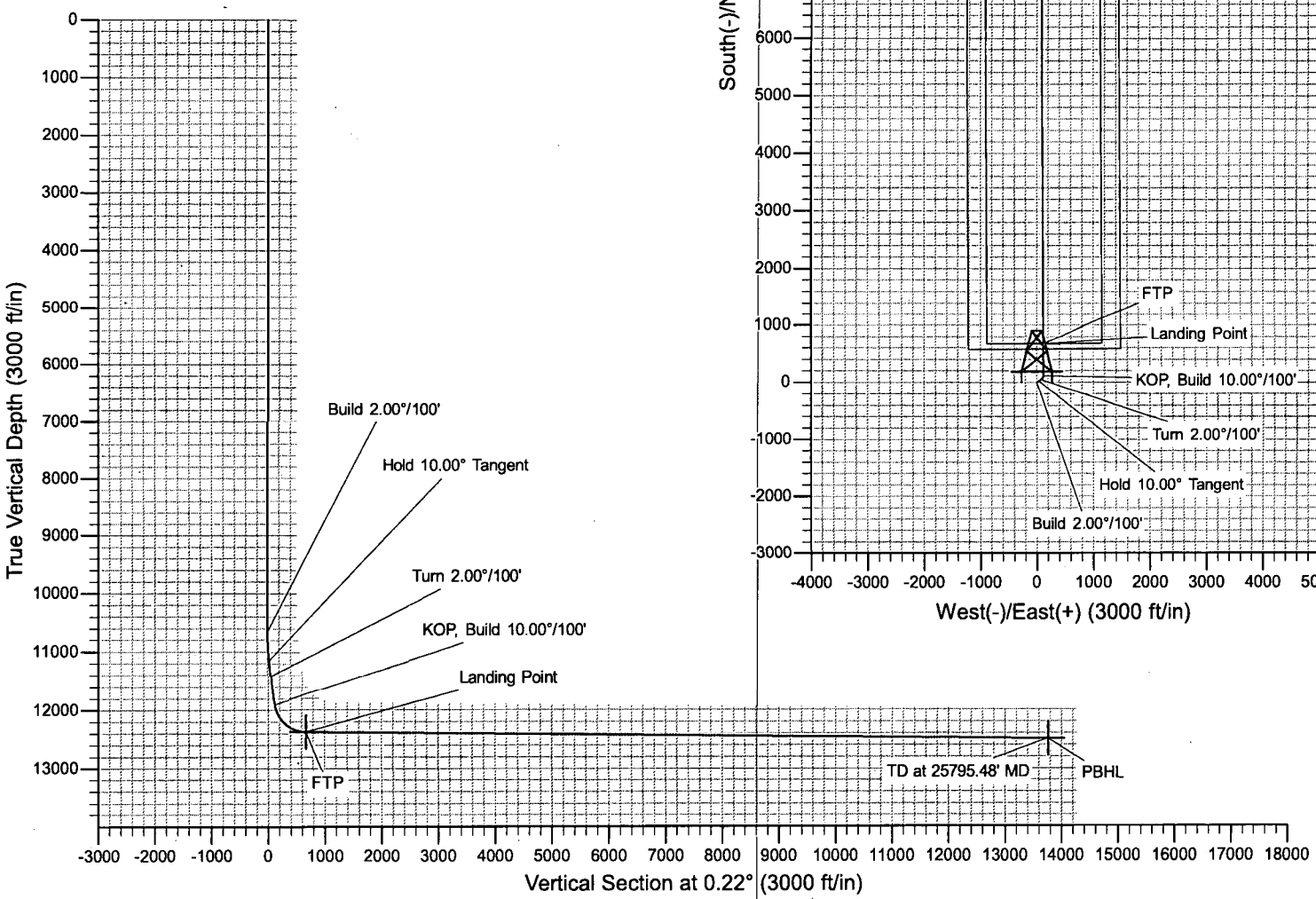
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10649.75	0.00	0.00	10649.75	0.00	0.00	0.00	0.00	0.00	Build 2.00°/100'
11149.73	10.00	58.95	11147.20	22.45	37.28	2.00	58.95	22.59	Hold 10.00° Tangent
11422.00	10.00	58.95	11415.33	46.84	77.78	0.00	0.00	47.14	Turn 2.00°/100'
11914.01	10.00	359.75	11901.06	111.75	114.28	2.00	-119.22	112.19	KOP, Build 10.00°/100'
12708.76	89.47	359.75	12374.50	670.74	111.81	10.00	0.00	671.17	Landing Point
25795.48	89.47	359.75	12494.50	13756.78	53.70	0.00	0.00	13756.89	TD at 25795.48' MD



Azimuths to Grid North
True North: -0.27°
Magnetic North: 6.59°

Magnetic Field
Strength: 48011.4nT
Dip Angle: 59.98°
Date: 12/5/2018
Model: HDGM_FILE





OXY USA Inc
APD ATTACHMENT: SPUDDER RIG DATA

OPERATOR NAME / NUMBER: OXY USA Inc

1. SUMMARY OF REQUEST:

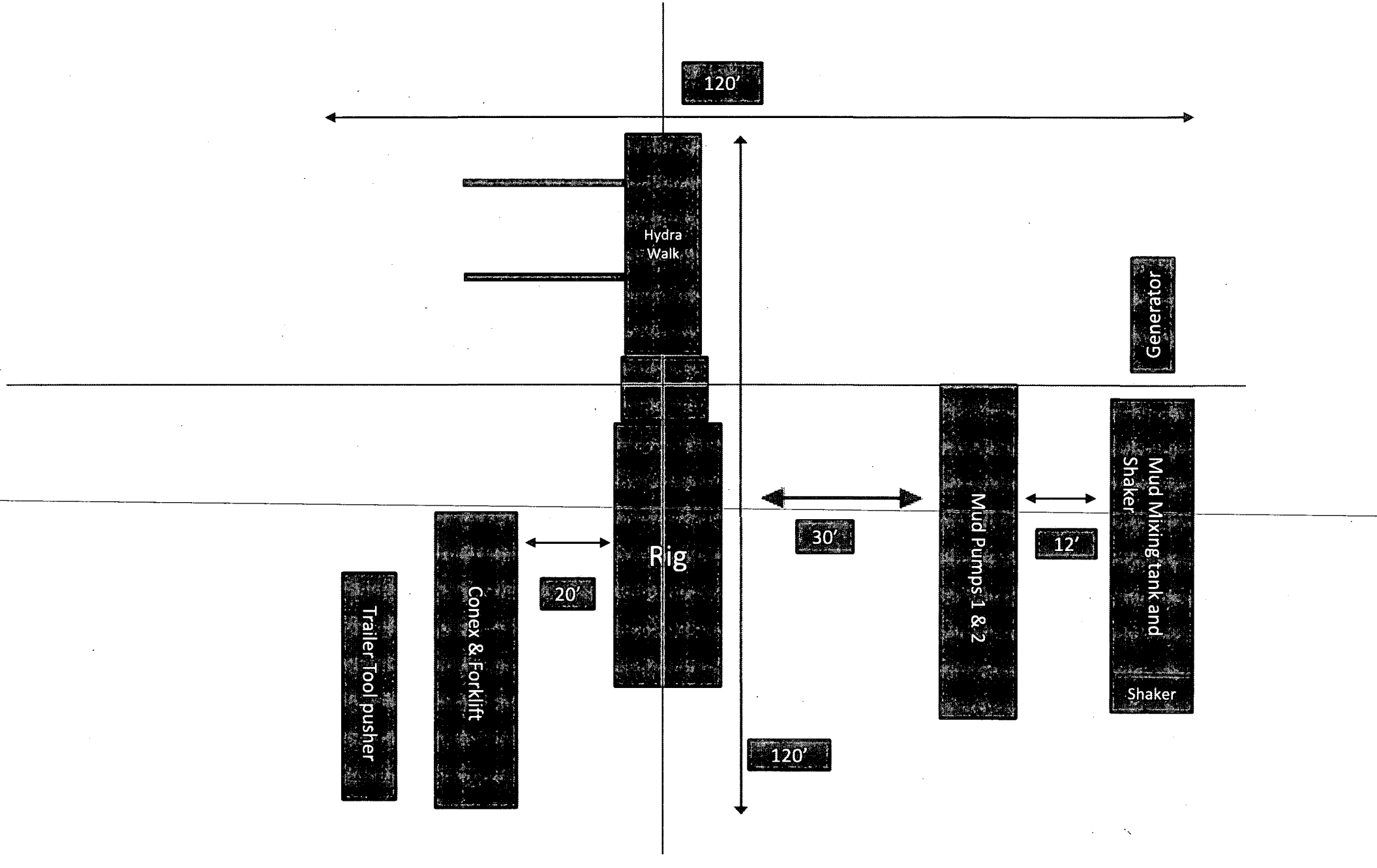
Oxy USA respectfully requests approval for the following operations for the surface hole in the drill plan:

1. Utilize a spudder rig to pre-set surface casing for time and cost savings.

2. Description of Operations

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
    a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
    b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and the WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
    a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
    a. The larger rig will move back onto the location within 90 days from the point at which the wells are secured and the spudder rig is moved off location.
    b. The BLM will be contacted / notified 24 hours before the larger rig moves back on the pre-set locations.
7. Oxy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, Oxy will secure the wellhead area by placing a guard rail around the cellar area.

Spudder Rig Layout



District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 8-28-2019

☒ Original

Operator & OGRID No.: OXY USA INC. - 16696

☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Arkenstone 31 Federal 1H	Pending	D-1-31-23S-31E	130 FNL 895 FWL	2300	0	
Arkenstone 31 Federal 2H	Pending	D-1-31-23S-31E	130 FNL 930 FWL	2300	0	
Arkenstone 31 Federal 3H	Pending	B-31-23S-31E	130 FNL 2613 FEL	2300	0	
Arkenstone 31 Federal 4H	Pending	B-31-23S-31E	130 FNL 2578 FEL	2300	0	
Arkenstone 31 Federal 7H	Pending	C-31-23S-31E	130 FNL 965 FWL	2300	0	
Arkenstone 31 Federal 171H	Pending	D-1-31-23S-31E	130 FNL 1195 FWL	2700	0	
Arkenstone 31 Federal 172H	Pending	D-1-31-23S-31E	130 FNL 1230 FWL	2700	0	
Arkenstone 31 Federal 173H	Pending	C-31-23S-31E	130 FNL 2465 FWL	2700	0	
Arkenstone 31 Federal 174H	Pending	C-31-23S-31E	130 FNL 2500 FWL	2700	0	
Arkenstone 31 Federal Com 5H	Pending	A-31-23S-31E	130 FNL 865 FEL	2300	0	
Arkenstone 31 Federal Com 6H	Pending	A-31-23S-31E	100 FNL 830 FEL	2300	0	
Arkenstone 31 Federal Com 9H	Pending	C-31-23S-31E	130 FNL 2648 FEL	2300	0	
Arkenstone 31 Federal Com 10H	Pending	A-31-23S-31E	100 FNL 795 FEL	2300	0	
Precious 30_18 Federal Com 1H	Pending	D-1-31-23S-31E	570 FNL 550 FWL	3900	0	
Precious 30_18 Federal Com 2H	Pending	D-1-31-23S-31E	570 FNL 585 FWL	3900	0	
Precious 30_18 Federal Com 3H	Pending	B-31-23S-31E	570 FNL 2635 FEL	3900	0	
Precious 30_18 Federal Com 4H	Pending	B-31-23S-31E	570 FNL 2600 FEL	3900	0	
Precious 30_18 Federal Com 5H	Pending	A-31-23S-31E	520 FNL 800 FEL	3900	0	
Precious 30_18 Federal Com 6H	Pending	A-31-23S-31E	520 FNL 765 FEL	3900	0	
Precious 30_18 Federal Com 7H	Pending	D-1-31-23S-31E	570 FNL 620 FWL	3900	0	
Precious 30_18 Federal Com 9H	Pending	C-31-23S-31E	520 FNL 2670 FEL	3900	0	
Precious 30_18 Federal Com 10H	Pending	A-31-23S-31E	520 FNL 730 FEL	3900	0	
Precious 30_18 Federal Com 11H	Pending	C-31-23S-31E	130 FNL 1935 FWL	1800	0	
Precious 30_18 Federal Com 12H	Pending	C-31-23S-31E	130 FNL 1970 FWL	1800	0	
Precious 30_18 Federal Com 13H	Pending	B-31-23S-31E	100 FNL 1395 FEL	1800	0	
Precious 30_18 Federal Com 14H	Pending	B-31-23S-31E	100 FNL 1360 FEL	1800	0	
Precious 30_18 Federal Com 21H	Pending	D-1-31-23S-31E	570 FNL 285 FWL	3000	0	
Precious 30_18 Federal Com 22H	Pending	D-1-31-23S-31E	570 FNL 320 FWL	3000	0	
Precious 30_18 Federal Com 23H	Pending	C-31-23S-31E	130 FNL 2200 FWL	3000	0	
Precious 30_18 Federal Com 24H	Pending	C-31-23S-31E	130 FNL 2235 FWL	3000	0	
Precious 30_18 Federal Com 25H	Pending	A-31-23S-31E	100 FNL 1130 FEL	3000	0	
Precious 30_18 Federal Com 26H	Pending	A-31-23S-31E	100 FNL 1095 FEL	3000	0	
Precious 30-18 Federal Com 31H	Pending	D-1-31-23S-31E	570 FNL 850 FWL	2600	0	
Precious 30-18 Federal Com 32H	Pending	D-1-31-23S-31E	570 FNL 950 FWL	2600	0	

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Precious 30-18 Federal Com 33H	Pending	B-31-23S-31E	280 FNL 2150 FEL	2600	0	
Precious 30-18 Federal Com 34H	Pending	B-31-23S-31E	315 FNL 2150 FEL	2600	0	
Precious 30_18 Federal Com 41H	Pending	D-1-31-23S-31E	570 FNL 1180 FWL	4000	0	
Precious 30_18 Federal Com 42H	Pending	D-1-31-23S-31E	570 FNL 1215 FWL	4000	0	
Precious 30_18 Federal Com 43H	Pending	C-31-23S-31E	570 FNL 2178 FWL	4000	0	
Precious 30_18 Federal Com 44H	Pending	C-31-23S-31E	570 FNL 2213 FWL	4000	0	
Precious 30_18 Federal Com 45H	Pending	B-31-23S-31E	520 FNL 1330 FEL	4000	0	
Precious 30_18 Federal Com 46H	Pending	A-31-23S-31E	520 FNL 1295 FEL	4000	0	
Precious 30_18 Federal Com 171H	Pending	D-1-31-23S-31E	570 FNL 880 FWL	3100	0	
Precious 30_18 Federal Com 172H	Pending	D-1-31-23S-31E	570 FNL 915 FWL	3100	0	
Precious 30_18 Federal Com 173H	Pending	C-31-23S-31E	570 FNL 2443 FWL	3100	0	
Precious 30_18 Federal Com 174H	Pending	C-31-23S-31E	570 FNL 2478 FWL	3100	0	
Precious 30_18 Federal Com 175H	Pending	A-31-23S-31E	520 FNL 1065 FEL	3100	0	
Precious 30_18 Federal Com 176H	Pending	A-31-23S-31E	520 FNL 1030 FEL	3100	0	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, where a gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise Field Services, LLC ("Enterprise") and is connected to Enterprise low/high pressure gathering system located in Eddy County, New Mexico. OXY USA INC. ("OXY") provides (periodically) to Enterprise a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, OXY and Enterprise have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enterprise's Processing Plant located in Sec. 36, Twn. 24S, Rng. 30E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enterprise system at that time. Based on current information, it is OXY's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

Pad 3103

1340 x 330

OXY U.S.A. INC.

NEW MEXICO STAKING FORM

Date Staked: 9-11-18

Lease / Well Name: Precious 30_18 Fed Com #42H

Legal Description: 570' FNL 1215' FWL Sec 31 T23S R31E

Latitude: 32° 15' 59.79" NAD 83

Longitude: -103° 49' 18.16" NAD 83

X: 699474.78 NAD 83

Y: 461102.12 NAD 83

Elevation: 3347.98 NAD 83

Move information:

County: Eddy

Surface Owner BLM

Nearest Residence: ?

Nearest Water Well:

V-Door: EAST

Top soil: West

Road Description: SE Cor From South

New Road:

Upgrade Existing Road:

Interim Reclamation: 50' North

Source of Caliche:

Onsite Attendees: Jesse Bassett - BLM, Jim Wilson - OXY, SWCA, Asel Survey

DATE 2-22-18

Oxy USA Inc. - Precious 30-18 Federal Com 42H

1. Geologic Formations

TVD of target	12494'	Pilot Hole Depth	N/A
MD at TD:	25795'	Deepest Expected fresh water:	352'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	352	
Salado	668	Salt
Castile	2,597	Salt
Lamar/Delaware	4,029	Oil/Gas/Brine
Bell Canyon	4,062	Oil/Gas/Brine
Cherry Canyon	4,961	Oil/Gas/Brine
Brushy Canyon	6,251	Losses
Bone Spring	7,933	Oil/Gas
1st Bone Spring	8,964	Oil/Gas
2nd Bone Spring	9,606	Oil/Gas
3rd Bone Spring	10,819	Oil/Gas
Wolfcamp	**11,288**	**Oil/Gas**

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

2. Casing Program

Hole Size (in)	Casing Interval From (ft)	Casing Interval To (ft)	Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	Buoyant Body SF Tension	Buoyant Joint SF Tension
17.5	0	402	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
12.25	0	4079	9.625	40	L-80	BTC	1.125	1.2	1.4	1.4
8.75	0	11814	7.625	26.4	L-80 HC	SF (0 ft to 6000 ft) FJ (6000 ft to 11814 ft)	1.125	1.2	1.4	1.4
6.75	0	25795	5.5	20	P-110	DQX	1.125	1.2	1.4	1.4
							SF Values will meet or Exceed			

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

*Oxy requests the option to set casing shallower yet still below the salts if losses or hole conditions require this. Cement volumes may be adjusted if casing is set shallower and a DV tool may be run in case hole conditions merit pumping a second stage cement job to comply with permitted top of cement. If cement circulated to surface during first stage, we will drop a cancelation cone and not pump the second stage.

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

Oxy USA Inc. - Precious 30-18 Federal Com 42H

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?	Y
If yes, are the first three strings cemented to surface?	Y
Is 2nd string set 100' to 600' below the base of salt?	Y
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

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H20 (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	431	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate (Lead)	872	12.9	1.88	10.130	14:22	Pozzolan Cement, Retarder
Intermediate (Tail)	155	14.8	1.33	6.370	12:45	Class C Cement, Accelerator
Intermediate II 1st Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate II 1st Stage (Tail)	340	13.2	1.65	8.640	11:54	Class H Cement, Retarder, Dispersant, Salt
Intermediate II 2nd Stage (Tail Slurry) to be pumped as Bradenhead Squeeze from surface, down the Intermediate annulus						
Intermediate II 2nd Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate II 2nd Stage (Tail)	396	12.9	1.92	10.410	23:10	Class C Cement, Accelerator
Production (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Production (Tail)	1060	13.2	1.38	6.686	3:49	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	402	100%
Intermediate (Lead)	0	3579	50%
Intermediate (Tail)	3579	4079	20%
Intermediate II 1st Stage (Lead)	N/A	N/A	N/A
Intermediate II 1st Stage (Tail)	6501	11814	5%
Intermediate II 2nd Stage (Lead)	N/A	N/A	N/A
Intermediate II 2nd Stage (Tail)	0	6501	25%
Production (Lead)	N/A	N/A	N/A
Production (Tail)	11314	25795	20%

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.

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12.25" Hole	13-5/8"	3M	Annular	✓	70% of working pressure
		3M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		
8.75" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 5000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		
6.75" Hole	13-5/8"	5M	Annular	✓	100% of working pressure
		10M	Blind Ram	✓	250 psi / 6100 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

*Specify if additional ram is utilized.

Oxy will utilize a 5M annular with a 10M BOPE stack. The 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. See attached schematics.

	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

As per the agreement reached in the Oxy/BLM meeting on September 5, 2019 Oxy requests permission to allow BOP Break Testing 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.

- Wellhead flange, co-flex hose, kill line connections and upper pipe rams
- 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.

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

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	402	Water-Based Mud	8.6-8.8	40-60	N/C
402	4079	Saturated Brine-Based Mud	9.8-10.0	35-45	N/C
4079	11814	Water-Based or Oil-Based Mud	8.0-9.6	38-50	N/C
11814	25795	Water-Based or Oil-Based Mud	9.5-13.5	38-50	N/C

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

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

6. Logging and Testing Procedures

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

Additional logs planned		Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8771 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	180°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 isolation.

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 two 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: 1849.7 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
Linsay Earle	Drilling Engineer	713-350-4921	832-596-5507
Margaret Giltner	Drilling Engineer Supervisor	713-366-5026	210-683-8480
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Diego Tellez	Drilling Manager	713-350-4602	713-303-4932